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Andhra University

THE UNIVERSITY CODE

1932—35

The Andhra University Act of 1925,

Statutes, Ordinances, Rules,

Regulations and

Syllabuses

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ANDHRA UNIVERSITY

THE UNIVERSITY CODE

1932—35

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MADRAS ACT NO. II OF 1926

PASSED BY THE LEGISLATIVE COUNCIL OF MADRAS

(Received the assent of the Governor on the 15th December 1925 and that of the Governor-General on the 13th January 1926; the assent of the Governor-General was first published in the "Fort St George Gazette" of the 26th January 1926).

As amended by Acts Nos IV, VI, and XVI of 1929, and Acts Nos. VIII, XII and XIII of 1930

THE ANDHRA UNIVERSITY ACT

Preamble.

Whereas it is expedient to constitute and incorporate a University in and for the Telugu districts of the Presidency of Madras;

And whereas the previous sanction of the Governor-General has been obtained to the passing of this Act, it is hereby enacted as follows:—

CHAPTER I.—PRELIMINARY

Short title, extent and commencement.

(1) This Act may be called the Andhra University Act, 1925.

(2) It shall come into force on such dates and in such local areas as the Local Government may, by notification, appoint.

(3) From the date of the coming into force of this Act the Madras University Act, 1923, shall not apply in areas to which the provisions of this Act apply.

(4) The Local Government may, by notification, exclude any district or part of a district or any college or institution from the operation of this Act

Definitions, 2 In this Act, unless there is anything repugnant in the subject or context—

(a) 'Affiliated college' means a college within the University area already affiliated to the Madras University or a College established by or affiliated to the University as providing courses of study qualifying students for admission to University examinations It includes a college in Arts or Science and professional, technical or technological college

(b) 'University College' means a college which is established or recognised by the University as making provision for honours or post-graduate courses of study qualifying students for admission to the higher Degrees of the University according to the Regulations prescribed

(c) 'First-grade College' means a college which is recognized by the University as providing courses of study qualifying students for admission to the examinations for the ordinary Degree in Arts or Science in accordance with the Regulations prescribed.

(d) 'Second-grade College' means a college which is recognised by the University as providing courses of study qualifying students for admission to the Intermediate Examination in Arts and Science according to the Regulations prescribed but not to the Degree examinations of the University.

(e) 'Special Grade College' means an institution providing courses of study in Oriental languages or in other special subjects and preparing students for degrees, titles or diplomas in accordance with the Regulations prescribed.

(f) 'District' means a district within the area comprising the present districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur or Nellore* to which this Act applies.

(g) 'Hostel' means a unit of residence for students of the University maintained or recognised by the University in accordance with the provisions of this Act

(h) 'Prescribed' means prescribed by the Statutes, Ordinances or Regulations

(i) 'Principal' means the head of a college.

(j) 'Registered graduates' means graduates registered under conditions prescribed in this behalf.

(k) 'Teachers of the University' means teachers appointed by the University to give instruction on its behalf.

(l) 'Teachers' means Professors, Readers and Lecturers and such persons giving instruction in the University or in any affiliated college as may be declared by the Statutes to be teachers

(m) 'University' means the Andhra University as constituted under this Act.

(n) 'University area' means the area comprising the districts to which this Act applies

(o) 'University Professor' means a person appointed as such by the University.

CHAPTER II — THE UNIVERSITY

The University

3 (1) There shall be constituted in and for the area comprising the present districts of Ganjam, Vizagapatam, West

* Under Act No VI of 1929, the districts of Bellary, Anantapur, Cuddapah, Kurnool and Chittoor were omitted.

Godavari, East Godavari, Kistna, Guntur and Nellore* a University by the name of the Andhra University which shall consist of a Chancellor, a Pro-Chancellor, a Vice-Chancellor, a Senate, a Syndicate and an Academic Council, it shall be a body corporate having perpetual succession and a common seal and shall sue and be sued by the said corporate name

(2) The headquarters of the University shall be located at Vizagapatam. †

Powers of the University.

4 The University shall have the following powers, namely.—

(1) to provide for instruction in such branches of learning as may be considered suitable and to make provision for research and for the advancement and dissemination of knowledge;

(2) to hold examinations and to confer degrees and other academic distinctions on persons who have pursued a course of study in the University;

(3) to promote the development of the study of Telugu, Kanarese, Urdu and Oriya and their use as media of instruction and examination,

(4) to confer degrees and other academic distinctions on persons who have carried on research under conditions prescribed;

(5) to confer honorary degrees or other distinctions on approved persons under conditions prescribed

(6) to institute Professorships, Readerships, Lecturerships and any other teaching posts required by the University;

(7) to hold and manage endowments and to institute and award fellowships, scholarships, exhibitions, medals and prizes;

* Under Act No. VI of 1929, the districts of Bellary, Anantapur, Cuddapah, Kurnool and Chittoor were omitted.

† Under Act No. IV of 1929, "Vizagapatam" was substituted for "Bezwada". This came into force from 5th September 1930.

(8) to maintain colleges and hostels, to recognize colleges and hostels not maintained by the University and to withdraw such recognition;

(9) to erect, equip and maintain laboratories and libraries;

(10) to fix fees and to demand and receive such fees as may be prescribed,

(11) to make grants from the funds of the University for the maintenance of a University Corps;

(12) to institute and provide funds for the maintenance of

(a) Publication Bureau,

(b) an Employment Bureau,

(c) Students' Unions,

(d) University Extension Boards;

(13) to co-operate with other Universities and authorities in such manner and for such purposes as may be determined, and

(14) to do all such other acts and things, whether incidental to the powers aforesaid or not as may be requisite in order to further the objects of the University as a teaching and examining body, to cultivate and promote arts, sciences, professional studies, technology and other branches of learning including Oriental and to promote the interests of its students.

University open to all classes and creeds.

5 No person shall be excluded from membership of any of the authorities of the University or from admission to any degree or course of study on the sole ground of sex, race, creed, class or caste and it shall not be lawful for the University to adopt or impose on any person any test whatsoever relating to religious belief or profession in order to entitle him to be admitted thereto as a teacher or student or to hold any office there-

on or to graduate thereat or to enjoy or exercise any privilege thereof except where in respect of any particular benefaction accepted by the University such test is made a condition thereof:

Provided that nothing in this section shall be deemed to prevent religious instruction being given in the manner prescribed by the Statutes to those not unwilling to receive it.

Admission of educational institutions as colleges.

6. (1) The colleges in the University area that are now affiliated to the Madras University shall be, and shall have the privileges of, affiliated colleges under the Act.

(2) The University shall have power to admit a college to affiliation as a University College, a First Grade College, a Second Grade College or a Special Grade College, in accordance with Statutes.

(3) The University shall not, however, establish a University College or a First Grade College nor affiliate any institution as a University College* unless the buildings of the institution are situate in the headquarters of the University or within ten miles of the limits thereof †.

Residence.

7. Every student of the University shall reside in a hostel or under such conditions as may be prescribed.

The Visitor.

8. (1) The Governor-General shall be the Visitor of the University.

(2) The Visitor shall have the right to cause an inspection to be made, by such person or persons as he may direct, of the University, its buildings, laboratories, libraries, museums, workshops and equipment and of any institutions maintained by or affiliated to the University and also of the teaching and

* Act No. XIII of 1930 provides for the omission of the words "or as a first grade college" which occurred after the words "as a University College."

† Act No. XII of 1930 provides for the substitution of the words "in the headquarters of the University" for the words "in the towns of Vizagapatam, Rajahmundry or Anantapur".

other work conducted or done by the University and to cause an inquiry to be made in respect of any matter connected with the University. The visitor shall in every case give notice to the University of his intention to cause such inspection or inquiry to be made and the University shall be entitled to be represented thereat.

(3) The Visitor may address the Chancellor with reference to the results of such inspection or inquiry and the Chancellor shall communicate to the Senate and to the Syndicate the views of the Visitor and may, after ascertaining the opinions of the Senate and the Syndicate thereon, advise the University upon the action to be taken

(4) The Syndicate shall, within such time as the Chancellor may fix, report to him for communication to the Visitor such action, if any, as is proposed to be or has been taken upon such advice. The report shall be accompanied by the opinion of the Senate thereon.

(5) The Chancellor may, where action has not been taken by the University within a reasonable time to his satisfaction, after considering any explanation furnished or representation made by the Senate or the Syndicate, issue such directions as he may think fit and the University shall comply with such directions.

CHAPTER III OFFICERS OF THE UNIVERSITY

Officers of the University.

9. The following shall be the officers of the University —

(i) The Chancellor,

(ii) The Pro-Chancellor,

(iii) The Vice-Chancellor,

(iv) The Registrar, and

(v) such other officers as the Statutes may declare to be officers of the University:

The Chancellor.

10 (1) The Governor of Madras shall be the Chancellor. He shall, by virtue of his office, be the head of the University and the President of the Senate and shall, when present, preside at meetings of the Senate and at Convocations of the University, he shall exercise such other powers and perform such other duties as may be imposed on him under the provisions of this Act

(2) Where power is conferred upon the Chancellor to nominate persons to any authorities, he shall, to the extent necessary, nominate persons to represent communities or interests not otherwise adequately represented.

The Pro-Chancellor

11. (1) The Pro-Chancellor of the University shall be nominated by the Chancellor and shall hold office for a period of three years.

(2) In the absence of the Chancellor, or during the Chancellor's inability to act, the Pro-Chancellor shall exercise all the functions of the Chancellor.

The Vice-Chancellor.

12 (1) The Vice-Chancellor shall be a whole-time officer of the University and shall be elected by the Senate.

(b) He shall hold office for a period of three years and shall be eligible for re-election and may be paid such salary as shall be prescribed

(c) He shall be the principal executive officer of the University and shall exercise general control over its affairs.

(d) He shall, by virtue of his office, be a member and Chairman of the Syndicate and of the Academic Council, and shall preside at the meetings of the Senate in the absence of the Chancellor and the Pro-Chancellor.

(e) He shall be entitled to be present at and address at any stage any meeting of any authority of the University but not to vote thereat, unless he is a member of such authority.

(f) He shall have power to convene meetings of the Senate, the Syndicate and the Academic Council.

(g) It shall be his duty to see that the provisions of this Act, the Statutes, Ordinances and Regulations are duly observed and he may exercise all powers necessary for this purpose.

(h) He shall give effect to the orders of the Syndicate regarding the appointment, suspension and dismissal of the teachers and servants of the University.

(2) (a) When, with regard to any matter in which any officer or authority may take action, the Vice-Chancellor considers immediate action desirable, he may with the sanction of the Chancellor take such action as may be necessary but shall, as soon as may be, report the action taken to the officer or authority concerned.

(b) An appeal shall lie to the Syndicate against any action taken by the Vice-Chancellor under this sub-section affecting any person in the service of the University, at the instance of such person Such appeal shall be filed within thirty days from the day on which such person has notice of the action taken.

(3) In the temporary absence of the Vice-Chancellor on leave, by reason of illness or other cause, or pending the filling of a vacancy caused in any other manner, his duties shall be performed in such manner as the Syndicate may, subject to the approval of he Chancellor, direct

The Registrar.

13 (1) The Registrar shall be a whole-time paid officer of the University appointed by the Senate from among three persons recommended by the Syndicate

(2) He shall be appointed for five years and shall be eligible for re-appointment.

(3) The Registrar shall act as the Secretary of the Syndicate, the Senate and the Academic Council and shall exercise such powers and perform such duties as may be prescribed

CHAPTER IV—AUTHORITIES OF THE UNIVERSITY.

Authorities.

14. The following shall be the authorities of the University:—

(2)

(i) The Senate,

(ii) The Syndicate,

(iii) The Academic Council,

(iv) The Faculties,

(v) The Boards of Studies, and

(vi) such other authorities as the Statutes may declare to be authorities of the University.

THE SENATE

The Senate.

15. The Senate shall consist of the following persons, namely,—

CLASS I.—EX-OFFICIO MEMBERS.

(1) The Chancellor,

(2) The Pro-Chancellor,

(3) The Vice-Chancellor,

(4) The Director of Public Instruction,

(5) The Surgeon-General with the Government of Madras.

(6) The Director of Industries,

(7) The Director of Agriculture,

(8) The Principals of affiliated colleges,

(9) The whole time University professors paid from University funds, and

(10) The members of the Syndicate who are not otherwise members of the Senate.

CLASS II.—LIFE MEMBERS.

(1) Such number of persons not exceeding three as may be appointed, on the recommendation of the Syndicate, by the Senate to be life members on the ground that they have rendered eminent services to education,

(2) all persons who make a donation of not less than Rs 25,000 to or for the purposes of the University

CLASS III.—OTHER MEMBERS.

(1) Fifteen persons elected by registered graduates from among themselves according to the principle of proportional representation by means of the single transferable vote;

(2) three persons elected by the Academic Council from among its members;

(3) five persons elected from among themselves by the non-official members of the Legislative Council of Madras who are residents of any of the districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor,*

(4) two persons elected from among themselves by the headmasters of secondary schools in the districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor recognised by the Local Government;*

(5) (a) one person elected from among themselves by the members of the municipal councils and taluk boards and such members of the District Board as are not members of these bodies in each district in the University area*

(b) two persons elected from among themselves by the members of the municipal councils and taluk boards and such members of the district board as are not members of these bodies in each of the districts of Bellary, Anantapur, Cuddapah Kurnool and Chittoor;

(6) two persons elected from among themselves by such of the landholders of any of the districts of Ganjām, Vizagapatam, Wst Godavari, East Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor, as are

* As amended by Act No. VIII of 1930.

included in the electoral roll for the landholders' constituency of the Madras Legislative Council*;

(7) twelve persons nominated by the Chancellor of whom not less than four shall be nominated to secure the representation of communities and interests not otherwise adequately represented and not less than four shall be nominated to represent the Adi-Andhras and other depressed classes,

(8) (a) every association making a donation of not less than Rs. 20,000 and every person making a donation of not less than Rs. 10,000 to or for the purposes of the University shall be entitled to nominate one person who shall be a member for three years;

(b) every association or person making an annual contribution of not less than Rs 3,000 to or for the purposes of the University shall be entitled to nominate one member who shall be a member so long as the annual contribution continues.

(9) five persons to represent the chief languages in the University area chosen by election in such manner as may be prescribed and allotted as follows —

Telugu		Two.
Kanarese Urdu Oriya	}	One each.

Save as otherwise provided, members of the Senate other than *ex-officio* members shall hold office for a period of three years:

Provided, however, that a person nominated or elected in his capacity as a member of a particular body or the holder of a particular appointment shall not, if he ceases to be member of that body or the holder of that appointment, as the case may be, for a period of less than three months, cease to be a member of the Senate.

* As amended by Act No. VIII of 1930.

Powers of the Senate.

16 (1) The Senate shall be the supreme governing body of the University and shall have power to review the action of the Syndicate and the Academic Council (save where the Syndicate and the Academic Council have acted in accordance with powers conferred on them under this Act, the Statutes or the Ordinances).

(2) In particular and without prejudice to the generality of the foregoing power, it shall have power

(a) to make Statutes and to amend or repeal the same and to consider, modify or cancel, Regulations and Ordinances;

(b) to provide for instruction and training in such branches of learning as it thinks fit,

(c) to institute maintain and manage or recognize and control colleges;

(d) to provide for research and the advancement and dissemination of knowledge,

(e) to institute Professorships, Readerships, Lecturerships and other teaching posts required by the University;

(f) to establish, equip and maintain University laboratories and libraries;

(g) to affiliate to the University colleges under conditions to be prescribed in this behalf and to withdraw affiliation from colleges, after consultation with the Academic Council,

(h) to confer degrees and other academic distinctions on persons who

(i) shall have pursued an approved course of study in an affiliated college and shall have passed the prescribed examinations of the University, or

(ii) shall have carried on research under conditions prescribed;

(i) to confer honorary degrees or other distinctions on approved persons in the manner prescribed;

(j) to institute fellowships, travelling fellowships, scholarships, exhibitions, medals and prizes,

(k) to provide for lectures and instruction to persons not being students of the University and to grant diplomas to them,

(l) to establish, maintain and manage hostels;

(m) to recognize hostels not maintained by the University and to withdraw recognition therefrom,

(n) to supervise and control the residence and discipline of students of the University and to make arrangements for promoting their health and general welfare,

(o) to prescribe the fees to be charged for the affiliation of colleges, for admission to the examinations, degrees and diplomas of the University and for the registration of graduates,

(p) to consider and pass resolutions on the annual report, the annual accounts and the financial estimates of the University;

(q) to enter into any agreement with the Government or with a private management for assuming the management of any institution and taking over its properties and liabilities or for any other purpose not repugnant to the provisions of this Act;

(r) to co-operate with other Universities and authorities for such purposes and in such manner as it determines;

(s) to delegate such of its powers as it deems fit to any authority or authorities constituted under this Act.

(3) The Senate shall exercise all the powers of the University not otherwise provided for and all powers requisite to give effect to the provisions of the Act.

Meetings of the Senate.

17 (1) There shall be at least two ordinary meetings of the Senate in a year, one of which shall be called the annual meeting.

The Senate may also meet at such other times as it or the Vice-Chancellor may from time to time determine

(2) Upon a requisition in writing signed by not less than twenty members of the Senate, the Vice-Chancellor shall convene a meeting of the Senate.

(3) Twenty members shall form the quorum for a meeting of the Senate.

(4) In the absence of the Chancellor, the Pro-Chancellor and the Vice-Chancellor from any meeting of the Senate, the members present at the meeting shall choose one of their members to preside thereat.

THE SYNDICATE

18. *The Syndicate shall, in addition to the Vice-Chancellor, consist of the following persons, namely:— The Syndicate.

CLASS I.—EX-OFFICIO MEMBERS.

(1) The Director of Public Instruction

(2) The Financial Secretary to the Local Government.

CLASS II.—OTHER MEMBERS

(1) Five persons elected by the Senate from among its members;

(2) three persons elected by the Academic Council from among its members;

(3) three persons nominated by the Chancellor.

Provided always that no teacher of the University shall be elected or nominated a member of the Syndicate.

* As amended by Act No. VIII of 1930.

Save as otherwise provided, members of the Syndicate other than *ex-officio* members shall hold office for a period of three years:

Provided, however, that a person nominated or elected in his capacity as a member of a particular body or as the holder of a particular appointment shall not, if he ceases to be member of that body or the holder of that appointment, as the case may be, for a period of less than three months, cease to be a member of the Syndicate.

Powers and duties of the Syndicate.

19 The Syndicate

(a) shall direct the form, custody and use of the common seal of the University;

(b) shall hold, control and administer the property and funds of the University;

(c) shall, on the recommendation of the committee of selection constituted by the Statutes, appoint the teachers of the University, fix their emoluments and define their duties and the conditions of their service;

(d) shall have power to suspend or dismiss teachers of the University subject to such Statutes as may be framed in this behalf;

(e) shall appoint the servants of the University, fix their emoluments and define their duties and the conditions of their service;

(f) shall have power to suspend or dismiss servants of the University;

(g) shall award prizes, medals and scholarships in accordance with the rules laid down by the Senate;

(h) shall appoint examiners in consultation with the Boards of Studies and fix their fees;

(i) shall, subject to the provisions of this Act and the Statutes, arrange for and direct the inspection of all affiliated colleges and hostels;

(j) shall conduct the University examinations and publish the results thereof;

(k) shall have the power to establish, manage and control a Publication Bureau, an Employment Bureau, Students' Unions and University Extension Boards;

(l) shall have power to accept on behalf of the University endowments, bequests, donations and other transfers of property made to it; all such endowments, bequests, donations and transfers shall be reported to the Senate at its next meeting;

(m) (i) shall regulate and determine all matters concerning the University in accordance with, and exercise such other powers as may be conferred by and perform such other duties as may be imposed by this Act, the Statutes and the Ordinances;

(ii) shall administer all funds placed at the disposal of the University for specific purposes;

(n) shall charge and collect such fees as may be prescribed.

Constitution the Finance Committee

*19-A. There shall be constituted a Finance Committee which shall consist of the following persons, namely:—

(1) the Vice-Chancellor;

(2) the Financial Secretary to the Local Government,

(3) one member appointed by the Syndicate from among its members, provided that no one who is nominated to the Syndicate by the Chancellor shall be eligible for appointment under this clause; and

(4) one member nominated by the Chancellor from among the three persons nominated by him to the Syndicate.

Financial estimates, etc, of the University to be referred.

*19-B. The financial estimates of the University, its accounts and all proposals involving expenditure for which no provision has been made in the budget or involving expendi-

* New Section inserted under Act No. VIII of 1930,

to the Finance Committee for scrutiny and opinion.

ture in excess of the amount provided in the budget of the year shall be referred to the Finance Committee for scrutiny and opinion before they are taken up for final consideration by the Syndicate:

Provided that the Vice-Chancellor may, in cases of emergency, for reasons to be recorded in writing, incur any expenditure for which no provision has been made in the budget or which is in excess of the amount provided in the budget without such previous reference to the Finance Committee.

Annual Report

20. The Syndicate shall prepare an annual report of the University and submit it to the Senate on or before such date as may be prescribed by the Statutes.

The report shall be considered by the Senate at its next annual meeting The Senate may pass resolutions thereon and communicate the same to the Syndicate which shall take action in accordance therewith The Syndicate shall inform the Senate of the action taken by it. A copy of the report with a copy of the resolutions thereon, if any, of the Senate shall be submitted to the Local Government for information.

Annual accounts

21 (1) The Syndicate shall prepare the annual accounts of the University and submit them to such audit as the Local Government **may direct.** The accounts when audited shall be published in the *Fort St. George Gazette* and copies thereof, together with copies of the audit report, shall be submitted to the Senate and the Local Government.

(2) The Syndicate shall also prepare, before such date as may be prescribed by the Statutes, the financial estimates for the ensuing year and submit the same to the Senate

(3) The annual accounts and the financial estimates shall be considered by the Senate at its annual meeting and the Senate may pass resolutions with reference thereto and communicate the same to the Syndicate which shall take action in accordance therewith.

THE ACADEMIC COUNCIL

The Academic Council.

22 (1) The members of the Academic Council in addition to the Vice-Chancellor shall be

CLASS I.—EX-OFFICIO MEMBERS.

(1) The Director of Public Instruction.

(2) The University Professors

(3) The Principals of affiliated colleges.

CLASS II.—OTHER MEMBERS.

(1) Three persons who are not teachers elected by the Senate from among its members

(2) Members of the Senate appointed under clause (9) of class III of section 15 to represent the chief languages in the University area

(ii) The Academic Council as constituted under sub-clause (i) may co-opt as members teachers of the affiliated colleges not exceeding fifteen, in accordance with the Regulations and so as to secure adequate representation of different branches of learning and of the colleges.

(iii) Save as otherwise provided, members of the Academic Council other than *ex-officio* members shall hold office for a period of three years;

Provided, however, that a member nominated or elected in his capacity as a member of a particular body or the holder of a particular appointment shall not, if he ceases to be member of that body or the holder of that appointment, as the case may be, for a period of less than three months, cease to be a member of the Academic Council.

Powers of the Academic Council.

23 (1) The Academic Council shall, subject to the provisions of this Act and the Statutes, have the power by Regulations of prescribing all courses of study and of determining

curricula and have general control of teaching within the University and be responsible for the maintenance of the standards thereof.

It shall have power to make Regulations consistent with this Act and the Statutes relating to all matters which by this Act or the Statutes may be provided for by Regulations.

(2) In particular and without prejudice to the generality of the foregoing power, it shall have power—

(a) to advise the Syndicate on all academic matters;

(b) to constitute from among its own members such faculties as may be prescribed;

(c) to formulate, modify or revise schemes for the constitution or reconstitution of departments of teaching;

(d) to make proposals to the Senate for the institution of Professorships, Readerships, Lecturerships or other teaching posts and in regard to the duties and emoluments thereof;

(e) to make recommendations to the Syndicate for the recognition of teachers qualified to give instruction in affiliated colleges and hostels;

(f) to call for reports from the persons engaged in research and to make recommendations to the Syndicate thereon;

(g) to control and manage the University library or libraries, to frame rules regarding its or their use and to appoint a library committee or committees;

(h) to make Regulations for the encouragement of cooperation and reciprocity among colleges with a view to promoting academic life;

(i) to make Regulations regarding the admission of students to the University or prescribing examinations to be recognised, with the previous sanction of the Governor-General in Council, as equivalent to University examinations or the further qualifications mentioned in sub-section (1) of section 33 for admission to the degree courses of the University;

(j) to make Rgulations relating to courses, examinations and the conditions on which students shall be admitted to examinations for the degrees of the University;

(k) to make Regulations relating to the use of Telugu, Kanarese, Urdu and Oriya as media of instruction and examination;

(l) to decide the conditions under which exemptions relating to the admission of students to examinations may be given;

(m) to appoint a standing committee and to delegate to it power to execute any of the functions assigned by this Act to the Academic Council.

The Faculties and Boards of Studies.

24. The constitution and functions of the Faculties and Boards of Studies shall be prescribed by the Statutes;

Provided that no person shall be a member of a Faculty who is not a member of the Academic Council.

Departments of teaching.

25 (i) Every Faculty shall comprise such departments of teaching as may be prescribed by the Regulations.

(ii) Separate Boards of Studies shall be attached to each department of teaching.

CHAPTER V—GENERAL

Disqualification for membership.

26 No person shall be qualified for election or nomination as a member of any of the authorities of the University if he—

(a) is at the date of election or nomination of unsound mind, a deaf mute or suffers from contagious leprosy, or

(b) is an uncertificated bankrupt or undischarged insolvent, or

(c) has been convicted and sentenced by a criminal court to transportation or imprisonment for a period of more than one year for an offence, not being of a political character, unless such sentence has been reversed or the offence has been pardoned or a period of five years has elapsed from the date of the expiration of the sentence.*

* As amended by Act No. XIII of 1980.

In case of dispute or doubt, the Chancellor shall determine whether a person is disqualified under this section and his decision shall be final.

Disputes as to constitution of University authorities.

27. Save as otherwise provided, if any question arises whether a person has been duly elected or nominated as or is entitled to be a member of any authority of the University, the question shall be referred to the Chancellor whose decision thereon shall be final.

Constitution of committees

28. All the authorities of the University shall have power to appoint committees, such committees may, unless there be some special provision to the contrary, consist of members of the authority concerned and of such other persons, if any, as the authority in each case may think fit.

Proceedings of University bodies not invalidated by vacancies.

29. No act or proceedings of any authority or other body of the University shall be deemed invalid by reason only of some defect in the constitution of the authority or body or by reason of the existence of a vacancy or vacancies among its members or the invalidity of the election of any of its members.

Filling of vacancies.

30. All vacancies among the members of any authority or body of the University shall be filled as soon as conveniently may be by the person or body who appointed, elected or co-opted the member whose place has become vacant.

Provided that vacancies arising by efflux of time among elected members of any authority or body of the University may be filled at election which may be fixed by the Vice-Chancellor to take place on such days, not earlier than two months from the date on which the vacancies arise, as he thinks fit.*

Removal from membership of the University

31. The Senate may, on the recommendation of not less than two-thirds of the members of the Syndicate for the time being in India and by the votes of not less than two-thirds of the members present and voting, remove the name of any person from the register of graduates and remove any person from membership of any authority or board of the University if he has been convicted by a Court of law of what in the

* Proviso made under Act XVI of 1929.

opinion of the Senate is a non-political† offence involving moral delinquency or if he has been guilty of scandalous conduct and for the same reasons may withdraw any degree or diploma conferred or granted by the University

The Senate may also remove any person from the membership of any authority of the University if he becomes of unsound mind or a deaf-mute or suffers from contagious leprosy or has applied to be or is adjudicated a bankrupt or insolvent.

CHAPTER VI—TEACHING AND ADMISSION OF STUDENTS

Attendance at recognized instruction.

32 (1) No attendance at any instruction other than that conducted or recognised by the University shall qualify for admission to an examination of the University other than the entrance examination to the University

(2) The authorities responsible for organizing such instruction shall be those prescribed

(3) The courses of study and curricula shall be those prescribed

Admission to University courses

33. (1) No student shall be eligible for admission to a course of study qualifying for admission to a post-matriculation University examination unless he has passed the examination prescribed as qualifying for admission to such course or an examination recognized by the Academic Council, with the previous sanction of the Governor-General in Council, as equivalent thereto and possesses such further qualifications, if any, as may be prescribed.

(2) Every candidate for a University examination shall unless exempted from the provisions of this sub-section by an order of the Syndicate, made in accordance with conditions laid down by the Academic Council, be an enrolled member of an affiliated college.

† Act No. XIII of 1930 provides for the substitution of the word "non-political" for the word "serious".

CHAPTER VII—MISCELLANEOUS

Conditions of service.

34. (1) Save as otherwise provided, every salaried officer and teacher of the University shall be appointed under a written contract.

(2) The contract shall be lodged with the Registrar and a copy thereof shall be furnished to the officer or teacher concerned.

Pension or provident fund

35. Where any pension, insurance or provident fund has been constituted by the University for the benefit of its officers, teachers or servants, the Governor-General in Council may declare that the provisions of the Provident Funds Act, 1897, shall apply to such fund as if it were a Government Provident Fund.

CHAPTER VIII—UNIVERSITY FUNDS, ETC

Funds for Colleges under University.

36 (1) The University may establish under its direct control and management such scientific and technical colleges as may be agreed upon from time to time between the University and the Government.

(2) The Local Government shall, on such conditions as may be agreed upon, provide or contribute towards the buildings and equipment required for such colleges and also make an annual grant to the University for maintaining the institutions.

Funds of the University.

37 *The University shall have a fund to which shall be credited—

(1) its income from fees, endowments and grants, if any,

(2) contributions which may be made by the Local Government on such conditions as they may impose towards the development of laboratories, libraries, museums and workshops and the salaries of such teachers of the University as are appointed for research and for the advancement and dissemination of knowledge in particular branches of learning; and

* As amended by Act No. VIII of 1930.

(3) an annual block grant of not less than one and a half lakhs of rupees made by the Local Government for the general expenditure of the University each year

Permanent General Capital Fund or Foundation Fund.

*37-A. (1) The University shall have a fund called the Foundation Fund.

(2) The Foundation Fund shall consist of—

(a) the sum of twenty seven lakhs of rupees which shall be given to it by the Local Government,

(b) any contributions to this fund which may be made by the Local Government, the Government of India, any local or other public body, or others;

(c) any contributions to this fund which may be made by the University; and

(d) the sum of three lakhs and eighty five thousand rupees in securities and cash which stands to the credit of the Foundation Fund of the University.

(3) The Foundation Fund shall be invested and be kept invested in securities issued or guaranteed by the Government of India or by Local Governments in British India and such investments shall not be varied without the consent of the Chancellor.

(4) The corpus of the Foundation Fund shall be kept intact but the interest thereon may be utilised for the purposes of the University.

Constitution of other funds etc.

*37-B. The University shall have such other funds and maintain such accounts as the Senate may determine.

Contribution by Goverment to the University for buildings and equipment.

*37-C. The Local Government shall, subject to such conditions as may be agreed upon between them and the University, give for the buildings and equipment of the University a sum of seven and a half lakhs of rupees to which they may add such further sums as they may deem fit from time to time.

* New Sections inserted under Act No. VIII of 1930.

Transfer of Government institutions to the University.

38. The Local Government may at any time after the passing of this Act transfer to the University the control and management of any of their institutions on such terms and conditions as may be deemed proper. In the case of such transfer, the Local Government shall make a contribution annually of a sum equivalent to the average annual net expenditure from Provincial Funds on the institution during the three years immediately preceding the year of transfer.

CHAPTER IX—STATUTES, ORDINANCES AND REGULATIONS

Statutes.

39. Subject to the provisions of this Act, the Statutes may provide for all or any of the following matters, namely,—

(a) the constitution, powers and duties of the authorities of the University;

(b) the powers, duties and conditions of service of the officers of the University other than the Chancellor and the Pro-Chancellor;

(c) the method of election to the authorities of the University and, save as otherwise provided, the procedure at meetings of such authorities, including the quorum for the transaction of business by them;

(d) the conditions of affiliation of colleges affiliated to the University;

(e) the giving of religious instruction;

(f) the classification and the mode of appointment of the teachers of the University;

(g) the holding of Convocations to confer degrees;

(h) the conferment of honorary degrees,

(i) the institution of a pension or provident fund for the benefit of the teachers of the University or its servants;

(j) the maintenance of a register of registered graduates;

(k) the discipline of students; and

(l) all matters which by this Act may be prescribed by Statutes.

Statutes how made.

40 (1) The Statutes set out in the schedule shall have effect as if duly enacted under the provisions of this Act.

(2) The Senate may take into consideration the draft of a Statute either of its own motion or on a proposal by the Syndicate.

(3) The Senate, before passing a Statute taken into consideration of its own motion and affecting the powers or duties of any officer or authority of the University, shall ascertain and consider the views of the officer or authority concerned and of the Syndicate thereon.

(4) the Syndicate shall not propose the draft of a Statute

(a) affecting the status, powers or constitution of any authority of the University until such authority is given an opportunity of expressing its opinion on the proposal, such opinion shall be in writing and the draft Statute together with such opinion shall be considered by the Senate and submitted to the Chancellor,

(b) affecting the conditions of affiliation of colleges to the University without consulting the Academic Council.

(5) (a) Any draft of a Statute proposed by the Syndicate and rejected by the Senate shall be submitted to the Chancellor who may refer it back to the Senate for further consideration.

(b) Every Statute passed by the Senate shall be submitted to the Chancellor who may give or withhold his assent thereto or refer it back to the Senate for reconsideration.

(c) No Statute passed by the Senate shall have validity until assented to by the Chancellor.

Ordinances.

41. Subject to the provisions of this Act and the Statutes, the Ordinances may provide for all or any of the following matters, namely,—

(a) the levy of fees in colleges maintained by the University;

(b) the conditions of residence of the students of the University and the levy of fees for residence in hostels maintained by the University;

(c) the conditions of recognition of hostels not maintained by the University;

(d) the number, qualifications and emoluments of teachers of the University;

(e) the fees to be charged for courses of study given by teachers of the University, for lectures, for tutorial and supplementary instruction provided by the University and for services rendered by the University office;

(f) the appointment and duties of examiners,

(g) the conduct of examinations, and

(h) all matters which by this Act or by the Statutes may be provided for by the Ordinances.

Ordinances how made.

42. (1) Save as otherwise provided in this section, Ordinances shall be made by the Syndicate

Provided that the Syndicate shall consult the Academic Council in making Ordinances

(a) affecting the appointment and duties of examiners; or

(b) affecting the conditions of residence of students.

(2) All Ordinances made by the Syndicate shall take effect from such date as it may direct, but every Ordinance so made shall be submitted as soon as may be after it is made to the Chancellor and the Senate and shall be considered by the Senate at its next meeting. The Senate shall have power, by a resolution passed by a majority of not less than two-thirds of the members present at such meeting, to cancel or modify any such Ordinance.

(3) The Chancellor may direct that the operation of any Ordinance shall be suspended until such time as the Senate has had an opportunity of considering the same.

Regulations.

43. (1) The Regulations shall be made by the Academic Council and, subject to the provisions of this Act, they may provide for all or any of the following matters, namely,—

(a) the encouragement of co-operation and reciprocity among colleges,

(b) the admission of students to the University or prescribing the examinations to be recognized as equivalent to University examinations;

(c) the University courses and examinations and the conditions on which students of affiliated colleges shall be admitted to examinations for the degrees and diplomas of the University,

(d) the granting of exemptions,

(e) the management of the University Library or Libraries, and

(f) the constitution of departments of teaching

(2) All Regulations shall have effect from such date as the Academic Council may direct, but every Regulation made by the Academic Council shall be submitted as soon as may be to the Senate which shall consider it at its next meeting The Senate shall have power, by a resolution passed by a majority of not less than two-thirds of the members present at such meeting, to cancel or modify any such Regulation

CHAPTER X—TRANSITORY PROVISIONS

Completion of courses of study of students preparing for examinations of the Madras University.

44. Notwithstanding anything contained in this Act or the Ordinances, any student of a college affiliated to the University who was studying for any examination of the Madras University shall be permitted to complete his course in preparation therefor and the Madras University shall hold for such students examinations in accordance with the curricula of studies of that University for such period as may be prescribed.

Appointment of the First Vice Chancellor

45 Notwithstanding anything contained in section 12, within three months after the passing of this Act the first Vice-Chancellor shall be appointed by the Chancellor on a salary to

be fixed by him for a period not exceeding three years on such conditions as he thinks fit.

Appointment of the first Registrar.

46. Notwithstanding anything contained in section 13, within three months after the passing of this Act, the first Registrar shall be appointed by the Chancellor on a salary to be fixed by him for a period not exceeding two years on such conditions as he thinks fit.

Transitory powers of the Vice-Chancellor.

47 (1) It shall be the duty of the Vice-Chancellor to make arrangements for constituting the Senate, the Syndicate and the Academic Council within three months after the date of his appointment or such longer period not exceeding six months as the Local Government may, by notification, direct.

(2) The Vice-Chancellor shall, with the assistance of an advisory committee the members of which shall be nominated by the Chancellor, draw up any rules that may be necessary for regulating the methods of election to those authorities, subject to the provisions of this Act and the approval of the Chancellor.

(3) The authorities constituted under sub-section (1) shall commence to exercise their functions on such date or dates as the Local Government may, by notification, direct.

(4) The Statutes, Ordinances and Regulations of the University of Madras in force at the time of the coming into force of this Act shall so far as they are not inconsistent with the provisions of this Act be deemed to be Statutes, Ordinances and Regulations made under this Act until they are replaced by Statutes, Ordinances and Regulations to be framed under this Act.

(5) It shall be the duty of the Vice-Chancellor to draft such Statutes, Ordinances and Regulations as may be necessary and submit them to the respective authorities competent to deal with them. Such Statutes, Ordinances and Regulations when framed shall be published in the *Fort St. George Gazette.*

Advisory Committees.

48 Until the authorities of the University are constituted under section 47, sub-section (1), the Vice-Chancellor shall subject to the approval of the Chancellor have power—

(1) to appoint such advisory committees as he may think fit; and

(2) to appoint such clerical and menial staff as may be necessary.

Removal by Local Government of difficulties at the commencement of the Act.

49. If any difficulty arises as to the first constitution of any authority of the University after the commencement of this Act, or otherwise in first giving effect to the provisions of this Act, the Local Government, as occasion may require, may by order do anything which appears to them necessary for the purpose of removing the difficulty.

TRANSITORY PROVISIONS UNDER ACT XVI OF 1929

Completion of courses of study of students preparing for examinations of the Andhra University,

Notwithstanding anything contained in the said Act or in the Ordinances framed thereunder—

(i) any student of a college in the present districts of Bellary, Anantapur, Cuddapah, Kurnool or Chittoor affiliated to the Andhra University before the coming into force of the Andhra University (Amendment) Act, 1929, who was studying for any examination of the Andhra University, or

Madras Act VI of 1929,

(ii) any student who is admitted during the academic year 1929-30 into any such college to study for any examination of the Andhra University.

Madras Act VI of 1929.

Shall be permitted to complete his course in preparation therefor and the Andhra University shall hold for such students examinations in accordance with the curricula of studies of that University for a period of five years beginning on the second day of July 1929 and confer degrees and other academic distinctions to which such student will be entitled on his passing the said examinations if the said Andhra University (Amendment) Act, 1929, had not come into force

SCHEDULE

THE FIRST STATUTES OF THE UNIVERSITY

Definitions.

I. In these Statutes unless there is anything repugnant in the subject or context,—

(a) The 'Act' means the Andhra University Act, 1925, and 'section' means a section of the Act and 'clause' or 'sub-clause' means a clause or sub-clause of this Schedule; and

(b) 'Officers', 'Authorities', 'Professors', 'Readers', 'Lecturers', 'Teachers', 'Servants' and 'Registered Graduates' mean respectively, Officers, Authorities, Professors, Readers, Lecturers, Teachers, Servants and Registered Graduates of the University.

Powers of the Syndicate.

II. Subject to the provisions of the Act, the Syndicate shall have the following powers, namely,—

(a) to provide or purchase lands, buildings, premises, furniture, laboratories, apparatus, equipment and other means needed for carrying on the work of the University;

(b) to invest any moneys belonging to the University including any unapplied income in any of the securities described in section 20 of the Indian Trust Act, 1882, with the power to vary such investments or to place on fixed deposit in any bank approved in this behalf by the Local Government any portion of such moneys not required for current expenditure;

(c) to manage colleges and hostels maintained by the University,

(d) to appoint a Registrar of the University.

Constitution of Faculties.

III The Academic Council shall constitute Faculties of Arts, Science, Medicine, Commerce, Engineering, Technology, Agriculture, Teaching, Fine Arts, Oriental languages and other branches of learning as it may find necessary from among its members.*

The Registrar.

IV The Registrar shall, subject to the control of the Syndicate, manage the property and investments of the University. He shall be responsible for the preparation of the financial estimates and the annual accounts. Subject to the control of the Syndicate, he shall be responsible for seeing that all moneys are expended on the purposes for which they are granted or allotted.

*This has been replaced by a fresh Statute, *vide* Chapter IX, Section 1.

All contracts shall be signed by the Registrar on behalf of the University. He shall exercise such other powers and perform such other duties as may be prescribed.

V. The following officers shall be appointed by the Syndicate on the recommendation of the Academic Council:— The Proctors and Librarian.

(i) Proctors for the maintenance of the discipline of the students of the University;

(ii) A Librarian for the University Library.

VI (a) Every affiliated college or recognised hostel not maintained by the University shall be managed by a regularly constituted governing body appointed by the person or body maintaining the college or hostel the constitution of which shall be periodically reported to and approved of by the Syndicate. Colleges and hostels.

(b) The appointment of teachers and superintending staff of every such college or hostel shall be made by the governing body or by any authority to whom such body may have delegated the power and all such appointments shall be subject to the approval of the Syndicate.

(c) The Senate shall have power to suspend or withdraw the recognition of any college or hostel which may not be conducted in accordance with the conditions prescribed;

Provided that no such action shall be taken without affording the management of such college or hostel an opportunity of making such representation as it may deem fit.

VII. The Syndicate may, either of its own motion or on the recommendation of the Academic Council, make proposals to the Senate for the conferment of honorary degrees and shall, after the Senate assents thereto, submit such proposals to the Chancellor for confirmation; Honorary Degrees

Provided that in case of urgency the Chancellor may act on the recommendation of the Syndicate only.*

VIII. All arrangements for the conduct of examinations shall be made by the Syndicate. Examinations.

* Replaced by new statutes *vide* Chapter XV.

Pension or Provident Fund.

IX. There shall be instituted for the benefit of the officers, teachers and servants of the University such pension, insurance or provident fund as the Senate may deem fit.

Selection Committee.

X. Appointments of University teachers shall be made on the recommendation of a committee of selection constituted as follows:—

(i) The Vice-Chancellor;

(ii) the Chairman of the Board of Studies in the department of knowledge concerned;

(iii) two members elected by the Academic Council;

(iv) two members elected by the Senate,

(v) the University Professor or another expert in the department of knowledge concerned nominated by the Syndicate.*

Register of graduates

XI. †All graduates of the University and all graduates of the University of Madras, who are residents of or are domiciled in the University area and who are of five years' standing or upwards on the date of the commencement of the Act, shall, on payment of such fees as may be prescribed, be entitled to have their names enrolled in the register of registered graduates and upon such enrolment to enjoy all the privileges of registration.

If any question arises whether a graduate of the University of Madras is a resident of or domiciled in the University area or not, the question shall be decided by the Syndicate and such decision shall be final.

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* Replaced by new statutes *vide* Chapter XXXIV

† Replaced by a new statute *vide* Section 2 of Chapter XXVIII.

THE UNIVERSITY CODE

CHAPTER I.

PRELIMINARY

Scope of the Code. Stat.

1. In this Code unless a different intention appears from the subject or context the Code of the University means the provisions contained in the Andhra University Act, 1925 and the Statutes, the Ordinances and the Regulations made under that Act.*

Definitions. Stat.

2 (1) The 'Act' means the Andhra University Act, 1925.

(2) 'University' means the Andhra University as constituted under the Act.

(3) 'University area' means the area comprising the districts to which the Act applies.

Act, Sec. 2

(4) 'Affiliated College' means a college within the University area already affiliated to the Madras University or a College established by or affiliated to the University as providing courses of study qualifying students for admission to University examinations. It includes a college in Arts or Science and professional, technical or technological college.

(5) 'University College' means a college which is established or recognized by the University as making provision for honours or post-graduate courses of study qualifying students for admission to higher Degrees of the University according to the Regulations prescribed.

(6) 'First-Grade College' means a College which is recognized by the University as providing courses of study qualifying students for admission to the examinations for the ordinary Degree in Arts or Science in accordance with the Regulations prescribed.

* Subject to the provisions of the Act, Statutes are made by the Senate, Ordinances by the Syndicate and Regulations by the Academic Council. For fuller details see Chapter XVIII of the Code.

Act, Sec. 2 (Contd).

(7) 'Second Grade College' means a college which is recognized by the University as providing courses of study qualifying students for admission to the Intermediate Examination in Arts and Science according to the Regulations prescribed but not to the Degree examinations of the University.

(8) 'Special Grade College' means an institution providing courses of study in Oriental languages or in other special subjects and preparing students for degrees titles or diplomas in accordance with the Regulations prescribed.

(9) 'District' means a district within the area comprising the present districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur, or Nellore, to which this Act applies.

(10) 'Hostel' means a unit of residence for students of the University maintained or recognised by the University in accordance with the provisions of the Act.

(11) 'Prescribed' means prescribed by the Statutes, Ordinances, or Regulations.

(12) 'Principal' means the head of a College.

(13) 'Registered Graduates' means graduates registered under conditions prescribed in this behalf

(14) 'Teachers of the University' means teachers appointed by the University to give instruction on its behalf

(15) 'Teachers' means Professors, Readers and Lecturers and such persons giving instruction in the University or in any affiliated colleges as may be declared by the Statutes to be teachers.

(16) 'University Professor' means a person appointed as such by the University.

Stat

(17) 'Officers' 'Authorities', 'Professors', 'Readers', 'Lecturers', 'Teachers', 'Servants' and 'Registered Graduates' mean respectively, Officers, Authorities, Professors, Readers, Lecturers, Teachers, Servants and Registered Graduates of the University.

(18) The 'Gazette' means the Fort St. George Gazette.

(19) 'Clear days' means that the time is to be reckoned exclusive of both the first and the last days.

(20) 'Resolution' means Original Proposition.

(21) 'Motion' means anything moved either by way of resolution or amendment.

Notice. Stat.

3 (a) Any notice, intimation or information required to be given, and any paper, minutes or proceedings required to be sent to any person by the Code shall, unless otherwise provided, be given or sent, by the same being posted to the address of that person.

(b) A member of the Senate, the Academic Council, a Faculty, Board of Studies, Board of Examiners or Committee appointed under the Code shall, if required by the Registrar, give an address to which communications may be sent; and the posting of communications to that address shall be a sufficient compliance with the requirements of the Code as to notice.

Hours of business, Stat

4 The University Office shall be open daily for the transaction of business between the hours 11 a m and 4 p m. except on Sundays, the penultimate Saturday of each month, and gazetted holidays. The office may be closed for a day or part of a day on particular occasions at the discretion of the Vice-Chancellor provided that arrangements are made for the transaction of any urgent business.

Validity of acts done on the day following a dies non Stat.

5 Where, by any rule, any act or proceeding is directed or allowed to be done or taken in the office of the Registrar on a certain day or within a prescribed period, and the office is closed on that day or the last day of the prescribed period, the act or proceeding shall be considered as done or taken in due time if it is done or taken on the day on which the office reopens.

CHAPTER II.

THE UNIVERSITY

The University Act, Sec. 3

1 (1) There shall be constituted in and for the area comprising the present districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur and Nellore, a University by the name of the Andhra University which shall consist of a Chancellor, a Pro-Chancellor, a Vice-Chancellor, a Senate, a Syndicate and an Academic Council; it shall be a body corporate having perpetual succession and a common seal and shall sue and be sued by the said corporate name.

(2) The headquarters of the University shall be located at Vizagapatam.

Powers of the University. Act. Sec. 4.

2. The University shall have the following powers, namely:—

(1) to provide for instruction in such branches of learning as may be considered suitable and to make provision for research and for the advancement and dissemination of knowledge;

(2) to hold examinations and to confer degrees and other academic distinctions on persons who have pursued a course of study in the University;

(3) to promote the development of the study of Telugu, Kanarese, Urdu and Oriya and their use as media of instruction and examination;

(4) to confer degrees and other academic distinctions on persons who have carried on research under conditions prescribed;

(5) to confer honorary degrees or other distinctions on approved persons under conditions prescribed;

(6) to institute Professorships, Readerships, Lecturerships and any other teaching posts required by the University;

(7) to hold and manage endowments and to institute and award fellowships, scholarships, exhibitions, medals and prizes;

(8) to maintain collgees and hostels, to recognise colleges and hostels not maintained by the University and to withdraw such recognition;

(9) to erect, equip and maintain laboratories and libraries;

(10) to fix fees and to demand and receive such fees as may be prescribed;*

(11) to make grants from the funds of the University for maintenance of a University Corps;

(12) to institute and provide funds for the maintenance of

(a) a Publication Bureau,

(b) an Employment Bureau,

(c) Students' Unions,

(d) University Extension Boards;

(13) to co-operate with other Universities and authorities in such manner and for such purposes as may be determined; and

(14) to do all such other acts and things, whether incidental to the powers aforesaid or not, as may be requisite in order to further the objects of the University as a teaching and examining body, to cultivate and promote arts, sciences, professional studies, technology and other branches of learning including Oriental and to promote the interests of its students.

University open to all classes and creeds, Act, Sec. 5.

3. No person shall be excluded from membership of any of the authorities of the University or from admission to any degree or course of study on the sole ground of sex, race, creed, class or caste and it shall not be lawful for the University to adopt or impose on any person any test whatsoever relating to religious belief or profession in order to entitle him to be admitted thereto as a teacher or student or to hold any office

* See Chapter XXV.

therein or to graduate thereat or to enjoy or exercise any privilege thereof except where in respect of any particular benefaction accepted by the University such test is made a condition thereof:

Provided that nothing in this section shall be deemed to prevent religious instruction being given in the manner prescribed* by the Statutes to those not unwilling to receive it.

Admission of educational institutions as colleges. Act, Sec. 6.

4 (1) The colleges in the University area that are now affiliated to the Madras University shall be, and shall have the privileges of, affiliated colleges under the Act.

(2) The University shall have power to admit a college to affiliation as a University College, a First Grade College, a Second Grade College or a Special Grade College, in accordance with Statutes.

(3) The University shall not, however, establish a University College nor affiliate any institution as a University College unless the buildings of the institution are situate in the headquarters of the University or within ten miles of the limits thereof.

* See Chapter XII.

CHAPTER III.

THE VISITOR

The Visitor and his powers. Act, Sec. 8.

1. The Governor-General shall be the Visitor of the University.

2. The Visitor shall have the right to cause an inspection to be made, by such person or persons as he may direct, of the University, its buildings, laboratories, libraries, museums, workshops and equipment and of any institutions maintained by or affiliated to the University and also of the teaching and other work conducted or done by the University and to cause an inquiry to be made in respect of any matter connected with the University The Visitor shall in every case give notice to the University of his intention to cause such inspection or inquiry to be made and the University shall be entitled to be represented thereat.

3. The Visitor may address the Chancellor with reference to the result of such inspection or inquiry and the Chancellor shall communicate to the Senate and to the Syndicate the views of the Visitor and may, after ascertaining the opinions of the Senate and Syndicate thereon, advise the University upon the action to be taken.

4. The Syndicate shall, within such time as the Chancellor may fix, report to him for communication to the Visitor such action, if any, as is proposed to be or has been taken upon such advice. The report shall be accompanied by the opinion of the Senate thereon.

5. The Chancellor may, where action has not been taken by the University within a reasonable time to his satisfaction, after considering any explanation furnished or representation made by the Senate or the Syndicate, issue such directions as he may think fit and the University shall comply with such directions.

CHAPTER IV.

OFFICERS OF THE UNIVERSITY

Officers of the University. Act, Sec. 9 and stat.

1. The following shall be the officers of the University :—

(i) The Chancellor,

(ii) The Pro-Chancellor,

(iii) The Vice-Chancellor,

(iv) The Registrar,

(v) The University Orators,

(vi) The Honorary Legal Adviser,

(vii) The Director of the University Extension Department, and

(viii) such other officers as the Statutes may declare to be officers of the University.

I.—The Chancellor.

The Chancellor Duties and Powers Act Sec. 10.

2 (1) The Governor of Madras shall be the Chancellor. He shall, by virtue of his office, be the head of the University and the President of the Senate and shall, when present, preside at meetings of the Senate and at Convocations of the University; he shall exercise such other powers and perform such other duties as may be imposed on him under the provisions of the Act.

(2) Where power is conferred upon the Chancellor to nominate persons to any authorities*, he shall, to the extent necessary, nominate persons to represent communities or interests not otherwise adequately represented.

Stat.

(3) In all cases of doubt or dispute as to whether a person is disqualified under Section 26 of the Act, from standing for election or from being nominated, the Chancellor shall have the final decision.†

* See Chapter VI, Sec. 1 class III (7).

† See also Chapter V, Sec. 8.

(4) Save as otherwise provided, if any question arises whether a person has been duly elected or nominated as or is entitled to be a member of any authority of the University, the question shall be referred to the Chancellor whose decision thereon shall be final. Act, Sec

II.—The Pro-Chancellor.

3 (1) The Pro-Chancellor of the University shall be nominated by the Chancellor and shall hold office for a period of three years. The Pro-Chancellor. Act. Sec. 11.

(2) In the absence of the Chancellor, or during the Chancellor's inability to act, the Pro-Chancellor shall exercise all the functions of the Chancellor.

III.—The Vice-Chancellor.

4 (1) The Vice-Chancellor shall be a whole-time officer of the University and shall be elected by the Senate. The Vice-Chancellor Appointment Act, Sec. 12 (1) (a) and (b)

(2) He shall hold office for a period of three years and shall be eligible for re-election.

(3) In the temporary absence of the Vice-Chancellor on leave, by reason of illness or other cause, or pending the filling of a vacancy caused in any other manner, his duties shall be performed in such manner as the Syndicate may, subject to the approval of the Chancellor, direct. Temporary absence. Act, Sec. 12 (3)

5 (1) The Vice-Chancellor shall be the principal executive officer of the University and shall exercise general control over its affairs. Ordinary powers and duties. Act, Sec. 12 (1) (c) to (h).

(2) He shall, by virtue of his office, be a member and Chairman of the Syndicate and of the Academic Council, and shall preside at the meetings of the Senate in the absence of the Chancellor and the Pro-Chancellor.

(3) He shall be entitled to be present at and address at any stage any meeting of any authority of the University but not to vote thereat, unless he is a member of such authority.

(4) He shall have power to convene meetings of the Senate, the Syndicate and the Academic Council.

(5) It shall be his duty to see that the provisions of the Act, the Statutes, Ordinances and Regulations are duly observed and he may exercise all powers necessary for this purpose.

(6) He shall give effect to the orders of the Syndicate regarding the appointment, suspension and dismissal of the teachers and servants of the University.

Emergency Powers. Act, Sec. 12 (2)

6 (1) When, with regard to any matter in which an officer or authority may take action, the Vice-Chancellor considers immediate action desirable, he may with the sanction of the Chancellor take such action as may be necessary but shall, as soon as may be, report the action taken to the officer or authority concerned.

(2) An appeal shall lie to the Syndicate against any action taken by the Vice-Chancellor under this sub-section affecting any person in the service of the University, at the instance of such person. Such appeal shall be filed within thirty days from the day on which such person has notice of the action taken.

Election of Vice-Chancellor. Stat.

7 (a) The election of the Vice-Chancellor shall ordinarily be held at the ordinary meeting of the Senate immediately preceding the date when the post is expected to fall vacant.

(b) When a permanent vacancy occurs before the due date and no election has already been held under (a) above, the election shall be held at the next ordinary meeting or a special meeting of the Senate as the Chancellor may decide after consulting the Syndicate.

(c) The rules relating to the election of the Vice-Chancellor shall be those prescribed in the Appendix to this Chapter.

Salary and leave. Stat.

8 (a) The Vice-Chancellor shall be paid a salary of Rs. 2,000 *per mensem.*

(b) The Vice-Chancellor when travelling on University business shall be entitled to travelling allowance on the scale laid down in the Madras Travelling Allowance Rules as payable to first class officers.

(c) The Vice-Chancellor shall be entitled to one month's leave on full pay for each eleven months of completed service. He may avail himself of the leave due only during the term of his office.

IV. THE REGISTRAR.

The Registrar's Appointment. Act, Sec. 13

9 (1) The Registrar shall be a whole-time paid officer of the University appointed by the Senate from among three persons recommended by the Syndicate.

(2) He shall be appointed for five years and shall be eligible for reappointment.

Stat.

10 (1) His services for the purposes of pension or gratuity shall be reckoned from the date of his first appointment.

(2) The Registrar shall not continue to hold the office after completion of 25 years of service or the attaining of 55 years of age whichever be the earlier event unless on the recommendation of the Syndicate the Senate shall have extended his tenure of office for a specified period.

How to terminate the appointment. Stat.

11 (a) It shall be in the power of the Syndicate to dispense with the services of the Registrar at any time on payment to him of six months' salary; and it may at any time discharge him from its services without notice or compensation in the event of misconduct on his part or a breach by him of any of the conditions on which he has been engaged

(b) In all such cases, the Registrar shall have the right to appeal to the Chancellor, whose decision shall be final.

(c) In case the Registrar should wish to resign his office he shall give six months' notice of his intention to resign.

Salary. Stat.

12. The salary of the Registrar shall be Rs. 600 per mensem rising by annual increments of Rs. 50 per mensem to Rs. 800. If at the completion of his term of five years the Registrar be re-engaged, his salary shall be Rs. 850 per mensem rising by annual increments of Rs. 50 per mensem to Rs. 1,000 mensem.

Provided that the salary of Mr. C.D.S. Chetti who has been appointed by the Senate as the Registrar of the University for a term of five years from 26th April 1928 shall with effect

from that date be Rs. 700 per mensem rising by annual increments of Rs. 50 per mensem to Rs. 900 per mensem exclusive of contribution on account of leave salary and pension which will be paid to the Government by the University.

Leave Stat.

13 (a) The Registrar shall not absent himself from his duties without the permission of the Vice-Chancellor if the period of absence is 10 days or less and of the Syndicate if the period is above 10 days.

(b) The Syndicate may grant to the Registrar leave of absence for one month on full pay for each eleven months of completed service, or for an accumulated period not exceeding four months in five years The Syndicate may also grant him leave of absence on half pay to which may be added a period of accumulated leave on full pay not exceeding three months—for a period not exceeding eight months in five years. Such leave on half pay shall not, except in the case of leave on medical certificate, exceed one-and-a-half months for each completed year of service

In respect of leave on full pay, provisions of Chapter XII of the Civil Service Regulations, Fourth Edition, shall, so far as may be, apply.

(c) All periods of leave on full pay and half the amount of leave on half pay shall count as service for gratuity or pension.

Powers and duties. General. Stat.

14. The Registrar shall act as Secretary of the Senate, the Syndicate, and the Academic Council, attend the meetings of these bodies and keep minutes of proceedings of such meetings*.

Stat.

15. Subject to the provisions of the Act and the Statutes the Registrar shall have the following powers, namely:—

(1) He shall conduct correspondence relating to the University and be responsible for proper maintenance of all the records of the University.

(2) He shall be the custodian of all records, office library, common seal, stock and other property as the Syndicate may commit to his charge.

* See Act, Sec. 13 (3).

(3) He shall be responsible for the general discipline of the office and shall have disciplinary control over the servants of the University.

(4) He shall issue under direction of the Vice-Chancellor all notices convening meetings of the Senate, the Syndicate, the Academic Council, Faculties, Boards of Studies, Boards of Examiners, and any committees thereof.

(5) He shall be responsible for the arrangements connected with the conduct of all examinations held under the authority of the University including the proper printing and issue of the examination papers and all matters connected therewith.

(6) He shall, on application previously made for the purpose of fixing a convenient hour, arrange that any member of the Senate, of the Syndicate, or of a Faculty, shall have access to the proceedings of the Senate, Syndicate, or Faculty, respectively, and to any documents connected with such proceedings.

(7) He shall maintain a register of all the registered graduates in the prescribed form.

(8) He shall subject to the control of the Syndicate manage the property and investments of the University He shall be responsible for the preparation of the financial estimates and annual accounts Subject to the control of the Syndicate he shall be responsible for seeing that all moneys are expended on the purposes for which they are granted or allotted. Financial. First Stat (IV).

All contracts shall be signed by the Registrar on behalf of the University.

(9) He shall be the custodian of all moveable and immoveable properties of the University including all valuable securities, grants, title-deeds, sanads and cash of the University. Stat.

(10) He shall realise and receive all grants or other moneys due to the University from whichever source that may be and he shall give receipts of discharge to all payments to the University.

(11) He shall draw over his signature cheques on behalf of the University on the bank or banks in which the University maintains its account, and shall make all disbursements on account of the University and sign cheques or such other instruments as may be necessary for that purpose.

(12) He shall maintain account of all moneys and assets of the University in his charge. Such account shall be appended to the annual revenue account of the University. The Registrar shall pass bills for payment for contingent charges and salaries of duly sanctioned staff, within the budget amount and may incur unforeseen expenses not specifically provided for in the budget up to an amount of Rs. 100 at any one time and up to an amount of Rs 300 at any one time with the sanction of the Vice-Chancellor.

He shall however report the item of unforeseen expenditure thus incurred as soon as possible to the Syndicate for its consideration and sanction.

(13) He shall perform such other work as may from time to time be prescribed by the Syndicate and render such assistance as may be desired by the Vice-Chancellor in the performance of his official duties.

V. University Orators.

University Orators Stat.

16. The University Orators, two in number, one in English and the other in Telugu, shall be appointed from among the members of the Senate by the Syndicate. They shall hold office for a period of three years and shall be eligible for reappointment. A University Orator who ceases to be a member of the Senate before the expiry of his term of three years shall be deemed to have vacated his office as Orator from the date on which he ceased to be a Senator.

The appointments shall be honorary.

It shall be the duty of the Orators to attend at the request of the Vice-Chancellor such public functions of the University as he may determine and take part therein. They shall also introduce to the Chairman of the Convocation the candidates for Honorary Degrees.

VI The Honorary Legal Adviser.

The Honorary Legal Adviser, Stat.

17. An Honorary Legal Adviser to the University shall be appointed by the Syndicate. He shall hold office for a period of three years and shall be eligible for reappointment.

The appointment shall be honorary

It shall be the duty of the Legal Adviser to advise the Syndicate on such matters pertaining to the University as may be referred to him by the Syndicate.

APPENDIX

RULES RELATING TO THE ELECTION OF THE VICE-CHANCELLOR

1. When the date of the election of the Vice-Chancellor has been fixed in accordance with Section 7 (a) or (b) of Chapter IV of the Code, by the Vice-Chancellor or the Chancellor as the case may be, the Registrar shall send to every member of the Senate notice of the date so fixed.

2. At any time after the issue of notice under rule 1 above but prior to three clear days preceding the date so fixed for the election, any member may nominate one person for election by sending to the Registrar a nomination paper signed by himself as proposer and by another member as seconder and stating the name of the person nominated with a declaration that the proposer has ascertained that such person is willing to serve as Vice-Chancellor, if elected.

3. Such nomination papers may be sent by registered post or delivered in person to the Registrar.

4. Nominations may be withdrawn by noon of the day previous to the day of election on a written statement to that effect made to the Registrar by the candidate concerned or by an oral statement made by the candidate at the meeting of the Senate itself before ballotting commences.

5. On the date fixed for election, the out-going Vice-Chancellor or if the office of the Vice-Chancellor is vacant, the Chairman, as the case may be, shall read out to the Senate the names of persons who have been duly nominated together with those of their proposers and seconders; and if only one person has been so nominated, shall declare that person to be duly elected. If more than one person has been so nominated, the Senate shall proceed to elect the Vice-Chancellor by ballot.

6. The candidate who obtains the largest number of votes shall be declared duly elected.

7. In case of equality of votes, a second ballot shall be held as between the candidates thus getting an equal number of votes, provided the votes thus obtained are the highest obtained by any candidate in the previous ballot. These ballots shall be repeated until there are only two candidates left and if on a further ballot there still continues to be a tie between those two candidates, the determination shall be by the drawing of lots.

8. The candidate who has been thus elected Vice-Chancellor shall be declared before the meeting is adjourned or passes on to the next item of business if any in the agenda, or is dissolved, as having been duly elected Vice-Chancellor.

CHAPTER V.

AUTHORITIES OF THE UNIVERSITY

Authorities. Act, Sec, 14.

1. The following shall be the authorities of the University·

(i) The Senate,

(ii) The Syndicate,

(iii) The Academic Council,

(iv) The Faculties,

(v) The Boards of Studies, and

(vi) Such other authorities as the Statutes may declare to be authorities of the University

Filling of vacancies. Act,, Sec, 30.

2. All vacancies among the members of any authority or body of the University shall be filled as soon as conveniently may be by the person or body who appointed, elected or co-opted the member whose place has become vacant.

Provided that vacancies arising by efflux of time among elected members of any authority or body of the University may be filled at elections which may be fixed by the Vice-Chancellor to take place on such days not earlier than two months from the date on which the vacancies arise as he thinks fit.

Disputes as to constitution of University authorities· Act. Sec. 27.

3. Save as otherwise provided, if any question arises whether a person has been duly elected or nominated as or is entitled to be a member of any authority of the University, the question shall be referred to the Chancellor whose decision thereon shall be final.

Removal from membership of the University. Act, Sec. 31.

4. The Senate may, on the recommendation of not less than two-thirds of the members of the Syndicate for the time being in India and by the votes of not less than two-thirds of the members present and voting, remove the name of any person from the register of graduates and remove any person from membership of any authority or board of the University if he has been convicted by a Court of Law of what in the opinion of the Senate is a non-political offence involving moral delinquency or if he has been guilty of scandalous conduct and for the same

reasons may withdraw any degree or diploma conferred or granted by the University.

Disqualification for membership Act, Sec. 26 & Stat.

The Senate may also remove any person from the membership of any authority of the University if he becomes of unsound mind or a deaf mute or suffers from contagious leprosy or is an uncertified bankrupt or undischarged insolvent.

Proceedings of University bodies not invalidated by vacancies Act, Sec. 29.

5. No act or proceeding of any authority or other body of the University shall be deemed invalid by reason only of some defect in the constitution of the authority or body or by reason of the existence of a vacancy or vacancies among its members or the invalidity of the election of any of its members.

Constitution of Committees. Act, Sec. 28.

6. All the authorities of the University shall have power to appoint committees; such committees may, unless there be some special provision to the contrary, consist of members of the authority concerned and of such other persons, if any, as the authority in each case may think fit.

CHAPTER VI.

THE SENATE

Constitution Act, Sec, 15.

1. The Senate shall consist of the following persons, namely,—

CLASS I.—EX-OFFICIO MEMBERS.

(1) The Chancellor,

(2) The Pro-Chancellor,

(3) The Vice-Chancellor,

(4) The Director of Public Instruction,

(5) The Surgeon-General with the Government of Madras,

(6) The Director of Industries,

(7) The Director of Agriculture,

(8) The Principals of affiliated colleges,

(9) The whole time University professors paid from University funds, and

(10) The members of the Syndicate who are not otherwise members of the Senate.

CLASS II.—LIFE MEMBERS.

(1) Such number of persons not exceeding three as may be appointed, on the recommendation of the Syndicate, by the Senate to be life members on the ground that they have rendered eminent services to education;

(2) all persons who make a donation of not less than Rs. 25,000 to or for the purposes of the University.

CLASS III.—OTHER MEMBERS.

(1) Fifteen persons elected by registered graduates from among themselves according to the principle of proportional representation by means of the single transferable vote;

(2) three persons elected by the Academic Council from among its members;

(3) five persons elected from among themselves by the non-official members of the Legislative Council of Madras, who are residents of any of the districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor;

(4) two persons elected from among themselves by the headmasters of secondary schools in the districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor recognized by the Local Government;

(5) (a) one person elected from among themselves by the members of the municipal councils and taluk boards and such members of the district board as are not members of these bodies in each district in the University area;

(b) two persons elected from among themselves by the members of the municipal councils and taluk boards and such members of the district board as are not members of these bodies in each of the districts of Bellary, Anantapur, Cuddapah, Kurnool and Chittoor;

(6) two persons elected from among themselves by such of the landholders of any of the districts of Ganjam, Vizagapatam, West Godavari, East Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool, and Chittoor as are included in the electoral roll for the landholders' constituency of the Madras Legislative Council;

(7) twelve persons nominated by the Chancellor of whom not less than four shall be nominated to secure the representation of communities and interests not otherwise adequately represented and not less than four shall be nominated to represent the Adi-Andhras and other depressed classes;

(8) (a) every association making a donation of not less than Rs. 20,000 and every person making a donation of not less than Rs. 10,000 to or for the purposes of the University shall be entitled to nominate one person who shall be a member for three years;

(b) every association or person making an annual contribution of not less than Rs. 3,000 to or for the purposes of the University shall be entitled to nominate one member who shall be a member so long as the annual contribution continues;

(9) five persons to represent the chief languages in the University area chosen by election in such manner as may be prescribed* and allotted as follows:—

Telugu	Two	
Kanarese Urdu Oriya	}	One each.

Save as otherwise provided, members of the Senate other than ex-officio members shall hold office for a period of three years.

†Provided, however, that a person nominated or elected in his capacity as a member of a particular body or the holder of a particular appointment shall not, if he ceases to be member of that body or the holder of that appointment, as the case may be, *for a period of less than three months,* cease to be a member of the Senate.

Elections. Stat.

2 The elections to the Senate shall be conducted in accordance with Chapter XXX of this Code.

Powers of the Senate. Act, Sec. 16.

3 (1) The Senate shall be the supreme governing body of the University and shall have powers to review the action of

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* See Chapters XXIX and XXX sections 40—46

† Ruling given on 19 February 1930 on this proviso by the Chancellor under Section 27 of the Act.—

The expression 'for a period of less than three months' occurring in the proviso to the last paragraph of Section 15 of the Andhra University Act, 1925, (Madras Act II of 1926), refers to cases where the cessation of membership of the body is in the nature of a break for a period of three months or less. A person who resigns his membership of a particular body should be considered to have permanently relinquished the membership for purposes of the proviso and cannot claim an extension

the Syndicate and the Academic Council (save where the Syndicate and the Academic Council have acted in accordance with powers conferred on them under this Act, the Statutes or the Ordinances).

(2) In particular and without prejudice to the generality of the foregoing power, it shall have power

(a) to make Statutes and to amend or repeal the same and to consider, modify or cancel Regulations and Ordinances;

(b) to provide for instruction and training in such branches of learning as it thinks fit;

(c) to institute, maintain and manage or recognize and control colleges;

(d) to provide for research and the advancement and dissemination of knowledge;

(e) to institute Professorships, Readerships, Lecturerships and other teaching posts required by the University;

(f) to establish, equip and maintain University laboratories and libraries;

(g) to affiliate to the University colleges under conditions to be prescribed in this behalf and to withdraw affiliation from colleges, after consultation with the Academic Council;

(h) to confer degrees and other academic distinctions on persons who

(i) shall have pursued an approved course of study in an affiliated college and shall have passed the prescribed examinations of the University,

(ii) shall have carried on research under conditions prescribed;

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of office as a member of the Senate for another three months. Non-official members whose resignation of membership of the Legislative Council has been accepted automatically vacate their seats on the Senate and should any of them happen to be members of the Syndicate, having been elected thereto by the Senate, their membership on the Syndicate also ceases simultaneously with the cessation of office as Senate members.

(i) to confer honorary degrees or other distinctions on approved persons in the manner prescribed†;

(j) to institute fellowships, travelling fellowships, scholarships, exhibitions, medals and prizes;

(k) to provide for lectures and instruction to persons not being students of the University and to grant diplomas to them;

(l) to establish, maintain and manage hostels;

(m) to recognize hostels not maintained by the University and to withdraw recognition therefrom;

(n) to supervise and control the residence and discipline of the students of the University and to make arrangements for promoting their health and general welfare;

(o) to prescribe the fees to be charged for the affiliation of colleges, for admission to the examinations, degrees and diplomas of the University and for the registration of graduates§;

(p) to consider and pass resolutions on the annual report, the annual accounts and the financial estimates of the University;

(q) to enter into any agreement with the Government or with a private management for assuming the management of any institution and taking over its properties and liabilities or for any other purpose not repugnant to the provisions of this Act;

(r) to co-operate with other Universities and authorities for such purposes and in such manner as it determines;

(s) to delegate such of its powers as it deems fit to any authority or authorities constituted under this Act.

(3) The Senate shall exercise all the powers of the University not otherwise provided for and all powers requisite to give effect to the provisions of the Act.

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† See Chapter XV.

§ See Chapter XII sec. 7, Chapter XXV and Chapter XXVIII respectively.

Meetings and Proceedings.

4 (1) There shall be at least two ordinary meetings of the Senate in a year, one of which shall be called the annual meeting. Meetings Act, Sec. 17 (1)

(2) The Senate may also meet at such other times as it or the Vice-Chancellor may from time to time determine.

(3) Extraordinary meetings of the Senate may be convened by the Vice-Chancellor under the same procedure as that which governs Special Meetings of the Senate Stat.

(4) The dates for the meetings of the Senate shall be fixed by the Vice-Chancellor. Stat

(5) Upon a requisition in writing signed by not less than twenty members of the Senate, the Vice-Chancellor shall convene a meeting of the Senate † within two months after the receipt of the requisition. Stat.

(6) Any requisition for a special meeting must be in writing signed by the requisitionists, and must be forwarded to the Registrar with a copy of the resolution or resolutions to be moved at the meeting and also the name of the proposer of each resolution Stat.

5. The Registrar shall under the directions of the Vice-Chancellor give not less than six weeks' notice of the date of an ordinary meeting. Notice of meeting. Stat.

With the notice the Registrar shall forward copies of reports that should be submitted to the Senate.

6. Any member who wishes to move a resolution at an ordinary meeting shall forward a copy of the resolution to the Registrar so as to reach him not less than 30 clear days before the date of the meeting. Notice of Resolutions. Stat.

6-A No resolution shall be admissible which does not comply with the following conditions, namely,— Admissibility of resolutions. Stat.

(a) it shall be clearly and precisely expressed and shall raise a definite issue.

† See Act, Sec. 17 (2).

(b) It shall not contain arguments, inferences, ironical expressions or defamatory statements, nor shall it refer to the conduct or character of persons except in their official or public capacity.

(c) It shall relate to a matter within the cognisance of the body concerned.

No resolution which does not comply with the following conditions shall ordinarily be admissible.—

(a) It shall not be in a hypothetical form.

(b) It shall not raise substantially the same question as that raised in a motion moved in the Senate during the twelve months preceding the date of the meeting when it has to be moved.

Preparation of Preliminary Agenda paper. Stat.

7. The Syndicate shall cause each resolution of which notice has been given and which has been admitted in accordance with Section 6-A of this Chapter, to be placed in the agenda of the meeting at which it is to be moved.

Issue of Agenda paper, Stat.

8. Not less than twenty-one days before the date of an ordinary meeting and not less than fifteen days before the date of a special meeting, the Registrar shall issue to every member an agenda paper specifying the place, the day and the hour of the meeting and the business to be brought before the meeting, but the non-receipt of the agenda paper by any member shall not invalidate the proceedings of the meeting, provided that the Syndicate may bring any business which in its opinion is urgent before any ordinary meeting or special meeting with shorter notice or without placing the same in the agenda paper.

Notice of amendments. Stat.

9. Any member wishing to move an amendment to a resolution on the agenda paper of any ordinary or special meeting of the Senate shall forward a copy of the same to the Registrar so as to reach him not less than eight clear days before the day of the meeting at which the resolution is to be moved.

Preparation and issue of Final Agenda paper. Stat.

10. The Registrar shall, on the receipt of amendments given in accordance with rule 9 of this Chapter, prepare an amended agenda paper showing all the resolutions as in the

original agenda paper and all the amendments and shall post a copy of it to each member of the Senate not less than three days before the date of the meeting.

11. Every motion shall be affirmative in form. When a member wishes to move an amendment of which due notice has not been given to the Registrar, any member may object to the moving of the amendment, and the objection shall prevail, unless the Chairman allows the amendment to be moved. Form of motion Stat.

12 (a) At an ordinary meeting of the Senate any member may ask any question on subjects usually dealt with by the Syndicate and upon every other matter within the cognisance of the Senate provided that no question shall be asked unless it complies with the following conditions, namely.— Interpellations. Stat.

(i) it shall be so framed as to be merely a request for information;

(ii) it shall not contain arguments, or inferences or defamatory statements, nor shall it refer to the conduct or character of persons except in their official capacity,

(iii) it shall not ask for an expression of an opinion or for the solution of a hypothetical proposition,

(b) Any member who wishes to ask a question shall forward to the Registrar a notice in writing to that effect, together with a copy of the questions to be asked, so as to reach him not less than twenty-one days before the date of an ordinary meeting.

(c) The Syndicate may disallow any question on the ground that it cannot be answered consistently with the interests of the University or on the ground of non-compliance with the provisions of sub-section (a) above. The decision of the Syndicate shall be final and no discussion thereon shall be permitted at any meeting of the Senate.

(d)The Syndicate shall make arrangements for the answering of the questions and shall include the answers to questions, if any, in the final agenda paper.

13 In the absence of the Chancellor, the Pro-Chancellor and the Vice-Chancellor, from any meeting of the Senate, the Chairman. Act, Sec. 17(4)

members present at the meeting shall choose one of their members to preside thereat.

Quorum Stat

14 Twenty members of the Senate shall be the quorum for a meeting of the Senate.

If a quorum is not present within thirty minutes after the time appointed for a meeting, the meeting shall not be held, and the Registrar shall make a record of the fact.

If at any time during the progress of a meeting any member shall call attention to the number of members present, the Chairman shall within a reasonable time count the number of the members present, and, if a quorum be not present, he shall declare the meeting dissolved and shall leave the chair All such dissolutions shall be recorded by the Registrar and the record shall be signed by the Chairman.

Adjourned Meetings Stat.

15 The Chairman shall, if so directed by a meeting at which a quorum is present, adjourn the meeting from time to time but, subject to the provisions of the Code, no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place When a meeting is adjourned for fifteen days or more, not less than ten days' notice of the adjourned meeting and of the business to be transacted at it shall be given. Save as aforesaid it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

Conduct of business. Stat.

16 The proceedings of the meeting of the Senate shall be regulated by the standing orders in force for the time being (Vide Appendix below).

Minutes. Stat.

17 The minutes of all proceedings of each meeting of the Senate shall be signed by the Chairman of the meeting. The Registrar shall send within three weeks after a meeting a printed copy of the minutes of that meeting so signed by the Chairman to each member of the Senate.

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* See Act, Sec. 17 (3).

If no exception is taken by any member who was present at the meeting to the correctness of the minutes within ten days of the sending of the minutes, they shall be deemed to be correct.

If such exception be taken within the time aforesaid, the minutes shall be brought forward by the Syndicate at the next meeting of the Senate for confirmation or correction by such of the members as were present when the business was transacted to which the minutes refer.

APPENDIX

STANDING ORDERS OF THE SENATE TO REGULATE THE CONDUCT OF BUSINESS AT ITS MEETINGS

(Vide Section 16 of Chapter VI).

Assignment of seats.

1. The members shall sit in such order as the Vice-Chancellor may appoint.

Order of Business.

2. At every meeting of the Senate the following shall be the order of business, after election, when necessary, of the Chairman:—

(i) The answering of questions, if any.

(ii) Any motion for a change in the order of business as stated in the agenda paper.

(iii) Business brought forward by the Syndicate.

(iv) Business brought forward by the Academic Council.

(v) Business brought forward by members of the Senate.

Supplementary questions.

3 At a meeting of the Senate the questions answered shall be called in the serial order in which they appear in the agenda paper, when any member may, before the next question is called, put any supplementary question arising directly out of the answer given. Thereupon the Vice-Chancellor may disallow the question on any grounds specified in Section 12 of Chapter VI or decline to answer it without notice, or the Vice-Chancellor, or a member of the Syndicate with his permission may answer it.

No discussion on questions

4 No discussion shall be permitted in respect of any question or of any answer given to a question.

Resolutions not requiring notice.

5. At any meeting of the Senate the following resolutions may be moved without previous notice:—

(i) A motion for a change in the order of business as stated in the agenda paper.

(ii) A motion for the adjournment of the meeting or debate.

(iii) A motion that the meeting do now pass on to the next business on the agenda paper.

(iv) A motion that the meeting be dissolved.

(v) A motion that the question be now put (if accepted by the Chairman).

(vi) A motion directing the Syndicate or the Academic Council to review its decision or recommendation and to report at a subsequent meeting of the Senate.

(vii) A motion for the appointment of a Committee to inquire into and report on any matter before the Senate at the time.

(viii) A motion remitting any matter before the Senate at the time to the Syndicate or to the Academic Council for its views or recommendations and report.

Amendments not requiring notice

6. At any meeting of the Senate the following amendments may be moved without previous notice.

(i) Amendments of a purely verbal or formal kind which, in the opinion of the Chairman, do not affect the sense or import of the motion to which they refer.

(ii) Amendments to any resolution or amendments on the agenda paper which, in the opinion of the Chairman, have been rendered necessary by, and are consequential upon, any motion passed by the Senate at the same meeting.

(iii) Amendments to a motion for a change in the order of business as stated in the agenda paper, substituting an order different from that in the motion.

(iv) Amendments to a motion for an adjournment of the meeting or debate substituting a time different from that in the motion.

(v) Amendments to a motion directing the Syndicate or the Academic Council to review or reconsider its decision or recommendation.

(vi) Amendments to a motion for appointment of a Committee, whether for enlarging or restricting its purposes or the questions remitted to it for adding to or omitting the names of members proposed to form it.

(vii) Amendments to a motion remitting any matter to the Syndicate or to the Academic Council.

(viii) Amendments to a resolution brought forward by the Syndicate under the proviso contained in section 8 of Chapter VI.

7. In all other cases if a member wishes to move an amendment of which the notice required in section 9 of Chapter VI of the Code has not been given, any member may object and the objection shall prevail unless the Chairman allows the amendment to be moved.

Members to rise when speaking

8. A member desiring to make any observation on any matter before the Senate shall speak from his place, shall rise when he speaks, and shall address the Chairman. At any time if the Chairman rises, any member speaking shall resume his seat.

Explanations.

9. When, for the purpose of explanation during discussion or for any other sufficient reason, any member has occasion to ask a question of another member on any matter then under the consideration of the Senate, he shall ask the question through the Chairman.

Procedure on motions.

10. Save as permitted in these standing orders no resolution or amendment which is not placed on the agenda paper shall be moved at the meeting.

11. Any motion made under Section 5 of these standing orders shall take precedence of any question that may be before the meeting, and if not withdrawn, must be disposed of before such question.

12. When any motion under Section 5 of these standing orders has been brought forward and has been negatived, no other motion of the same kind shall be again brought forward until after the lapse of what the Chairman shall deem a reasonable time: nor shall any debate or discussion be allowed on such second or subsequent motion brought forward during a debate on the same question.

13. No motion under Section 5 of these standing orders shall be made or seconded by any member who, during the discussion of any particular item of business, has already made or seconded any one of such motions.

14. A motion substantially identical with one already moved and decided upon at a meeting shall not be moved at the same or at any adjourned meeting, a motion substantially identical in part only with one already moved at a meeting may be moved at the same or any adjourned meeting with the omission of such part.

15. A motion for the adjournment of a meeting shall be in the form "That this meeting do now adjourn to" followed by words indicating the day and hour proposed for the adjourned meeting. A motion for the adjournment of a debate shall be in the form "That the debate on this question be now adjourned to" followed by words indicating the day and hour.

16. A motion for the adjournment of a meeting or of a debate on any particular question may be made at any time but shall not be made so as to interrupt a speech If a motion for the adjournment of the debate be carried, the debate shall be adjourned to the time specified in the motion. The meeting shall pass to the next business, if any, on the agenda paper If either of such motions be negatived the business of the meeting or the debate as the case may be shall be resumed.

17. A motion to pass to the next business shall be in the form "That the meeting do now pass to the next business on the agenda paper" and may be moved at any time, but not so as to interrupt a speech. If the motion be carried, the motion under discussion together with any amendments to it shall drop.

18. A motion for the dissolution of a meeting shall be in the form "That this meeting do now dissolve" and may be made at any time but not so as to interrupt a speech. If such a motion be carried, the business still before the meeting shall drop and the Chairman shall declare the meeting dissolved.

19. (1) In any debate a member may move "that the question be now put" and unless it shall appear to the Chairman

that such motion is an infringement of the rights of reasonable debate the motion "that the question be now put" shall be put to the vote forthwith and decided without amendment or debate.

(2) When the motion "that the question be now put" has been carried the question or the motion, the debate on which has thus been terminated, shall be put and decided without amendment or further debate.

20. A motion directing the Syndicate or the Academic Council to review or reconsider its decision or recommendation may be made at any time during the discussion on any such recommendation or decision, but shall not be made so as to interrupt a speech. The motion shall specify the matter proposed to be referred to the Syndicate or the Academic Council for review or reconsideration and may also indicate generally the sense or direction in which the mover desires alteration in such decision or recommendation. The motion may also include instruction that the Syndicate or the Academic Council shall report to the Senate by a specified date.

21. A motion for the appointment of a Committee to consider any question before the Senate at the time shall state the purpose for which the Committee is to be constituted and the names of its members and convener.

Form of amendments.

22. Amendments to a resolution shall be—

(i) by leaving out a word or words,

(ii) by leaving out a word or words in order to insert some other word or words, and

(iii) by adding or inserting a word or words.

Nature of amendments.

23. No amendment shall be proposed which would reduce a resolution to its negative or opposite form.

24. Every amendment must be relevant to the resolution to which it refers and must be framed so as to form therewith an intelligible and consistent sentence.

25. No amendment shall be moved to a motion for adjournment of meeting or debate except one substituting a different day or hour.

26. The Chairman may refuse to admit an amendment which is in his opinion frivolous.

Resolutions and amendments in general

27. The order in which amendments to resolutions are to be brought forward shall be determined by the Chairman.

28. Every motion at a meeting must be seconded, otherwise it shall drop. When a motion has been made and seconded it shall be stated from the Chair.

29. Not more than one resolution and the amendment or the amendments thereto shall be placed before a meeting at the same time.

29-A. A motion may be ruled out of order by the Chairman at any stage in the proceedings of the Senate connected with the resolution.

30 Any resolution or amendment standing in the name of a member who is absent from the meeting, or who declines to move it, may be moved by any other member with the permission of the Chairman of the House

31. No resolution or amendment shall be withdrawn from the decision of the meeting without its unanimous consent; but this consent shall be presumed if the mover states his wish to withdraw the resolution or amendment and the Chairman, after an interval during which no dissent is expressed, announces that it is withdrawn.

Limits of discussion

32 (a) No speech shall ordinarily exceed ten minutes in duration, provided that the mover of a resolution or of an amendment, when moving the same, may speak for fifteen minutes.

(b) The discussion of a resolution shall be strictly limited to the subject of the resolution.

(c) The member who first rises to speak at the conclusion of a speech has the right to be heard. In cases of competition, the Chairman shall decide who is in possession of the meeting.

33. Except as hereinafter provided a member having spoken to a motion is not at liberty to speak again to such motion.

Chairman. right of speech.

34. The Chairman has the same right of moving or seconding or speaking to a resolution or amendment as any other member but he shall vacate the chair while so engaged, and the chair shall during such time be taken by a member nominated by the Chairman. Without leaving the chair, the Chairman may, however, at his discretion or at the request of any member, explain to the meeting the scope of any resolution or amendment.

Personal Explanations.

35 Any member may, even whilst another is speaking, rise to explain any misconception of expressions used by him, but he shall confine himself strictly to such explanation.

Points of order.

36. Any member may call the Chairman's attention to a point of order even whilst another member is speaking but no speech shall be made on such point of order.

37. The Chairman shall be the sole judge on any point of order, and may call any member to order, and shall have power to take such action as may be necessary to enforce his decision.

Mover's Reply.

38. When the Chairman has ascertained that no other member entitled to address the meeting desires to speak or is of the opinion that there has been sufficient debate he may call upon the mover of the resolution to reply upon the debate provided that the mover of a resolution of the kind specified in Section 5(i), (ii), (iii), (iv) and (v) of these Standing Orders shall have no right of reply. No member shall speak to a question after the mover has entered on his reply.

Voting.

39. When a debate on a resolution is concluded or if there shall be no debate, the Chairman shall put the question to the vote and the Senate shall then divide unless the Chairman ascertains that the question is carried affirmatively *nem con.*

40 (1) When an amendment to any resolution is moved, or when two or more such amendments are moved, the Chairman

shall, before taking the sense of the Senate thereon, state or read to the Senate the terms of the original motion and of the amendment or amendments proposed.

(2) It shall be in the discretion of the Chairman to put first to the vote either the original motion or any of the amendments which may have been brought forward.

41. When any resolution involving several points has been discussed, it shall be in the discretion of the Chairman to divide the resolution, and put each or any point separately to the vote as he may think fit.

42. On putting a motion or amendment to the vote, the Chairman shall first call for the expression of the opinion of the meeting by a show of hands and shall declare the result thereof. Any member dissatisfied with such a declaration may immediately demand a division and the poll shall be taken in such manner as may be decided upon by the Chairman. When in any division there is an equality of votes, the Chairman shall have a second or a casting vote.

CHAPTER VII.

THE SYNDICATE

Constitution Act, Sec. 18.

1. The Syndicate shall, in addition to the Vice-Chancellor, consist of the following persons, namely.—

CLASS I.—EX-OFFICIO MEMBERS.

(1) The Director of Public Instruction.

(2) The Financial Secretary to the Local Government.

CLASS II.—OTHER MEMBERS.

(1) Five persons elected by the Senate from among its members;

(2) three persons elected by the Academic Council from among its memberss;

(3) three persons nominated by the Chancellor.

Provided always that no teacher of the University shall be elected or nominated a member of the Syndicate.

Save as otherwise provided, members of the Syndicate other than *ex-officio* members shall hold office for a period of three years:

Provided, however, that a person nominated or elected in his capacity as a member of a particular body or as the holder of a particular appointment shall not, if he ceases to be a member of that body or the holder of that appointment, as the case may be, for a period of less than three months, cease to be a member of the Syndicate.

Elections. Stat.

2. The elections to the Syndicate shall be conducted in accordance with the provisions contained in Chapter XXX of the Code.

Powers and duties. Stat. 1. General.

3. The Syndicate shall have power to regulate* and determine all matters concerning the University in accordance with, and exercise such other powers as may be conferred by and perform such other duties as may be imposed by the Act, the Statutes and the Ordinances. In particular, the Syndicate shall have the following powers:—

* Act, Sec. 19.

(1) to direct the form, custody and use of the common seal of the University*,

(2) to manage colleges and hostels maintained by the University;†

(3) subject to the provisions of the Code, to grant the rights of affiliation to Colleges in the University area and to recommend to the Senate the suspension or withdrawal of such affiliation;

(4) subject to the provisions of the Act and the Statutes, to arrange for and direct the inspection of all affiliated colleges and hostels*,

(5) to recognize as teachers persons giving instruction in affiliated colleges or hostels and to withdraw such recognition;

(6) to award prizes, medals and scholarships in accordance with the rules laid down by the Senate*;

(7) to institute with the approval and sanction of the Senate Professorships, Readerships, Lecturerships and other teaching posts after considering the proposals of the Academic Council in this behalf;

(8) subject to the approval of the Senate to abolish or suspend after report from the Academic Council thereon, any Professorship, Readership, Lecturership or other teaching post;

(9) to establish, manage and control a Publication Bureau, an Employment Bureau, Students' Unions and University Extension Boards*;

(10) to correspond on the business of the University with the Government and with all other Authorities and persons;

(11) subject to the provisions in the Code, to take cognizance of any misconduct by any student in a college or hostel connected with a college or colleges, or by any candidate for Matriculation or for any University Examination or for a degree, diploma, licence, title or mark of honour brought to the

* Act, Sec. 19.

† First statutes, Sec. II (c.)

notice of the Syndicate by a Director of Public Instruction or Chief Educational Officer of a Province or by the responsible authorities of the college or hostel or school concerned or in any case by a member of any one of the University authorities or the Registrar of the University or by a chairman of a Board of Examiners, or a Chief Superintendent at any centre of examination and to punish such misconduct at any time by exclusion from any University Examination or from any Convocation for the purpose of conferring degrees, either permanently or for a specified period, or by cancelling any University Examination or by deprivation of any University Scholarship or Endowment held by such person or by each;

(12) to refer any matter to the Academic Council, a Faculty or Board of Studies, and to call for a report thereon;

(13) subject to the provisions in the Code to appoint its own committees† and to make its own standing orders and to regulate the disposal of its own business;

(14) subject to the provisions in the Code, to dispense with a strict compliance with the Code of the University with reference to the time, place and manner of examination, or to the time and manner of conducting any election; and also to allow such departure from a strict compliance with the Code as circumstances may demand as to the duration of courses of ordinary University Lectures, hours of transaction of business in the office of the Registrar, and in respect of dates, for payment of examination fees, for submission of applications for examinations and of attendance certificates, of application for certificates of having passed any examination and of applications for Convocation, provided that any resolution of the Syndicate passed in reference to such departure from prescribed procedure shall be reported to the Senate at its next meeting, together with a full statement of the special grounds upon which the Syndicate acted;

II. Appointments.

(15) on the recommendation of the Committee of selection constituted by the Statutes, to appoint the teachers of the

† Act, Sec. 28.

University, fix their emoluments and define their duties and the conditions of their service†;

(16) to suspend or dismiss teachers of the University subject to such Statutes as may be framed in this behalf†;

(17) to appoint a Registrar of the University‡;

(18) to appoint the servants of the University, fix their emoluments and define their duties and the conditions of their service†;

(19) to fine, suspend or dismiss servants of the University†;

(20) to grant leave and to sanction the payment of leave allowances, compassionate allowances, gratuities and pensions and commutations of pensions, if any, in accordance with the provisions of the Civil Service Regulations and the Fundamental Rules;

III Examinations.

(21) to conduct the University examinations and publish the results thereof†;

(22) to appoint examiners in consultation with the Boards of Studies and fix their fees†;

(23) to make due arrangements for examinations being conducted in accordance with the Code of the University, and for the supervision of such examinations and fix the remuneration of superintendents;

IV. Financial.

(24) to hold, control and administer the property and funds of the University*;

(25) to accept on behalf of the University endowments, bequests, donations and other transfers of property made to it; all such endowments, bequests, donations and transfers shall be reported to the Senate at its next meeting*;

(26) to administer all funds placed at the disposal of the University for specific purposes*;

† Act, Sec. 19 and Chapter XXXV.

‡ First Statutes Sec. II (d).

* Act, Sec. 19.

(27) to provide or purchase lands, buildings, premises, furniture, laboratories, apparatus, equipment and other means needed for carrying on the work of the University†;

(28) to invest any moneys belonging to the University including any unapplied income in any of the securities described in section 20 of the Indian Trusts Act, 1882, with the power to vary such investments or to place on fixed deposit in any bank approved in this behalf by the Local Government any portion of such moneys not required for current expenditure‡,

(29) to charge and collect such fees as may be prescribed*;

(30) to fix, determine and award travelling expenses and allowances to persons lawfully engaged or employed in University business;

Finance Committee. Act, Sec. 19-A.

3-A There shall be constituted a Finance Committee which shall consist of the following persons, namely.—

(1) the Vice-Chancellor;

(2) the Financial Secretary to the Local Government;

(3) one member appointed by the Syndicate from among its members, provided that no one who is nominated to the Syndicate by the Chancellor shall be eligible for appointment under this clause; and

(4) one member nominated by the Chancellor from among the three persons nominated by him to the Syndicate.

Annual Report Act, Sec. 20.

4. The Syndicate shall prepare an annual report of the University and submit it to the Senate on or before such date as may be prescribed* by the Statutes.

The report shall be considered by the Senate at its next annual meeting The Senate may pass resolutions thereon and communicate the same to the Syndicate which shall take action in accordance therewith The Syndicate shall inform the Senate of the action taken by it A copy of the report with a copy of

† First States Sec. II (a).

* Act, Sec. 19.

‡ First States Sec II (d).

the resolutions thereon, if any, of the Senate shall be submitted to the Local Government for information.

Estimates and accounts. Act VIII of 1930 Sec. 4. A.

5. The financial estimates of the University, its accounts and all proposals involving expenditure for which no provision has been made in the Budget or involving expenditure in excess of the amount provided in the budget of the year shall be referred to the Finance Committee for scrutiny and opinion before they are taken up for final consideration by the Syndicate:

Provided that the Vice-Chancellor may, in cases of emergency, for reasons to be recorded in writing, incur any expenditure for which no provision has been made in the budget or which is in excess of the amount provided in the budget without such previous reference to the Finance Committee.

Stat.

6 The annual report shall deal with the Academic year (July-June) and shall invariably be submitted to the Senate at the next meeting held after the close of the Academic year.

Annual accounts and Budget Estimates Act, Sec. 21.

7 (1) The Syndicate shall prepare the annual accounts of the University and submit them to such audit as the Local Government may direct. The accounts when audited shall be published in the *Fort St. George Gazette* and copies thereof, together with copies of the audit report, shall be submitted to the Senate and the Local Government.

(2) The Syndicate shall also prepare, before such date as may be prescribed by the Statutes, the financial estimates for the ensuing year and submit the same to the Senate.

(3) The annual accounts and the financial estimates shall be considered by the Senate at its annual meeting and the Senate may pass resolutions with reference thereto and communicate the same to the Syndicate which shall take action in accordance therewith.

8 The annual accounts and the Budget shall be prepared by the Syndicate before the 10th January of each year.

CHAPTER VIII.

THE ACADEMIC COUNCIL

Constitution. Act, Sec. 22.

1 (i) The members of the Academic Council in addition to the Vice-Chancellor shall be—

CLASS I.—EX-OFFICIO MEMBERS.

(1) The Director of Public Instruction.

(2) The University Professors.

(3) The Principals of affiliated colleges.

CLASS II.—OTHER MEMBERS.

(1) Three persons who are not teachers elected by the Senate from among its members;

(2) (i) Members of the Senate appointed under clause (9) of class III of section 15 of the Act to represent the chief languages in the University area.

(ii) The Academic Council as constituted under subclause (i) may co-opt as members teachers of the affiliated colleges not exceeding fifteen in accordance with the Regulations and so as to secure adequate representation of different branches of learning and of the colleges

(iii) Save as otherwise provided, members of the Academic Council other than *ex-officio* members shall hold office for a period of three years;

Provided, however, that a member nominated or elected in his capacity as a member of a particular body or the holder of a particular appointment shall not, if he ceases to be member of that body or the holder of that appointment, as the case may be, for a period of less than three months, cease to be a member of the Academic Council.

Elections. Stat.

2. The elections to the Academic Council shall be conducted in accordance with the provisions contained in Chapter XXX of the Code.

Powers. Act, Sec. 23.

3 (1) The Academic Council shall, subject to the provisions of the Act and the Statutes, have the power by Regulations

of prescribing all courses of study and of determining curricula and have general control of teaching within the University and be responsible for the maintenance of the standards thereof.

It shall have power to make Regulations consistent with the Act and the Statutes relating to all matters which by the Act or the Statutes may be provided for by Regulations.

(2) In particular and without prejudice to the generality of the foregoing power, it shall have power—

(a) to advise the Syndicate on all academic matters;

(b) to constitute from among its own members such faculties as may be prescribed,

(c) to formulate, modify or revise schemes for the constitution or reconstitution of departments of teaching;

(d) to make proposals to the Senate for the institution of Professorships, Readerships, Lecturerships or other teaching posts and in regard to the duties and emoluments thereof,

(e) to make recommendations to the Syndicate for the recognition of teachers qualified to give instruction in affiliated colleges and hostels;

(f) to call for reports from the persons engaged in research and to make recommendations to the Syndicate thereon;

(g) to control and manage the University library or libraries, to frame rules regarding its or their use and to appoint a library committee or committees;

(h) to make Regulations for the encouragement of co-operation and reciprocity among colleges with a view to promoting academic life;

(i) to make Regulations regarding the admission of students to the University or prescribing examinations to be recognized, with the previous sanction of the Governor-General in-Council, as equivalent to University examinations or the further qualifications mentioned in sub-section (1) of section 33 for admission to the degree courses of the University;

(j) to make Regulations relating to courses, examinations and the conditions on which students shall be admitted to examinations for the degrees of the University;

(k) to make Regulations relating to the use of Telugu, Kannada, Urdu and Oriya as media of instruction and examination;

(l) to decide the conditions under which exemptions relating to the admission of students to examinations may be given;

(m) to appoint a standing committee and to delegate to it power to execute any of the functions assigned by this Act to the Academic Council;

Stat

(n) to make proposals to the Syndicate to supplement the teaching provided by the affiliated colleges,

Stat.

(o) to arrange in consultation with the colleges concerned for the concentration and co-ordination of resources for higher teaching and research.

Ordinary Meetings. Stat.

4. There shall be two ordinary meetings of the Academic Council in a year.

The dates of the meetings of the Academic Council shall be fixed by the Vice-Chancellor

Notice of meetings Stat.

The Registrar shall, under the direction of the Vice-Chancellor, give not less than six weeks notice of an ordinary meeting.

Special Meetings. How requisitioned. Stat.

5. The Vice-Chancellor shall upon a requisition in writing signed by not less than eight members of the Academic Council, convene a special meeting of the Academic Council after giving not less than six weeks notice of the same The requisition must be in writing, signed by the requisitionists, and must be forwarded to the Registrar with a copy of the resolution or resolutions to be moved and the name of the proposer of each resolution.

Notice of Resolutions. Stat.

6. Any member who wishes to move a resolution at a meeting shall forward a copy of the resolution to the Registrar so as to reach him not less than thirty clear days before the date of the meeting.

Preparation of Preliminary agenda paper. Stat.

7. The Registrar, under the direction of the Vice-Chancellor, shall cause each resolution of which notice has been given in accordance with Section 6 of this Chapter to be placed in the agenda paper at the meeting at which it is to be moved.

Issue of Preliminary agenda paper. Stat.

8. Not less than twenty-one days before the date of every meeting the Registrar shall issue to every member an agenda paper specifying the day, the place, and the hour of the meeting and the business to be brought before the meeting, but the non-receipt of the agenda paper by any member shall not invalidate the proceedings of the meeting; provided that the Vice-Chancellor may bring any business which in his opinion is urgent before any meeting with shorter notice or without placing the same on the agenda paper.

Notice of Amendments. Stat

9. Any member wishing to move an amendment to a resolution on the agenda paper of any meeting shall forward a copy of the same to the Registrar so as to reach him not less than eight clear days before the day of the meeting at which the resolution is to be moved.

Preparation and issue of Final agenda paper. Stat.

10. The Registrar shall, on the receipt of amendments given in accordance with Section 9 of this Chapter, prepare an amended agenda paper showing all the resolutions as in the original agenda paper and all the amendments, and shall post a copy of it to each member of the Academic Council not less than five days before the date of the meeting.

Extraordinary Meetings. Stat

11. The Vice-Chancellor may whenever he thinks fit convene an Extraordinary Meeting of the Academic Council for the transaction of any urgent business. The Registrar, under the directions of the Vice-Chancellor, shall give not less than fifteen days' notice of such meetings and forward with the notice to each member a copy of the agenda paper for the meeting Any member who wishes to move an amendment to a resolution on the agenda paper shall forward the same to the Registrar in writing so as to reach him not less than five clear days before the date appointed for the meeting. The Registrar shall on receipt of amendments, prepare an amended agenda paper showing the resolutions as in the original agenda paper and all

the amendments and shall post a copy of it to each member three days before the date of the meeting.

Qu rum. Stat

12. Eight members of the Academic Council shall be the quorum for a meeting of the Academic Council.

Cha rman. Stat.

13. The Vice-Chancellor, if present, shall preside at meetings of the Academic Council,* but if the Vice-Chancellor be not present the members present shall elect a Chairman from among themselves.

Order of Busi, ness at meet, ings. Stat

14. At every meeting of the Academic Council the following shall be the order of business after the election, if it be necessary, of the Chairman:—

(i) Any motion for a change in the order of business as stated in the agenda paper,

(ii) Business brought forward by the Vice-Chancellor including business remitted by the Senate and the Syndicate,

(iii) Business brought forward by the Faculties and Boards of Studies,

(iv) Business brought forward by members of the Academic Council.

Procedure Stat.

15. The procedure at meetings of the Academic Council shall be regulated generally by the procedure laid down for the Senate in its standing orders† so far as they are applicable, but the Academic Council shall have power to make its own standing orders modifying the procedure contained therein if it considers such modifications necessary for the better transaction of its business.

Notwithstanding anything contained in the procedure above referred to it shall be open to members, on permission of the Chairman, to speak more than once on the same subject and to move amendments without previous notice.

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* Act, Sec. 12 (1) (d).

† Vide Appendix to Chapter VI.

CHAPTER IX.

FACULTIES

1. The University shall include the Faculties of (1) Arts, (2) Science, (3) Medicine, (4) Teaching, (5) Oriental Learning, and as soon as the Academic Council is satisfied about the arrangements, of (6) Commerce, (7) Engineering, (8) Technology, (9) Agriculture, (10) Fine Arts and other branches of learning. Constitution. Stat.

2. No person shall be a member of a Faculty who is not a member of the Academic Council. Act, Sec. 24.

3 Any member of the Academic Council may be assigned by it to one or more of the Faculties. Stat.

4 (i) Each Faculty shall comprise such Departments of Teaching as may be prescribed by the Regulations Departments of Teaching Act, Sec. 25–i.

(ii) Separate Boards of Studies shall be attached to each Department of Teaching. Act, Sec 25–ii.

5 The Faculty of Arts shall comprise the following Departments of Teaching: English, Sanskrit, Telugu, Oriya, Kannada, Tamil and Malayalam, Arabic, Persian and Urdu, Philosophy and History with Geography and Economics. Regulations.

The Faculty of Science shall comprise the following Departments of Teaching: Mathematics, Physics, Chemistry, Zoology and Botany.

The Faculties of Teaching and Medicine shall each comprise one Department of Teaching.

The Faculty of Oriental Learning shall comprise Departments of Teaching in Oriental Languages.

6. Each Faculty shall elect one of its members to be President of the Faculty. Within one month after the occurrence of a vacancy in the office of President of a Faculty, the Registrar shall send to each member of the Faculty an intimation of the vacancy and also a voting paper. The voting paper shall be returned by the member so as to reach the Registrar President. Stat.

not later than the tenth day after the date of posting the intimation. The Vice-Chancellor shall declare the member who obtains the highest number of votes to be the President. In the event of an equality of votes the final selection of the nominee to fill the vacancy shall be made by the Vice-Chancellor from among the nominees receiving such equality of votes by drawing lots in such manner as he may determine The Registrar shall communicate the result of the election to the members of the Faculty.

Tenure of Office. Stat.

7. The President of a Faculty shall, if he remains qualified to do so, hold office for three years, on the expiry of which he shall vacate office but shall be eligible for re-election

Temporary Vacancies. Stat.

8. During the temporary absence of the President of a Faculty or in the interval between the vacating of office by a President and the election of his successor, the Vice-Chancellor shall nominate a member of the Faculty who shall, for the time being, and so far as may be necessary, act as President of the Faculty.

Powers of a Faculty Stat.

9. A Faculty shall have power—

(i) to consider and report on any matter referred to it by the Academic Council;

(ii) to draft regulations in regard to courses of study and examinations prescribed by the University and to lay such regulations before the Academic Council;

(iii) to remit any matter to a Board of Studies comprised within the Faculty for consideration and report either to it or to the Academic Council direct;

(iv) to consider any report or recommendation of any Board of Studies;

(v) to appoint a Committee of the Faculty for any purpose within the cognizance or powers of the Faculty;

(vi) to hold meetings of the Faculty or a Committee of the Faculty along with another Faculty or a Committee thereof for the discussion of any matter of common interest.

Requisition for Meetings. Stat.

10. Meetings of a Faculty shall be convened by the President of the Faculty at such times as may be necessary or on the written request of any four members in the case of the Faculty of Arts, of any three members in the case of the Faculty of Science and of any two members in the case of the remaining Faculties.

Notice of Resolutions Stat.

11. Any member of a Faculty may bring before any meeting of the Faculty any matter within its cognizance by giving notice to the President, who shall, subject to the provisions of this Chapter, instruct the Registrar to include such matter in the agenda paper of the next meeting of the Faculty.

Notice of meeting and procedure. Stat.

12. The President of Faculty shall, not less than fifteen days previous to a meeting of the Faculty, cause a notice to be issued to each member of the Faculty, stating the time and place of the meeting, and showing all the business to be brought before the meeting. No item of business which is not entered on the agenda paper of a meeting of a Faculty shall be considered at the meeting; provided that the President may, for reasons of urgency, bring any matter before any meeting without notice being given in the agenda paper, and provided that any member may, with the permission of a majority of the members present at a meeting, bring any matter before that meeting without notice.

Stat.

13. Subject to the foregoing statutes the procedure at meetings of Faculties shall be in general accordance with the standing orders in regard to the procedure at meetings of the Academic Council. With regard to any point of order or matter of procedure the decision of the Chairman shall be final.

Chairman at meetings. Stat

14 The President of a Faculty shall preside at all meetings of the Faculty; but in his absence the members present shall elect a Chairman from among themselves.

Quorum Stat.

15. The quorum for a meeting of a Faculty shall be one third of the members of the Faculty.

Proceedings. Stat.

16. The proceedings at each meeting of a Faculty shall be communicated by the Registrar to the Academic Council.

CHAPTER X.

BOARDS OF STUDIES

Constitution Stat.

1. There shall be Boards of Studies in the following branches of knowledge—

i. English.
ii. Sanskrit.
iii. Pali and Hindi.
iv. Arabic, Persian and Urdu.
v. Latin, French and German.
vi. Oriya.
vii. Telugu.
viii. Kannada, Tamil and Malayalam.
ix. Mathematics.
x. Physics.
xi. Chemistry.
xii. Natural Science
xiii. Philosophy.
xiv. History, Geography and Economics.
xv. Commerce, Engineering and Agriculture.
xvi. Music.
xvii. Teaching.
xviii. Medicine.

Appointment of members and Chairmen Tenure of Office Stat.

2. *The members of the respective Boards shall be appointed by the Academic Council and shall consist of members of the Academic Council and other persons possessing special knowledge of the subjects dealt with by the Boards to which they are appointed. The Chairman of each Board shall be elected by the members of the Board. The members of the Board shall hold office for three years from the date of appointment and shall be eligible for reappointment. A member who has been absent from India for a period exceeding six months may be declared by the Academic Council to have vacat-

* See Act, Sec. 24.

ed his seat, and his place may be filled up. No Board so appointed shall consist of fewer than three or more than ten members, of whom three shall ordinarily be members drawn from outside the University area.

Every University Professor shall ex-officio be a member of the Board of Studies concerned with the subject of his chair.

Duties and Powers: Stat.

3. It shall be the duty of each Board of Studies to consider and report on any matter referred to it by the Academic Council, or the Faculty or President of the Faculty concerned with the subjects with which it deals.

Each Board shall have power to recommend to the Academic Council persons to be members of the Board; to recommend text books, to make recommendations in regard to courses of study and examinations in the subject with which it deals and to lay such recommendations before the Academic Council.

Each Board shall have power to recommend to the Syndicate suitable persons for appointment as Examiners and Assistant Examiners in the subjects with which it deals.

Any Board may consult specialists who are not members of the Board

Meetings. Stat.

4 Meetings of a Board of Studies shall be convened by the Chairman of the Board at such times as may be necessary or on the written request of not less than one-third of the actual number of the members of the Board. Three members shall form a quorum.

CHAPTER XI.

COLLEGES OF THE UNIVERSITY

University Colleges.

1. The Senate shall have power to institute and maintain colleges *

Funds for College under University. Act, Sec 36.

2 (1) The University may establish under its direct control and management such scientific and technical colleges as may be agreed upon from time to time between the University and the Government.

(ii) The Local Government shall, on such conditions as may be agreed upon, provide or contribute towards the buildings and equipment required for such colleges and also make an annual grant to the University for maintaining the institutions.

Transfer of Government institutions to the University Act, Sec. 38.

3. The Local Government may at any time after the passing of the Act transfer to the University the control and management of any of their institutions on such terms and conditions as may be deemed proper. In the case of such transfer, the Local Government shall make a contribution annually of a sum equivalent to the average annual net expenditure from Provincial funds on the institution during the three years immediately preceding the year of transfer.

Management of the University Colleges, Stat.

4. The Syndicate shall manage the Colleges maintained by the University.†

Statute.

5. There shall be instituted a University College of Arts providing instruction for the B.A (Honours) Degree examination and a University College of Science and Technology providing instruction for the B Sc (Hons) Degree Examination in such branches of learning as the Senate, in consultation with the Academic Council may think fit.

Act, Sec, 32 (1) and Stats.

6. No attendance at instruction in any institution other than that conducted by the University shall qualify for admission for the B A (Honours) and B Sc (Honours) Degree examinations.

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* See Act, Sec. 16 (2) (c).

† See Chap. VII, Sec. 3 (2 supra).

7. No person shall be admitted to any course of studies in the University for the B.A. (Honours) and B.Sc. (Honours) Degree examinations unless he has passed the Intermediate examination of this University or any other examination accepted as equivalent thereto. Admissions Regulation.

8. Applications for admission to the University Colleges shall be made to the Registrar on or before June 10 of each year. All such applications shall be made in the prescribed form which may be had from the Registrar. Ordinance

All applications shall be accompanied by (i) a certificate or other evidence of having passed the prescribed qualifying examination, and (ii) a certified extract of the marks obtained by the applicant. Ordinance

No application shall be registered unless it is accompanied by a Treasury or Bank receipt for the fee prescribed for registration of an application. Ordinance

Students of other Universities seeking admission to the University Colleges should send along with the application a migration certificate from the University from which they passed the last examination.

The admission of students to the University Colleges shall be made by the Vice-Chancellor in consultation with the heads of departments concerned.

Every student obtaining admission shall be enrolled as a student of the University on payment of the fees prescribed by Ordinances * Every student obtaining admission shall also submit a transfer certificate from the College where he studied last.

The University shall have power to charge and collect such fees as may be prescribed by Statutes and Ordinances.

9. Physical Training shall be compulsory for all undergraduates who are not members of the University Training Stat

* See Chapter XXV.

Corps, unless specially exempted by the Vice-Chancellor or the University Teacher deputed by him.

Ordinance. 10. College Games shall be controlled by the Athletic Committee which will include the Vice-Chancellor or a Teacher deputed by him for the purpose and the Medical Officer of the University if any, and the Committee shall apportion funds to the various games and be responsible to the Syndicate for all expenditure.

Discipline.

Ordinance. 11. The Vice-Chancellor or the Teacher deputed by him shall send a terminal report to the parent or guardian of each student, which shall include the percentage of his attendance at lectures, percentage of his residence in the Hostel, the report of his Medical Examination, and the report of his general conduct.

Ordinance. 12. If a student is absent without notice for more than a month, his name may be struck off the books, in which case he shall be liable to pay fees for one month subsequent to that in which he last attended the lectures.

Ordinance. 13. For breach of collgee discipline the Vice-Chancellor or the Teacher of the University deputed by him may (i) suspend a student for one month or less, (ii) rusticate a student for any period exceeding one month and not exceeding the remainder of the academic year; or (iii) expel a student.

In the second and third cases the matter shall be reported to the Syndicate for their approval.

Stat. 14. A student before being sent up to a University examination shall be required to pay all sums due to the college including fees up to the end of the academic year.

All questions arising out of the above rules and others not included in them shall be decided by the Vice-Chancellor.

CHAPTER XII.

AFFILIATED COLLEGES

Definition Stat.

1. Affiliated Colleges are (i) colleges situated within the University area and affiliated to the University of Madras prior to the commencement of the Act and (ii) colleges established by or affiliated to the University as providing courses of study qualifying students for admission to University Examinations. They include colleges in Arts, in Science, in Oriental Learning and professional, technical and technological colleges.*

Authority to grant affiliation. Stat.

2. The Syndicate shall have power to affiliate any college within the University area as an affiliated college on such general or special conditions as may be prescribed. The Syndicate shall however consult the Academic Council or its standing committee, when the Academic Council is not in session, before granting the affiliation.†

Management Stat.

3 Every affiliated college not directly under the University or the Government shall be managed by a regularly constituted governing body in which the teaching staff is represented, appointed by the person or the body maintaining the college, the constitution of which shall be periodically reported to and approved of by the Syndicate.

Appointment of Teachers Stat.

4. The appointment of the members of the teaching staff of every affiliated college shall be made by the governing body or any authority to whom such body may have delegated the power and all such appointments shall be subject to the approval of the Syndicate.

Range of affiliation, Stat.

5 Colleges or departments of colleges may be affiliated to the University in Arts or Science or in a department of Arts or of Science, in Oriental Learning, in Medicine or Teaching or any of the other Faculties that may be organised in the University.

Application for affiliation. Stat.

6. An application for the affiliation of a college shall be made by the authority responsible for its management through

* See Act, Sec. 2a.

† See Chap VII, 3 (3) (supra).

its recognized correspondent. All such applications shall be sent to the Registrar so as to reach him not later than 1st November preceding the academic year from which the affiliation sought for is to take effect..

Conditions to be satisfied. Stat.

7. A college applying for affiliation to the University shall send a letter of application to the Registrar and shall satisfy the Syndicate—

(a) that the college is to be under the management of a regularly constituted governing body on which, except in the case of a Government College, the teaching staff is adequately represented;

(b) that the character and qualifications of the teaching staff and the conditions governing their appointments and tenure of office are such as to make due provision for the courses of instruction to be undertaken by the college and that due proportion is maintained between the number of the staff and that of the students under instruction;

(c) that the buildings in which the college is to be located are suitable, that each lecture room is well lit and ventiliated, and that there is in the college buildings accommodation adequate to the number and strength of the class as regards rooms, floor space and cubic space; and that provision will be made, in conformity with the provisions of the Code, for the residence in the college or in lodgings approved by the College, of students not residing with their parents or duly recognised guardians and for the supervision and physical welfare of students;

(d) that due provision has been or will be made for a library;

(e) where affiliation is sought in any branch of experimental science, that arrangements have been or will be made in conformity with the provisions of the Code for imparting instruction in that branch of science in a properly equipped laboratory or museum;

(f) that due provision will, so far as circumstances may permit, be made for the teaching staff in or near the college or the place provided for the residence of students;

(g) that the financial resources of the college are such as to make due provision for its continued maintenance;

(h) that the affiliation of the college having regard to the provision made for students by other colleges in the same neighbourhood will not be injurious to the interests of education or discipline;

(i) that the college rules fixing the fees (if any) to be paid by students have not been so framed as to involve such competition with any existing college in the same neighbourhood as would be injurious to the interests of education;

(j) that in the case of colleges for women, the staff will be wholly, or almost wholly, composed of women, and that ample space will be provided for games and physical exercise; and

(k) that no student of the college will be compelled by the management or the staff of the college to attend any classes or discourses in religion against his will.

The application shall further contain the assurance that after the college is affiliated the management will conform to, abide and be bound by the provisions of the Code of the University for the time being and will report forthwith to the Syndicate any transference of management and all changes in the teaching staff for its approval.

The College shall also pay to the University an affiliation fee calculated, in the case of first application for affiliation, at the rate of Rs. 150 (or Rs. 100 in the case of an Oriental College) for each member of the Inspection Commission appointed by the Syndicate and in the case of application for further affiliation at the rate of Rs. 100 (or Rs. 50 in the case of an Oriental College) for each such member.

Procedure to be adopted by Syndicate. Stat.

8. On receipt of a letter of application the Syndicate shall direct an inquiry to be made in its behalf by a competent person or persons authorised by it After considering the report of the Inspection Commission and after making any further inquiries it may deem necessary, the Syndicate shall decide whether the affiliation should be granted or refused either in

whole or in part, and shall report its decision to the Senate and to the Academic Council.

Conditional affiliation. Stat

9. The Syndicate shall have the power to grant conditional affiliation and in the event of the conditions laid down not being fulfilled within the time specified, such affilation shall lapse and a fresh application on the part of the management of the college shall be necessary.

Withdrawal of application for affiliation Stat.

10. An application for affiliation may be withdrawn at any time before an order has been passed by the Syndicate, provided that the college shall not be entitled to a refund of the fee paid in cases in which the University incurs the expenditure of sending out the Inspection Commission.

Further affiliation. Stat.

11. Where a college decides to add to the courses of instruction in respect of which it is affiliated the procedure prescribed by Section 8 and 9 of this chapter shall, so far as may be, be followed, save that a local inquiry need not be held if in the opinion of the Syndicate such an inquiry is unnecessary.

Inspection of Colleges. Stat

12. Each college shall be subject to inspection from time to time by one or more competent persons authorised by the Syndicate in its behalf.

The Syndicate may call upon any college so inspected to take within the specified period such action as may appear to it to be necessary in respect of any matters referred to it in Section 8 of this chapter.

Returns and reports. Stat.

13. Each college shall furnish returns and reports and other information as the Syndicate may require to enable it to judge of the efficiency of the college.

Registers Stat.

14. The following registers and records in the forms that may be prescribed by the Syndicate shall be maintained by each college and in every case in which a school forms a part of the institution they shall be maintained distinct from those kept for the school department:—

(a) A register of admissions and withdrawals.

(b) A register of attendance.

(c) A register of fees paid showing dates of payment.

(d) A counterfoil fee receipt book.

(e) Account books showing the financial transactions of the college.

(f) A register of scholarships and concessions of all kinds, whether of tution, board or lodgings.

(g) A register of marks obtained by each student at the college examinations.

(h) A register of addresses of students.

(i) A counterfoil book of transfer certificates.

CHAPTER XIII.

RECOGNISED COLLEGES

Applications for recognition Stat.

1. All applications for recognition of Oriental institutions as Special Grade Colleges shall be submitted to the Syndicate by the Authorities responsible for managing these institutions Each application shall satisfy the Syndicate—

(a) that the college is to be under the management of a regularly constituted governing body on which the teaching staff is adequately represented,

(b) that the College is efficiently staffed and can provide satisfactory instruction in one or more of the courses prescribed.

(c) that due provisions has been or will be made for the hostel accommodation of the pupils,

(d) that due provision has been or will be made for a library.

All such applications shall be sent to the Registrar so as to reach him not later than first November preceding the academic year from which the recognition sought for is to take effect.

Disposal of applications. Stat.

2. All applications for recognition shall be referred for opinion to the Academic Council or its Standing Committee (who may, if they choose, consult the Boards of Studies concerned), before they are finally disposed of by the Syndicate.

Conditional recognition. Stat.

3. The Syndicate shall have power to grant conditional recognition and, in the event of the conditions laid down not being fulfilled within the time specified, such recognition shall lapse and a fresh application on the part of the management of the college shall be necessary.

Inspection. Stat.

4. Each college shall be subject to inspection from time to time by one or more competent persons authorized by the Syndicate in its behalf.

The Syndicate may call upon any college so inspected to take within the specified period such action as may appear to

it to be necessary if the college is to discharge satisfactorily its functions.

5 The correspondents of recognised institutions shall submit every year to the Syndicate a full report of the working and progress of their respective institutions during the previous academic year. This report should reach the Registrar not later than July 1st, and should be referred to the Boards of Studies concerned for remarks and advice as to further action, if any.

Returns and Reports. Stat.

CHAPTER XIV

RESIDENCE OF STUDENTS

Definition. Act, Sec. 2 (g)

1. A 'hostel' means a unit of residence for students of the University maintained or recognised by the University in accordance with the provisions of the Act

Residence of Students. Stat.

2 Students who do not live either with their parents or with duly recognised guardians shall reside in a hostel or, until adequate hostel accommodation is provided, in rooms inspected and approved of by the authorities of the colleges to which they belong.*

Recognition. Stat.

3. The Syndicate shall manage hostels maintained by the University† and shall have power to grant recognition to hostels not maintained by the University ‡

Application for Recognition. Ord.

4 Any body or person who wishes that a hostel maintained or managed by such body or person should be recognised by the University shall apply to the Syndicate for recognition and shall supply such information as the Syndicate may require on the following points —

(a) Suitability of building
(b) Adequacy of accommodation
(c) Suitability of the neighbourhood
(d) Educational supervision.
(e) Sanitary condition.
(f) Medical help.
(g) Provision for games etc.

The Syndicate after such inquiry as it may deem necessary shall decide as to whether or not recognition is to be granted. The Syndicate shall have power to prescribe such general or special conditions for recognition as it may deem necessary. Provisional recognition may be granted by the Syndicate on

* See Act, Sec. 16 (2) (n).

† See Act, Sec 16 (2) (1) and Chapter VII, 3 (2)

‡ See Act, Sec. 16 (2) (m).

certain conditions and failure to fulfil the conditions laid down shall entail the lapsing of the recognition.

5. All recognised hostels shall be managed by a regularly constituted governing body appointed by the person or body maintaining the hostel, the constitution of which shall be periodically reported to and approved of by the Syndicate.* Management. Stat.

6. The appointment of the superintending staff of every such hostel shall be made by the governing body or by any authority to whom such body may have delegated the power and all such appointments shall be subject to the approval of the Syndicate† Appointment of Superintending Staff Stat.

7. The Senate shall have power to suspend or withdraw the recognition of any hostel which may not be conducted in accordance with the conditions prescribed ‡ Withdrawal of Recognition Stat.

Provided that no such action shall be taken without affording the management of such hostel an opportunity of making such representation as it may deem fit

8 The Syndicate shall hold periodical inspections of all hostels, and may order a special inspection of any hostel to be made whenever it considers it desirable to do so and shall take such action on the report as it deems fit. Inspection. Ord

9 In every college students not living in hostels shall be assigned to individual members of the college staff for tutorial help and disciplinary supervision. Students not living in hostels. Stat.

RESIDENCE OF STUDENTS OF UNIVERSITY COLLEGES.

10. Every student of a University College shall reside in a Hostel managed or recognized by the Syndicate, unless specially exempted. Residence of University students Stat.

Every Hostel managed by the Syndicate shall be under the supervision of a Warden appointed by the Syndicate on such terms and conditions as may be prescribed. Warden Stat

* First Statutes, Sec. VI(a).
† „ VI(b).
‡ „ VI(c).

Exemption from residence. Stat.

11. Students who are living with parents or with guardians recognized as such by the Vice-Chancellor or the Teacher of the University deputed by him, may be exempted from residence in Hostels attached to the Colleges.

Application for exemption.

Application for exemption shall be made along with the application to join the University or, in the case of students already resident, at least one week before the end of the term after which they propose to cease to be resident

Lodging of non-residents. Stat.

12. Lodgings of non-residents shall be subject to the approval of the Vice-Chancellor or the Teacher of the University deputed by him.

Percentage of Residence Regn.

13 Resident under-graduates shall be required as a qualification for admission to the Degree Examination to have resided in a Hostel for not less than 80 per cent of the number of days during which the college is in session in each academic year.

14. In the case of resident students who, by the special permission of the Vice-Chancellor or the Teacher of the University deputed by him, become non-resident, the percentage of residence will be calculated according to the period of residence

Absence due to illness. Regn.

15 When a student is by reason of illness absent in a Hostel, he shall not be deemed to be absent from the Hostel.

Shortage of residence.

16 In exceptional cases and for sufficient reasons, the Vice-Chancellor or the Teacher of the University deputed by him may condone the shortage of residence on the special recommendation of the Warden.

Stat

17. Resident students shall conform to the rules relating to Hostel management made from time to time by the Syndicate.

Change of address or guardianship

18 Non-resident students shall notify immediately to the Vice-Chancellor or the Teacher of the University deputed by him all changes of address or guardianship.

CHAPTER XV

HONORARY DEGREES

How conferred Stat.

The Senate shall have power to confer Honorary Degrees on approved persons in the manner prescribed hereunder:—

All proposals for the conferment of Honorary Degrees shall be made by the Syndicate either of its own motion or on the recommendation of the Academic Council, to the Senate whose assent thereto is necessary before submission to the Chancellor for confirmation.

Provided that, in case of urgency, the Chancellor may act on the recommendation of the Syndicate only.

CHAPTER XVI

CONVOCATION

(Statutes).

Date of Convocation.

1. A Convocation for the purpose of conferring degrees shall be held annually in the month of November or at such other time as the Chancellor shall direct.

Exemption fee

2. Unless specially exempted, every candidate for a degree must appear in person at the Convocation to receive the same. A candidate exempted from appearance in person shall not receive his diploma except on payment of a fee of Rs. 10.

Admission at Convocation a second time to the same Degree or Title,

No candidate who has already proceeded to a Degree or a Title and has been awarded his Diploma shall be admitted at Convocation a second time to the same Degree or Title, notwithstanding that he may have qualified in an additional group or branch or in an additional language An endorsement shall be made upon his Diploma setting forth the further examinations passed by him, the dates of such examinations and the class in which he was placed

Diploma in advance of Convocation.

It shall however be competent to the Vice-Chancellor, for satisfactory reasons shown, to present candidates, who are declared eligible for the award of their respective degrees, with their diplomas in advance on payment of a fee of Rs 15 All such cases shall be reported to the succeeding Convocation for confirmation.

Application for admission.

3. Candidates for degrees must, fifteen days before the day fixed for Convocation submit to the Registrar their applications for admission to their several degrees in the prescribed forms. No person shall be admitted to Convocation who has not thus sent in his application to the Registrar.

Penalty for absence.

4. Any person who, having sent in his name to the Registrar as a candidate for a degree at Convocation, fails to appear thereat shall, when he next applies for his degree, be charged a fee of rupees ten, unless he can furnish to the Syndicate a sufficient reason for his non-appearance.

5. The diplomas of the University shall be valid only if they bear the seal of the University and are countersigned by the Registrar. Validity of diplomas

6. The Syndicate shall, from time to time, lay down the procedure to be followed at the Convocation Convocation procedure,

7 Special Convocations for conferring degrees or for other purposes may be held on such date and time as the Syndicate may, with the Chancellor's approval, determine. Special Convocations.

8. There shall be the following degrees conferred and diplomas awarded in the University. Degrees and Diplomas awarded.

Faculty of Arts—Bachelor of Arts (B.A)
Bachelor of Arts Honours (B.A.Hons.)
Master of Arts (M A.)
Master of Arts Honours (M A.Hons)
Doctor of Letters (D.Litt.)

Faculty of Science—Bachelor of Science (B.Sc.)
Bachelor of Science Honours (B Sc Hons.)
Master of Science (M Sc)
Master of Science Honours (M.Sc.Hons.)
Doctor of Science (D.Sc)

Faculty of Teaching—Bachelor of Education (B.Ed.)
Master of Education (M.Ed.)

Faculty of Medicine—Bachelor of Medicine and Surgery (M.B. & B.S.).
Licentiate in Medicine and Surgery (L.M. & S.)

Faculty of Oriental Learning—

Title in Oriental Learning (Vidya Praveena).
Do. Do. (Ubhayabhasha Praveena).
Do. Do. (Alim-i-Fazil).
Do. Do. (Munshi-i-Kamil).

Certificate of Proficiency in Oriental Learning.
Master of Oriental Learning (M.O.L.)
Kala Prapurna (K P.), Honorary Doctorate Degree.

Note --The Degrees of D.Litt and D.Sc. may also be given as honorary degrees.

CHAPTER XVII.

ACADEMIC ROBES

(Statutes)

CHANCELLOR.

1. A purple teray velvet gown, made like an Oxford Proctor's dress gown, with two-inch gold lace down the fronts and round the bottom of the sleeves outside.

A black velvet academic cap, bound round with bold lace, and gold tassel, nine inches long.

PRO-CHANCELLOR.

2. A purple gown of silk or stuff same shape as Chancellor's and trimeed in the same way.

A cap like the Chancellor's or a turban.

VICE-CHANCELLOR.

3. A purple gown or silk or stuff same shape as the Chancellor's and trimmed in the same way, but with silver lace.

A cap like the Chancellor's but with silver lace and tassel or a turban.

REGISTRAR.

4. A black laced gown of silk or stuff.

A black cloth academic cap or a turban.

SENATE AND ACADEMIC COUNCIL MEMBERS

5. A black gown of silk or stuff and a scarf of scarlet silk or stuff four inches wide, with a fringe of the same colour, three inches deep.

A black velvet academic cap, or either a white, red or black turban, which may have a gold border.

GRADUATES.

6. Graduates who are in the habit of wearing Indian costume shall be clothed in white and shall wear either a white, red or black turban, which may have a gold border. All those who wear European costume shall wear either a black cloth academic cap or a turban of the above description.

Women graduates shall not be required to be clothed in white dress or to wear any head dress.

BACHELOR OF ARTS OR SCIENCE.

7 A gown made of black stuff, cut like the Cambridge B.A. gown.

A hood made of black silk or stuff edged with crimson silk.

BACHELOR OF EDUCATION.

8. A gown pertaining to the B A degree. A hood made of black silk or stuff edged with gold coloured silk or stuff.

MASTER OF EDUCATION.

9. A gown pertaining to the B A. degree. A hood made of black silk or stuff lined with gold coloured silk or stuff.

LICENTIATE IN MEDICINE AND SURGERY.

10. A gown similar to that for the B.A. degree. A hood made of black silk or stuff edged with light-blue silk or stuff.

BACHELOR OF MEDICINE AND SURGERY.

11. A gown similar to that for the B.A. degree. A hood made of black silk or stuff lined with light-blue silk or stuff.

MASTER OF ORIENTAL LEARNING.

12. A gown made of scarlet silk. A hood of scarlet silk or stuff lined with pearl grey silk or stuff

TITLES IN ORIENTAL LEARNING.

13. Recipients of Oriental Titles shall wear a long coat and either a white, red or black turban, which may have a gold border.

DEGREE OF DOCTOR.

14. A gown made of white silk or stuff with violet cloth facing. A hood made of violet silk or stuff.

KALA PRAPURNA.

15. A blue shawl with lace borders.

CHAPTER XVIII.

STATUTES, ORDINANCES AND REGULATIONS

Statutes: their scope. Act, Sec. 39.

1 Subject to the provisions of this Act, the statutes may provide for all or any of the following matters, namely,—

(a) the constitution, powers and duties of the authorities of the University,

(b) the powers, duties and conditions of service of the officers of the University other than the Chancellor and the Pro-Chancellor;

(c) the method of election to the authorities of the University and, save as otherwise provided, the procedure at meetings of such authorities, including the quorum for the transaction of business by them;

(d) the conditions of affiliation of colleges affiliated to the University,

(e) the giving of religious instruction;

(f) the classification and mode of appointment of the teachers of the University;

(g) the holding of Convocations to confer degrees;

(h) the conferment of honorary degrees;

(i) the institution of a pension or provident fund for the benefit of the teachers of the University or its servants;

(j) the maintenance of a register of registered graduates;

(k) the discipline of students; and

(l) all matters which by the Act may be prescribed by the Statutes.

How made.

2 (1) The Statutes set out in the schedule shall have effect as if duly enacted under the provisions of the Act.

(2) The Senate may take into consideration the draft of a Statute either of its own motion or on a proposal by the Syndicate.

(3) The Senate, before passing a Statute taken into consideration of its own motion and affecting the powers or duties of any officer or authority of the University, shall ascertain and consider the views of the officer or authority concerned and of the Syndicate thereon.

(4) The Syndicate shall not propose the draft of a Statute—

(a) affecting the status, powers or constitution of any authority of the University until such authority is given an opportunity of expressing its opinion on the proposals; such opinion shall be in writing and the draft Statute together with such opinion shall be considered by the Senate and submitted to the Chancellor;

(b) affecting the conditions of affiliation of colleges to the University without consulting the Academic Council.

(5) (a) Any draft of a Statute proposed by the Syndicate and rejected by the Senate shall be submitted to the Chancellor who may refer it back to the Senate for further consideration.

(b) Every Statute passed by the Senate shall be submitted to the Chancellor who may give or withhold his assent thereto or refer it back to the Senate for consideration.

(c) No Statute passed by the Senate shall have validity until assented to by the Chancellor.

Ordinance: Scope of. Act, Sec. 1.

3. Subject to the provisions of the Act and the Statutes, the ordinances may provide for all or any of the following matters, namely,—

(a) the levy of fees in colleges maintained by the University;

(b) the conditions of residence of the students of the University and the levy of fees for residence in hostels maintained by the University;

(c) the conditions of recognition of hostels not maintained by the University;

(d) the number, qualifications and emoluments of teachers of the University;

(e) the fees to be charged for courses of study given by teachers of the University, for lectures, for tutorial and supplementary instruction provided by the University and for services rendered by the University office;

(f) the appointment and duties of examiners;

(g) the conduct of examinations; and

(h) all matters which by the Act or by the Statutes may be provided for by the Ordinances.

How made Act, Sec. 42

4 (1) Save as otherwise provided for in this section, Ordinances shall be made by the Syndicate·

Provided that the Syndicate shall consult the Academic Council in making Ordinances

(a) affecting the appointment and duties of examiners,
or (b) affecting the conditions of residence of students.

(2) All Ordinances made by the Syndicate shall take effect from such date as it may direct, but every Ordinance so made shall be submitted as soon as may be after it is made to the Chancellor and the Senate and shall be considered by the Senate at its next meeting. The Senate shall have power, by a resolution passed by a majority of not less than two-thirds of the members present at such meeting, to cancel or modify any such Ordinance.

(3) The Chancellor may direct that the operation of any Ordinance shall be suspended until such time as the Senate has had an opportunity of considering the same.

Regulations Scope and Procedure. Act Sec. 43,

5 (1) The Regulations shall be made by the Academic Council and, subject to the provisions of the Act, they may provide for all or any of the following matters, namely,—

(a) the encouragement of co-operation and reciprocity among colleges;

(b) the admission of students to the University or prescribing the examinations to be recognised as equivalent to University examinations;

(c) the University courses and examinations and the conditions on which students of affiliated colleges shall be admitted to examinations for the degrees and diplomas of the University;

(d) the granting of exemptions;

(e) the management of the University Library or Libraries; and

(f) the constitution of departments of teaching.

(2) All Regulations shall have effect from such date as the Academic Council may direct; but every Regulation made by the Academic Council shall be submitted as soon as may be to the Senate which shall consider it at its next meeting. The Senate shall have power, by a resolution passed by a majority of not less than two-thirds of the members present at such meeting, to cancel or modify any such Regulation.

CHAPTER XIX

FINANCE

Funds of the University. Act, Sec. 37.

1. The University shall have a fund to which shall be credited its income from fees, endowments and grants if any.

Maintenance of accounts. Stat.

2. The accounts of the University shall be kept by the Registrar under the directions of the Syndicate.

Audit and Publication. Act, Sec. 21.

3. The Syndicate shall prepare the annual accounts of the University and submit them to such audit as the Local Government may direct. The accounts when audited shall be published in the *Fort St. George Gazette* and copies thereof, together with copies of the audit report, shall be submitted to the Senate and the Local Government.

Budget. Stat.

4. The Syndicate shall prepare before the 1st February each year the financial estimate for the ensuing year and shall submit the same to the Senate*.

Senate to consider Accounts and Estimates. Act, Sec. 21 (3).

5. The annual accounts and the financial estimates shall be considered by the Senate at its annual meeting and the Senate may pass resolutions with reference thereto and communicate the same to the Syndicate which shall take action in accordance therewith.

Expenditure in excess of budget allotments. Stat.

6. The Syndicate may incur expenditure outside or in excess of the budget allotments for the year as adopted by the Senate but such expenditure shall be reported to the next meeting of the Senate for sanction. The Syndicate however shall have power to reappropriate from one detailed head to another in the same account provided that no recurring liability is involved.

Unspent balances. Stat.

7. Unspent balances of budget allotments at the close of the financial year shall lapse and shall not be available for expenditure in a succeeding year except under the budget of that year.

Receipts and disbursements. Stat

8. The Registrar shall be empowered to receive all payments to the University, which shall be credited under proper heads of account. The Registrar shall make all authorized pay-

* See Act, Sec. 21(2).

ments including fees, salaries and allowances payable out of University funds.

Investments Stat

9. The Syndicate may invest any moneys belonging to the University including any unapplied income in any of the securities described in Section 20 of the Indian Trusts Act, 1882, with the power to vary such investments or to place on fixed deposit in any bank approved in this behalf by the Local Government, any portion of such moneys not required for current expenditure *

RULES.

Investments-

†10. When the cash balances under the several accounts have become larger than are necessary for current expenditure, the surplus amounts should be withdrawn, with the sanction of the Syndicate, and deposited in such manner as the Syndicate may determine. Such deposits may be renewed, when necessary, with the permission of the Vice-Chancellor. Similarly, permanent investments of unspent balances under any account may be made with the sanction of the Syndicate.

Budget.

11. The Registrar shall each year prepare and submit to the Finance Committee by the 15th September, a budget containing detailed estimates of income and expenditure under the several main heads for the ensuing Financial year which, after approval by the Finance Committee, will be passed by the Syndicate.

12 After it is adopted by the Syndicate the Registrar shall obtain the sanction of Government for the inclusion of such amounts as may have been taken credit for except those which are of the nature of Block Grants.

13. The budget estimate as finally approved by the Syndicate shall be considered by the Senate at its annual meeting and the Senate may pass resolutions with reference thereto and communicate them to the Syndicate which shall take action in accordance therewith.

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* First Statutes II(b).

† This and the succeeding sections are rules.

Payments.

14. No payment shall be made by the Registrar under any main head of expenditure unless a sufficient balance of the allotment sanctioned by the Senate under that head is still available.

Heads of Accounts.

15. The following shall be the heads of Accounts:

Receipts.—

A—I. General Account—

1. Government grant (not earmarked).
2. Sale of University Code and Annual Register.
3. Miscellaneous including Affiliation Fees.

A—II Examinations Account—
Examination fees (giving each examination a separate minor head).

A—III. Extension Fund Account.

A—IV. Publication Account.

A—V. Building and Equipment Fund Account.

A—VI Development Fund Account.

B—I. Endowment Fund Account.

B—II. Foundation Fund Account—

1. Donations.
2. (a) Fees other than Examination fees*.
   (b) Miscellaneous*.
3. Interest.
4. S.S.L.C. Compensation grant.*

Expenditure.—

A—I General Account—

1. Establishment charges.
2. Travelling Allowances.
3. Contingencies.

* *Note*:—Receipts under this head shall be credited to A.VI Development Fund Account from 1—10—31 to 31—3—36.

4. Scholarships and Fellowships.
5. Students' Unions.
6 Employment Bureau.
7. Publication Bureau.
8. Other items

A—II. Examinations Account—
1 Remuneration to Paper-setters.
2 Travelling Allowances to Paper-setters.
3 Remuneration to Examiners.
4. Travelling Allowances to Examiners.
5. Remuneration to Superintendents.
6. Medical Examination Charges under Conjoint Examination scheme.
7. Minor examination charges

A—III Extension Fund Account.

A—IV. Publication Account

A—V Building and Equipment Fund Account

A—VI Development Fund Account

B—I Endowments Fund Account.

B—II Foundation Fund Account.

It shall be competent for the Syndicate to add to the heads of account at any time it finds it necessary to do so. It shall not be permissible to utilise the corpus of the Foundation Fund but the Syndicate may whenever it deems necessary utilise the interest thereon either wholly or in part.

Registers

16. The following shall be the account books maintained in the prescribed form by the Registrar:—

1. Government Grant Register.
2. Cash Collection Book.
3. Posting Register of receipts (per Treasuries).
4. Posting Register of receipts (per sources other than Treasuries).

Register of receipts and charges, i. e., Cash-Book.—
5 General Account.
6. Examinations Fund Account.

7 Foundation Fund Account

8. Endowments Fund Account.

9. Publication Account.

9-A. Buildings and Equipment Fund Account.

9-B. Development Fund Account

10 Extension Fund Account.

11. Fee Fund Account.

12 Posting Register of charges—General Account.

13 Posting Register of charges—Examination Account.

14 Endowments Ledger.

15 Register of charges met from Permanent Advance.

16 Stock Register of Securities.

17. Stock Register of Furniture.

18. Order Book

19. Acquittance Register.

20 Establishment Audit Register

21. Advance Register.

22 Group Payment Register.

23 Stock Register of Cheque Books.

24 Stock Register of Publications for sale.

25. Register of bills for Provident Fund.

26 Cash Book for Provident Fund Account

27. Ledger for Provident Fund Account.

28. Provident Fund Refund Register.

29 Press Register.

30. Deposits Register.

31. Register of Stamp Account.

32. Register of due dates of interest.

33. Register of due dates of maturity of securities and such other books as the Syndicate may prescribe.

17. Books of account and registers shall be strongly bound and paged. On the first or title page the number of pages the

Maintenance of Registers

book or the register contains shall be entered and the entry shall be signed by the Registrar. Corrections shall be made in red ink and attested. Erasures shall on no account be permitted.

University Bankers.

18. The Imperial Bank of India, Vizagapatam, hereinafter called the Bank, shall be the Bankers of the University.

Remittances to University. How made.

19. All remittances to the University shall be made in one of the following ways:

(a) into the Imperial Bank, Vizagapatam or through any of the branches of the Bank in the Madras Presidency;

(b) into the Government treasuries in the Madras Presidency;

(c) by money order to the Registrar;

(d) by payment in person at the office to the Registrar or the Manager

} only in respect of payments for University publications.

Only the Registrar and the Manager shall be empowered to receive either amounts remitted by M O or cash payments made in the office. No other official of the University shall receive any moneys due to the University

20 All money orders and cash receipts received each day shall be entered in a prescribed form giving details regarding the date of payment, name and address of payer, the amount received, the purpose of payment and number of the receipt issued to the payer and shall be signed by the Registrar, or the Manager, if the latter has been deputed under rule 19 above to receive payments, and shall be filed along with the money order coupons in a special file book.

Issue of Receipts.

21 Receipts in respect of moneys received by money order or in cash at the University Office shall be issued by the Registrar to the payers. Receipt Forms shall be machine-numbered consecutively and bound into books of 100 forms. On the front page of each book shall be entered the first and the last numbers of receipts it contains and the entry shall be signed by the Registrar. The Registrar shall keep the books in his personal

custody under lock and key, noting their receipt and issue from time to time as required (one book at a time) in a register.

Receipts shall be in duplicate. The first part shall remain in the book and the second part shall be given to the payer.

Before issuing a new book the Registrar shall satisfy himself that the forms in the book last issued have been used up under his signature Unnumbered receipt forms shall not be kept in the office nor a manuscript receipt issued.

The receipts shall be numbered consecutively for each year.

Remittance to Bank

22. Receipts of every kind received in the office shall be paid intact into the Bank and shall not be utilised directly for expenditure of any kind on any account. All cash receipts including those received by M.O. shall be remitted into the Bank not later than the first working day following on which the Bank is open. If the cash in the office is, on any day, in excess of the security given by the clerk in charge of accounts, hereinafter called Accountant, the Registrar will make arrangements for the safe custody of the surplus

23. Remittance to the Bank shall be accompanied by a chalan.

The chalans shall be bound in books of 50 forms The Accountant shall keep the book in his personal custody. The second part shall be given to the Bank with the money. The first part containing the acknowledgment of the Bank shall remain in the bound book

Posting of Receipts.

24 (i) Receipts of every kind except those received through the Bank or the Treasury shall be entered in the Cash Collection Book and after remittance into the Bank, the necessary entries shall be made in the same Register under the heading of "Remitted into the Bank".

(ii) These receipts and the amounts received through the Bank shall be entered direct in the Register of Receipts and Charges (i. e., the Cash Book).

(iii) Receipts through the Treasuries shall be posted first in the District Treasuries Book and after verification with the

Accountant General's statements, shall be posted in the Cash Book of the Fund, a separate cash book however being maintained for the purpose in respect of the Examination Fund.

(iv) All receipts and charges in respect of A—I General Account and A—II Examination Account, shall be finally entered in the posting Register of Receipts and Charges respectively maintained for each Account.

Bank Pass Books.

25. The pass-books granted by the Bank shall remain with the Registrar and shall be sent to the Bank on the first day of every month for being written up to date. After their return by the Bank, the Registrar shall compare the receipt entries therein with the entries in the first part of the chalan in the chalan book and satisfy himself that they tally.

Monthly Statements

26. On the basis of the registers maintained there shall be prepared, in respect of each account, every month an abstract progressive total of receipts and expenditure which will show the budget figures, the amounts realised or spent, as the case may be, up to the end of the month and the balance remaining to be realised or available for expenditure for the rest of the financial year This statement will be put up before the Finance Committee before the 15th of the succeeding month.

Tenders.

27. Tenders shall be called for in respect of all purchases and works of the University of the value of Rs. 100 and above.

In respect of printing work such arrangements as the Syndicate deems fit shall be made but before deciding on the appointment of University Printers, the Syndicate shall consult the Superintendent of Government Press as regards rates It shall be further competent for the Syndicate to appoint more than one Company as University Printers Ordinarily the term of appointment as University Printers shall cover a period of five years

All tenders shall be sent to the Registrar in sealed covers in the form and in accordance with the units of work that may be prescribed,

Tenderers shall agree as a condition of the University dealing with them that it shall be competent for the University to recover any payments made in excess of the rates approved.

No University employee shall have any interest in any contract made with the University

Successful tenderers shall execute an agreement to carry out the work specified in the tender at the rates accepted by the Syndicate within such time as may be prescribed failing which the Syndicate shall be at liberty to withhold in part or in whole payment of any amount that may be due to the said tenderer for work executed in part or whole.

Payments by Cheque or in Cash

28 (i) Expenditure shall be met by means of cheques drawn on the Bank or on a Government Treasury in the Madras Presidency or cash as may be necessary. The cheque book granted by the Bank or the Treasury Officer concerned shall remain in the personal custody of the Registrar under lock and key. At the end of every month and after the pass-book is received back from the Bank with the transactions of the preceding month entered therein, the Registrar shall compare the entries on the debit side in the pass-book with the duplicate of the cheques in the cheque book and satisfy himself that the entries tally with the cheques issued by him.

Payments shall not be made in cash in respect of transactions exceeding Rs. 50.

(ii) When payments are made fractions of annas will be eliminated, provided, however, if the fraction exceeds half an anna it shall be calculated as one anna

Scrutiny and disposal of Bills.

29 Every bill presented for payment shall first be examined before submission to the Registrar by the Accountant and he shall initial it in token of his having done so If the claim be admissible, the authority good, and the receipt a legal acquittance, the Registrar shall, after satisfying himself on these points, make an order to pay on the bill. The bill shall then be paid either by cheque or in cash.

Save with the special sanction of the Vice-Chancellor no claim by an officer or servant or member of a University autho-

rity or committee for money due to him from the University shall be valid unless made within six months of the date at which the payment fell due

All bills on payment shall be stamped "Paid by cheque No. cash and date" and signed by the Registrar and shall thereafter be filed.

All bills shall be numbered consecutively for the year in the order of payment and pasted in a bound book with fly leaves Adjustment vouchers shall bear a separate series of numbers from cash vouchers and shall also be filed separately.

30 (i) Salary bills shall be in the prescribed form.

Payment of salaries.

(ii) Salaries fall due on the first day of the month following that for which the salary is paid.

(iii) Income-tax, subscription to Provident Fund, and dues to the University shall be deducted from the salaries of officers etc., before payment is made to them.

Service Register.

(iv) There shall be maintained a service register in which a record of appointments, promotions, leave, suspensions, fines, reduction or enhancement of salaries and office arrangements regarding all members of the University staff shall be entered.

(v) Acquittance roll of payments made for salaries of the ministerial officers and the menial staff shall be kept in the prescribed form.

31. All payments of salaries of officers and allowances to the officers and members of the University authorities or committees shall be made subject to the condition that excess payments, if any, shall be recovered from the persons concerned.

Permanent Advance.

32. A permanent advance shall be made to the Accountant of an amount fixed on the supposition that recoupment will be made at least twice a month. The Accountant shall give an acknowledgment for the advance held by him on the first day of each financial year, and whenever there is a change of an incumbent of the post.

Security from Accountant.

33. Security shall be taken from the Accountant for such amount and of such character as may be determined by the Syndicate.

Register of petty cash payments.

34. A register of petty cash payments will be kept. As the Accountant pays any money he will enter in that register the date, name of payee and the number of sub-voucher in the appropriate columns and the amount in the column provided for the sub-head of the expenditure. When it is necessary to draw money for contingent expenses, and in any case at the end of each month, the Accountant will rule a red line across the page of the register, add up the several columns and post the totals under each head in a Contingent Bill. The Contingent Bill will then be placed before the Registrar and when it is passed by him the amount thereof will be entered in the Cash Book, and drawn from the Bank.

Powers of Sanctioning expenditure.

35 (a) The Registrar shall have authority to sanction expenditure under the following heads—

(i) Printing work done for the University by the University Printers after check by the Superintendent, Government Press, or any other authority appointed by the Syndicate according to the accepted tender or contract agreement.

(ii) All stationery obtained through the Superintendent of Stationery.

(iii) Subject to budget provision, other items of contingent expenditure not exceeding Rs. 100 under the several sub-heads under major Head A-1-General Account, Minor Head (3).

(b) For items in excess of Rs. 100 but not exceeding Rs. 500 he shall obtain the sanction of the Finance Committee:

Provided that in any emergency the Vice-Chancellor shall have power to authorise expenditure up to a limit of Rs. 300.

(c) All items of expenditure in excess of Rs. 500 will require the sanction of the Syndicate.

36. The Registrar shall have authority to pay all travelling allowances according to the scale and conditions sanctioned by section 40 below.

37. The Registrar shall be authorised to incur contingent charges not exceeding **Rs. 100 per mensem.**

Payment of Bills for printing question papers and stationery.

38. The Registrar shall be authorised to arrange for the printing of Examination question papers at his discretion; the bills for such printing and stationery, other than those presented by the University Printers shall be confidential and shall not be subject to check or audit.

All such expenditure shall be supported by a certificate furnished by the Registrar in the following form.

'I certify that a bill for Rs. . . . . on account of the cost of printing papers has been received and is in my possession, that a payment in respect of it has not already been made and that the payees' acknowledgment will be obtained and kept by me.

(Sd).....
Registrar, Andhra University'.

Remuneration to Examiners.

39 The remuneration to Examiners shall be fixed by the Syndicate The Registrar will then have authority with the sanction of the Vice-Chancellor to pass the bills under head A-II (1) and (3) in accordance with that sanction.

Travelling Allowances

40. Travelling Allowances to members of the several University authorities and committees appointed by the Senate, Syndicate or the Academic Council who have to travel from their headquarters on University business (including attendance of members of the Senate at Convocations) shall be paid at the following rates for attending meetings:—

(i) For Railway journey—In the case of members of the Syndicate, persons invited to deliver addresses at the Convocations and members of a Commission appointed to inspect Colleges, single first class fare, and in the case of members of the other University authorities, single second class fare to and fro;

and a distance allowance in both cases of Rs. 4* per 100 miles or part of 100 miles in excess of the first 100 miles.

(ii) For all journeys by established motor car or steam boat services open to the public—Single first class passenger fare or at the rate of 8 annas per mile whichever is less.

(iii) For all journeys performed by road or canal etc., at 8 annas per mile for a distance of 3 miles and above, beyond municipal limits No mileage is admissible for journeys within municipal limits and for less than 3 miles outside municipal limits.

(iv) Halting allowance at Rs 6* for each day necessarily spent at the destination for the conduct of University business.

(v) Travelling allowance will be paid only by the shortest route:

Provided however it shall be competent for the Syndicate to sanction Travelling Allowance by other than the shortest route in special cases for special reasons to be recorded

(vi) For purposes of this Section, the headquarters of a member of University Authority or Committee will be the station where he usually resides.

(vii) Fellows and Scholars appointed by the University will be paid one single second class railway fare from the place of residence to the place of research for joining the appointment and for the return journey after the completion of the period including extensions granted.

For other journeys undertaken during the period with the previous approval of the Syndicate, railage

* Reduced temporarily by one rupee *vide* Senate Resolution dated 18th March 1932.

as above shall be given together with halting allowance, if any, at Rs. 2 per day.

(viii) Travelling allowance to officers and servants of the University for journeys performed on University business and with due sanction shall be granted as per Madras Travelling Allowance Rules.

It shall however be competent for the Syndicate to vary the above rules for specific reasons to be recorded.

Audit notes and Reports.

41. All Audit notes and reports shall be submitted by the Registrar together with his remarks and explanations to the Finance Committee in the first instance. The Finance Committee shall thereupon submit them together with its remarks, if any, to the Syndicate for action. Should there be difference of opinion on any particular point between the Finance Committee and the Syndicate, it shall be competent for the Finance Committee to request the Syndicate to place the matter before the Senate for its decision. And the Syndicate shall accordingly submit the issue to the decision of the Senate at its next meeting.

42 The Rules in this Chapter shall not be modified or added to without the previous approval of the Senate.

CHAPTER XX

PROVIDENT FUND AND GRATUITY

(Statutes)

Subscribers to the Provident Fund

1. Every officer except the Vice-Chancellor, teacher and servant of the University, other than those whose services have been lent to the University by Government, and those who are specially exempted from the scope of this Statute, holding a permanent appointment on a salary of Rs. 20 per mensem or upwards shall, as a condition of his service, become a depositor in the University Provident Fund.

2 Only officers, teachers and servants holding appointments, the terms of which require them to give the whole of their time to the work of the University shall be entitled to become subscribers to this fund.

Rates of subscription

3. The subscription to the fund shall be at the rate of six and one-fourth per cent on the salary of the subscriber Such subscription shall be deducted monthly from the salary of each subscriber and the amount so deducted shall be paid into the University funds to the credit of the subscriber:

Provided that the rate of subscription in the case of servants of the University appointed to their posts prior to 1st January 1929 shall be at the rate of eight per cent of their salaries subject to the condition that the rate shall be only six and one-fourth if their respective salaries should at any time be Rs. 200 or more per mensem.

4. An officer, teacher or servant on leave on full pay shall continue to pay his contribution to the Provident Fund, and may continue to do so at his option if on leave on less than full pay.

University Bonus.

5. At the end of each month the University shall make a contribution in the case of each subscriber of six and one-fourth per cent of his salary and subject to the conditions contained in the proviso to this rule, the amount shall be placed to the credit of the subscriber;

Provided that the rate of contribution in the case of servants of the University appointed to their posts prior to 1st January 1929 shall be at the rate of 10% of their salaries subject to the condition that the rate shall be only 6¼% if their respective salaries should at any time be Rs. 200 or more per mensem.

Provided also that no subscriber whose services shall have been dispensed with for what, in the opinion of the Syndicate, is gross misconduct shall be entitled to the benefit of or to receive any part or share in any sums at any time contributed by the University to the Fund or the accumulated interest or profits thereof; and

Provided further that the University shall be entitled to recover, as the first charge from the amount for the time being at the credit of any subscriber out of the contribution made by the University and the interest thereon, a sum equal to the amount of any loss or damage at any time sustained by the University by reason of his dishonesty or negligence

Conditions

6. No subscriber shall be entitled to receive any part or share in any sums contributed by the University or the interest and profits thereon unless he has been in the service of the University for at least five years and has been permitted to resign his appointment:

Provided that in case where an employee is invalided or dies before the period of 5 years the entire amount at his credit shall, subject to such deductions as may be ordered by the Syndicate under section 5 above, be paid to him or to his assignees as the case may be.

Provided that the Syndicate shall have power to exempt any employee for good reasons recorded from the operation of this Statute.

7. Subject to the provisions of clauses 5 and 6 a subscriber shall be entitled, upon quitting the service of the University, to draw out and receive the whole amount standing to his credit in the Fund.

8 (a) On opening his account in the fund, each subscriber shall furnish to the Registrar a certificate under his signature giving the name and address of one or more persons to whom he desires that, in the event of his death, the whole or any portion of the amount due to him from the fund should be paid, and may at any time revise the certificate, and all certificates in force shall be duly recorded in the University Office in a register which should be in the custody of the Registrar. The serial number assigned to a subscriber in this register should be communicated to the subscriber.

(b) A subscriber is not permitted in his certificate to leave the amount of his accumulations or any part of it to any one outside his family, if he has one When a certificate purports to leave money otherwise than to a member or members of a subscriber's family, the Registrar shall call upon the subscriber to state whether he has a family, and if it is found that he has one, the certificate shall not be accepted

Explanation.—For the purpose of these rules, only the following survivors of a subscriber shall be held to constitute his family:—

(1) Widow or widows.

(2) Children.

(3) Widow or widows and children of a deceased son.

An adopted child will be considered to be a child when under the personal law of the subscriber adoption is legally recognised as conferring the status of a natural child but in this case only.

Note (1)—The certificates in question being of the nature of bills are exempt from stamp duty.

Note (2)—In cases in which it is not found feasible for the above certificates to be executed in the presence of the head of the office, their execution before a revenue officer of or above the rank of Deputy Tahsildar is permissible.

In cases where the account of a subscriber is closed during his life-time and he himself receives payment, the certificate

of heirship may be returned to him and the fact recorded in the register of subscriber in the last column.

(c) In case any unmarried subscriber marries subsequent to his admission, he shall reassign the amount at his credit as required above.

(d) If no declaration has been left by the subscriber the amount to his credit will be disbursed among the surviving members of his family except that sons and sons of a deceased son who have attained legal majority and married daughters and married daughters of a deceased son whose husbands are alive shall be excluded from participation. The division among the persons entitled shall be in equal shares except that widows and the child or children of any deceased son shall take equally between them only the share which that son would have taken had he survived the subscriber. Any sum due to a minor shall be paid to the minor's legal guardians to be used for the minor's benefit or failing a legal guardian, to such person or persons as the Syndicate considers to be the proper person or persons to receive it on the minor's behalf. If such subscriber had left no declaration or has no family (wife or children) entitled to receive the amount at his credit in the fund, the amount will be paid to the subscriber's legal representatives or such other person or persons as may be determined by a civil court competent to pass orders in this respect, provided that, if the total sum at the credit of the subscriber including the University contribution does not exceed Rs. 500, it may be paid to such person or persons as the Syndicate considers to be the proper person or persons to receive it

The surviving members of the family shall, for purposes of this sub-section have the same meaning as that assigned to it in the above sub-section.

9. Temporary withdrawal of advances from the fund will be sanctioned by the Vice-Chancellor in the following cases:

To pay expenses in connection with the illness of a subscriber or a member of his family.

To pay expenses in connection with (1) marriages, (2) funerals, or (3) ceremonials which by the religion of the subscriber it is incumbent upon him to perform and in connection with which it is obligatory that expenditure should be incurred.

The amount of advance to be sanctioned at any time shall not exceed three months' pay of the subscriber subject to the condition that in any case, the amount of advance sanctioned at any one time shall not exceed the amount contributed to the fund by the subscriber. Such advances shall be repaid with interest in instalments not exceeding 25 in number, payable in consecutive months commencing from the first of the month following that in which the advance is drawn.

When an advance repaid, as regards principal, is not more than 12 instalments, the 13th instalment representing interest and equivalent to 3 per cent of the amount of advances should be paid in the month following that in which the last instalment of the principal is paid Similarly an additional amount equivalent to 6 per cent of the total advances should be paid when the advance is repaid in more than 12 instalments. In calculating the 3 per cent or 6 per cent instalments as above, a fraction of a rupee should be taken at the next higher whole rupee if it exceeds 8 annas and should be ignored if it does not.

No recovery will be made from the subscriber while on leave on other than full pay.

10. The Syndicate shall from time to time issue such general or special directions* as may be consistent with the Statutes as to

(a) the conduct of the business of the Fund;

(b) any matter relating to the Fund, or its management or the investment of sums to the credit of the Fund or the privileges of the subscribers not herein expressly provided for; or vary, or cancel any regulations made or directions given.

"*Note.*—The term "salary" in these Statutes includes pay (substantive or officiating or personal or

* Vide Appendix to this Chapter.

special), allowances (technical or personal or special) and leave salary''.

Gratuity.

11. For servants of the University drawing at the time of retirement a salary of Rs 20 and less an invalid gratuity shall be paid at the following rates.—

After a service of less than 5 years.....Nil.

After a service of not less than 16 years a gratuity of one and a half month's salary for every year of completed service.

After a service of not less than 16 years but less than 25 years a gratuity of one and a half month's salary for every year of completed service.

APPENDIX

* The following are the rules framed by the Syndicate under Section 10 of Chapter XX of the Code to regulate the University Provident Fund Scheme:—

1. Each subscriber shall at the time of admission to the University Provident Fund furnish the particulars mentioned in, and sign, the prescribed form of declaration.

2. The subscription due from each subscriber shall be deducted from his salary at the time of its disbursement and shall together with the contribution due from the University be credited in the first instance to the Andhra University Provident Fund Account in the Imperial Bank of India, Vizagapatam or in the Post Office Savings Bank.

3 The Syndicate shall from time to time invest all moneys not immediately required for the purposes of the fund in securities described in Section 20 of the Indian Trusts Act, 1882, or such other securities as may be approved by Government—provided that in no case shall moneys be invested in irredeemable loans.

4. The interest received by the University on sums so invested shall as soon as received be added to the amount standing to the credit of the Fund.

Compound interest reckoned yearly at 4½ per cent per annum will be allowed on the average branches of each subscriber during the year, subject to the right of the University to revise the rate at any time (after announcing its intention of doing so), owing to a change in the rate of interest in the Government Securities or for any other sufficient reason.

5. Subject to the conditions contained in rules 6 to 12

(a) payments towards an insurance policy, may at the option of a subscriber, be substituted for the whole or part of subscriptions to the Fund;

(b) the amount of subscriptions with interest thereon standing to the credit of a subscriber in the Fund may be withdrawn to meet payments towards an insurance policy.

6 (1) If the total amount of any subscriptions or payments substituted under clause (a) of rule 5 is less than the amount of the minimum subscription payable to the Fund, the difference shall be rounded off to the nearest rupee and paid by the subscriber as a subscription to the Fund.

(2) If the subscriber withdraws any amount standing to his credit in the Fund for the purpose specified in clause (b) of rule 5, he shall, subject to his option under clause (a) of that rule, continue to the Fund the subscription payable under the rules.

7 (1) A subscriber who desires to substitute a subscription or payment under clause (a) of rule 5 may reduce his subscription to the Fund accordingly.

Provided that the subscriber shall—

(a) intimate to the Registrar by letter the fact of, and reason for, the reduction;

(b) send to the Registrar, within such period as the Registrar may require, receipts or certified copies of receipts in order to satisfy the Registrar that the amount by which the subscription has been reduced was duly applied for the purposes specified in clause (a) of rule 5.

(2) A subscriber who desires to withdraw any amount under clause (b) of rule 5 shall—

(a) intimate the reason for the withdrawal to the Registrar by letter;

(b) make arrangements with the Registrar for the withdrawal;

(c) send to the Registrar, within such period as the Registrar may require, receipts or certified copies of receipts in order to satisfy the Registrar that the amount withdrawn was duly applied for the purposes specified in clause (b) of rule 5.

(3) The Registrar shall order the recovery of any amount by which subscriptions have been reduced, or any amount withdrawn, in respect of which he has not been satisfied in the manner required by clause (b) of

sub rule (1) and clause (c) of sub-rule (2), with interest thereon at the rate provided in Section 9, from the emoluments of the subscriber and place it to the credit of the subscriber in the Fund.

8 (1) University will not make any payments on behalf of subscribers to insurance companies, or take steps to keep a policy alive.

(2) It is immaterial what form the policy takes, provided that it shall be on the life of the subscriber himself and shall (unless it is a policy expressed on the face of it to be for the benefit of his wife, or of his wife and children, or any of them) be such as may be legally assigned by the subscriber himself to the University.

(3) The policy may not be effected for the benefit of any beneficiary other than the wife of the subscriber or his wife and children or any of them.

9 (1) The policy, within three months after the first withholding of a subscription or withdrawal from the Fund in respect of the policy, or, in the case of an insurance company whose headquarters are outside India, within such further period as the Registrar, if he is satisfied by the production of the completion certificate (INTERIM RECEIPT), may fix, shall—

(a) unless it is a policy expressed on the face of it to be for the benefit of the wife of the subscriber, or of his wife and children, or any of them, be assigned, by an endorsement on the policy in Form I set forth in the Schedule, to the University, as security for the payment of any sum which may become payable to the Fund by the subscriber under rules 10 to 12 and delivered to the Registrar.

(b) If it is a policy expressed on the face of it to be for the benefit of the wife of the subscribe or of his wife and children, or any of them, be delivered to the Registrar.

(2) The Registrar shall satisfy himself by reference to the Insurance company, where possible, that no prior assignment of the policy exists.

(3) If the policy is not assigned and delivered, within the said period of three months or such further period as the Registrar may, under sub-rule (1), have fixed, any amount withheld or withdrawn from the Fund in respect of the policy shall, with interest thereon at the rate provided in Section 9, forthwith be paid or repaid, as the case may be, by the subscriber to the Fund, or in default be ordered by the Registrar, be recovered by deduction from the emoluments of the subscriber, by instalments or otherwise, as Syndicate may direct

(4) Notice of assignment of the policy shall be given by the subscriber to the insurance company, and the acknowledgment of the notice by the insurance company shall be sent to the Registrar within three months of the date of assignment.

Note 1.—Subscribers are advised to send notice of the assignment to the insurance company in duplicate, accompanied, in case in which the notice has to be sent to a company in Great Britain or Ireland, by a remittance of five shillings, which is the fee for the acknowledgment authorized by the Policies of Assurance Act, 1867. The policy itself, bearing the assignment endorsed thereon, need not be sent to the Company, as insurance companies do not ordinarily require the production of the original instruments affecting a policy-holders's title until the policy becomes a claim

Note 2.—Subscribers who proceed to Great Britain or Ireland on quitting the service are advised that under the English Stamp Law assignments or re-assignments are required to be stamped within 31 days of their first arrival in those countries Otherwise penalty will be incurred under the Stamp Act, and difficulties may arise when the policy matures for payment.

10 (1) Save as provided by sub rule (2) of rule 12, when the subscriber—

(a) quits the service, or

(b) has proceeded on leave preparatory to retirement and applies to the Registrar for reassignment or return of the policy, or

(c) while on leave, has been permitted to retire or declared by a medical authority to be unfit for further service and applies to the Registrar for reassignment or return of the policy, or

(d) pays or repays to the Fund the whole of any amount withheld or withdrawn from the Fund for any of the purposes mentioned in clauses (a) (b) of rule 5, with interest thereon at the rate provided in Section 9,

the Registrar shall—

(i) if the policy has been assigned to the University under rule 9, reassign the policy in Form II set forth in the Schedule to the subscriber, and make it over to the subscriber;

(ii) if the policy has been delivered to him under clause (b) of sub-rule (1) of rule 9, make over the policy to the subscriber:

Provided that, if the subscriber, after proceeding on leave preparatory to retirement, or after being, while on leave, permitted to retire or declared by a medical authority to be unfit for further service, returns to duty, any policy so reassigned or made over shall, if it has not matured or been assigned or charged or encumbered in any way, be again assigned to the University and delivered to the Registrar, or again be delivered to the Registrar, as the case may be, in the manner provided in rule 9, and thereupon the provisions of these rules shall, so far as may be, again apply in respect of the policy:

Provided further that, if the policy has matured or been assigned or charged or encumbered in any way, the provisions of sub-rule (3) of rule 9, applicable to a failure to assign and deliver a policy shall apply.

(2) Save as provided by sub-rule (2) of rule 12, when the subscriber dies before quitting the service, the Registrar shall—

(i) if the policy has been assigned to the University under rule 9, assign the policy in Form III set forth in the Schedule to such person as may be legally entitled to receive it, and shall make over the policy to such person;

(ii) if the policy has been delivered to him under clause (b) of sub-rule (1) of rule 9, make over the policy to the beneficiary, if any, or, if there is no beneficiary, to such person as may be legally entitled to receive it.

11 (1) Save as provided by sub-rule (2) of rule 12, if a policy assigned to the University under rule 9 matures before the subscriber quits the service and before his death, the Registrar shall realise the amount assured, and shall deduct therefrom the whole of any amount withheld or withdrawn from the Fund in respect of the policy, with interest thereon at the rate provided in Section 9, and shall place the amount so deducted to the credit of the subscriber in the Fund The balance, if any, shall, at the option of the subscriber, be paid to the subscriber or placed to the credit of the subscriber in the Fund.

(2) Save as provided by sub-rule (2) of rule 12, if a policy delivered to the Registrar under clause (b)[1] of sub-rule (1) of rule 9 matures before the subscriber quits the service and before his death, the Registrar shall make over the policy to the subscriber, who shall pay or repay to the Fund the whole of any amount withheld or withdrawn from the fund in respect of the policy with interest thereon at the rate provided in Section 9, and, in default, the provisions of sub-rule (3) of rule 9 applicable to a failure to assign and deliver a policy shall apply.

12 (1) If the policy lapses or becomes assigned, otherwise than to the University under rule 9, charged or encumbered, the provisions of sub-rule (3)[2] of rule 9 applicable to a failure to assign and deliver a policy shall apply.

(2) If the Registrar receives notice of—

(a) an assignment (other than an assignment to the University under rule 9), or

(b) a charge or encumbrance on, or

(c) an order of a Court restraining dealings with—the policy or any amount realized thereon, the Registrar shall not—

(i) assign or re-assign or make over the policy as provided in rule 10 or

(ii) realize the amount assured by the policy, or dispose of any part of any amount so realized, or make over the policy, as provided in rule 11, but shall forthwith refer the matter to the Syndicate

13 Securities of the Provident Fund shall be assessed by the Registrar at the market value prevailing on the 31st March of each year and the University shall, if necessary, subscribe from its general funds such amount as is required to make the amount available for distribution equivalent to the liabilities of the subscribers If the Government Auditor certifies that the amount standing to the credit of the funds is in excess of the liabilities an amount equivalent to the amount of excess balance shall be transferred from the Provident Fund to the General Funds of the University.

14 The Syndicate shall cause to be maintained proper accounts relating to the Fund showing the general state of the Fund and the amount for the time being to the credit of each subscriber.

NO. I. FORM OF ASSIGNMENT TO THE UNIVERSITY.

I, A B of hereby assign unto the Andhra University the within policy of assurance as security for payment of all sums which under rules 10 to 12 of the University Provident Fund Rules I may hereafter become liable to pay to the University Provident Fund. I here by certify that no prior assignment of the within policy exists.
Dated.. 19

NO 2. FORM OF RE-ASSIGNMENT BY THE UNIVERSITY.

All sums which have become payable by the above named A.B under rules 10 to 12 of the University Provident Fund Rules having been paid and all liability for payment by him of any such sums in the future having ceased, the Andhra University doth hereby reassign the within policy of assurance to the said A.B.

Dated.....19 .

NO. 3 FORM OF ASSIGNMENT BY THE UNIVERSITY.

The above named A B. having died on the day of 19 ,the Andhra University doth hereby assign the within policy of assurance to C D *

Dated 19 .

*Fill in particulars of person legally entitled to receive the policy.

CHAPTER XXI.

FELLOWSHIPS

(Statutes)

Eligibility. 1. The members of the affiliated College of the University and distinguished graduates belonging to the Andhra country, whether they had taken their Degrees in the Andhra University or elsewhere shall be eligible for the Fellowships.

Awarding authority. 2. The Fellowships shall be awarded by the Syndicate.

Conditions. 3. Each Fellow shall be a full time worker under the University while holding the Fellowship and shall work under such Professors and under such conditions as may be prescribed by the Syndicate.

Tenure. 4 The Fellowships held in India shall be ordinarily tenable for one year but it shall be within the discretion of the Syndicate to renew any Fellowship for a period not exceeding two years.

Fellowship held abroad shall be ordinarily tenable for two years but it shall be within the discretion of the Syndicate to renew any Fellowship for a further period of one year.

Periodical Reports. 5 A periodical report shall be submitted by the holder of the Fellowship, through the Director of his studies, to the Syndicate

Cancellation of Fellowship. 6 It shall be within the discretion of the Syndicate to cancel any Fellowship at anytime

Passage and Outfit Allowances. 7 Holders of Fellowships tenable abroad shall be eligible for second class passage to and fro and an initial outfit allowance of Rs. 500.

Leave and Leave Allowances. 8. The grant of leave and leave allowances to Fellows shall be regulated by such rules as may be framed by the Syndicate for the purpose.

Bond. 9 Each Fellowship holder shall enter into the prescribed Bond with the Syndicate.

CHAPTER XXII.

EXAMINATION BOARDS

(*Ordinances*).

Examination Boards.

1. Examination Boards shall, if necessary, be appointed annually by the Syndicate for the following subjects or groups of subjects.—

i. English.
ii. Sanskrit.
iii. Oriya and Hindi.
iv. Telugu.
v. Kannada, Tamil and Malayalam.
vi. Arabic, Persian and Urdu.
vii. Mathematics.
viii. Physics.
ix. Chemistry.
x. Natural Science.
xi. Philosophy.
xii. History, Geography and Economics.
xiii. Oriental Titles.
xiv. Teaching.
xv. Medicine.

Special Matric and Intermediate Board.

2. A special Board shall be appointed for the purpose of supervising the Matriculation Examination and the Intermediate Examination in Arts and Science

Chairman.

3. The Syndicate shall appoint a Chairman for each Board who shall at the conclusion of every examination forward to the Syndicate a report on the manner in which the examination has been conducted.

Applications for Examinerships.

4. Applications for Examinerships and Additional and Assistant examinerships for the succeeding calendar year will be received in the University office up to and including 15th January of each year after which date no applications for Examinerships, etc, will be entertained Forms of applications may be had from the Registrar.

5. The Registrar shall, by the 1st December each year, notify the Principals of all affiliated colleges that they should, before the 15th of January, submit to the Registrar a detailed, statement covering all subjects taught in the college, the qualifications of each member of the staff and his experience in teaching the subject and as an examiner. The Registrar shall invite from the Principals any special recommendations regarding any members of their staffs that they may desire to make

6. Copies of these detailed statements, together with the recommendations of these Principals and all applications received directly in the University office, shall be referred by the Registrar to the respective Boards of Studies before the annual meetings of the Boards.

7. Boards of Studies shall submit every year after their meeting a comprehensive and up-to-date list of persons eligible for appointment as Paper Setters, Examiners, Additional and Assistant Examiners

8. A consolidated list of recommendations of the Boards of Studies shall be maintained by the Registrar, which shall be amended annually in accordance with the recommendations of these authorities.

9. In recommending persons for Additional and Assistant Examiners, the Boards of Examiners should select the required number from the recommendations made by the Boards of Studies and the number so recommended should never be less than 50 per cent more than the number required in the case of English and in the case of Telugu, and not less than twice the number required in the case of other subjects.

10. Paper Setters, Examiners, Assistant and Additional Examiners who, at the time offers of appointments are received, or later before they completely discharge their duties, take, or intend to take, leave other than casual leave, should immediately report the fact to the Registrar stating the period of the leave taken or proposed to be taken and the nature thereof. It shall be within the competence of the Syndicate to cancel any appointment at any stage if it thinks it necessary.

Appointment of Examiners,

11 (a) The Syndicate shall appoint Question Paper Setters and Examiners ordinarily from the lists submitted by the Boards of Studies after taking into consideration the qualifications, experience and seniority of the persons to be chosen. Additional and Assistant Examiners shall likewise be appointed on the recommendation of the Boards of Examiners which shall select persons from the lists recommended by Boards of Studies.

(b) Only those who have had knowledge of the syllabuses and standards of this University shall be appointed as Paper Setters No person actually engaged in teaching a subject within the University area shall be eligible for appointment as a Paper Setter in that subject except under special circumstances provided that in the case of professional examinations and examinations in Classical, Modern European and Indian Languages, Boards of Examiners shall be appointed who shall be both Paper Setters and Examiners, and they shall be chosen from the list of recommendations submitted by the Boards of Studies and may consist of persons residing outside the University area.

(c) All Examiners, Additional Examiners and Assistant Examiners shall be appointed from within the University area and from those who are actually engaged in the teaching of the subject except under special circumstances

(d) Examiners shall, as far as possible, be chosen in the first instance from the heads of departments of the several subjects in affiliated and recognized colleges and the colleges directly managed by the University.

(e) Assistant Examiners shall, as far as possible, be chosen from among the teachers in the several subjects in affiliated colleges.

(f) No person shall ordinarily be appointed an Examiner who has not already served one or more periods as an Additional or Assistant Examiner.

(g) No Question Paper Setter, or Chief Examiner or Assistant Examiner shall be appointed who has or has had no teaching experience in the subject for the particular standard for which the question papers are set.

12. Question-paper Setters shall be appointed for one year and shall be eligible for reappointment.

13. Examiners shall be appointed for one year and shall be eligible for reappointment in the two successive years following the year of appointment and shall ordinarily be reappointed. Examiners who have held office for three successive years, whether in the same subject or in different subjects, shall not be reappointed until a period of two years has elapsed, provided (1) that the number of new examiners appointed to a Board in any year shall not exceed one-third of the total number appointed and (2) that this rule shall not apply in the case of Examiners appointed for examinations in subjects in which the number of competent examiners is so small as to make it undesirable in the opinion of the Syndicate that the rule should be enforced strictly.

14 Assistant Exminers shall be appointed for one year and shall ordinarily be reappointed for a second year They shall not be eligible for further reappointment either in the same subject or in other subjects until a period of two years has elapsed provided that the number of new Assistant Examiners appointed in any year shall not exceed fifty per cent of the total number appointed.

15. An Examiner who is appointed but not in successive years shall not hold office for more than three years in any period of five years; and an Assistant Examiner who is reappointed but not in successive years shall not hold office for more than two years in any period of four years.

16. An Assistant Examiner who is ineligible for re-appointment as such may be appointed as an Examiner, but an Examiner who is ineligible for reappointment shall not be eligible for appointment as an Assistant Examiner.

17. In the case of examinations which are held twice a year, in September-October as well as March-April, the Additional Examiners and Assistant Examiners required shall ordinarily be selected to the number required from among those persons who examined for the March-April Examinations.

Time of appointment of Examiners etc,

18. Question-paper Setters and Examination Boards shall be appointed by the Syndicate ordinarily in August, and Additional Examiners who are not members of the Boards and Assistant Examiners to the number required shall be appointed ordinarily in February.

Five years list.

19. A list shall be prepared annually by the Registrar showing the names of those who have been Question-paper Setters, Examiners and Assistant Examiners during the preceding **five years.**

CHAPTER XXIII

ADMISSION TO EXAMINATIONS

1. Every candidate for a University Examination shall, unless exempted from the provisions of this section by an order of the Syndicate, made in accordance with the conditions laid down by the Academic Council, be an enrolled member of an affiliated college. Act, Sec. 33(2).

2. No candidate shall be admitted to any examination until he has been registered. A candidate shall be registered afresh on each occasion on which he presents himself for examination and no candidate shall be registered until he has paid the fee prescribed for the examination * Registration for each Examination, fee Regulation.

3. No candidate for examination shall be entitled to a refund of any fee he may have paid, but the Syndicate may at its discretion grant such a refund in any particular case or class of cases. Refund of fee Stat.

4 Each candidate for an examination shall produce such evidence as the Syndicate may direct of having previously passed the qualifying examination prescribed by the Code if any. He shall also, unless otherwise exempted, produce in the prescribed form the necessary certificate or certificates required by the Code. Qualification of candidates Regulation.

5. The Syndicate shall have the power to exempt by a special order a candidate, for a University Examination from being an enrolled member of an affiliated college subject to the following conditions:— Teacher and Women Candidates Regulations.

(a) that the candidate is either (i) a woman or (ii) a teacher who has been, for at least three years prior to the date of application for exemption but after passing an examination in teachers' training of the grade for which he is qualified by his general educational attainment, employed as a teacher in an institution either affiliated to the University or recognised by

* See Chap. XXV.

the Director of Public Instruction, Madras, or by a District Educational Council and situated within the area of affiliation of the University;

(b) that the candidate, in case he wishes to be permitted to present himself in any Science subject for which a practical course is necessary under the Regulations, shall produce a certificate from the Principal of an affiliated college or by a District Educational Officer (an Inspectress of Schools in the case of women) in whose jurisdiction the candidate is employed or if a woman is living, to the effect that the candidate has taken such a course in a Laboratory;

(c) that the candidate shall satisfy the Syndicate by production of a certificate as to (i) his good conduct and (ii) his diligent and regular study.

A candidate shall not be considered eligible for exemption unless he or she has lived continuously within the area of affiliation of the University for a period of not less than 2 years immediately preceding the date of application for exemption.

For purposes of this rule candidates employed in the inspection branch of the Educational Department shall be treated as though they are employed in the profession of teaching.

Exemption from attendance certificates — (Regulations)

6. In the case of a student who has failed to keep during the year three-fourths of the attendances prescribed by the institution of which he is a member and is therefore unable to produce his annual certificate of attendance, the Syndicate may grant exemption from its production provided that—

For Shortage of attendance

(1) the shortage of attendance does not exceed five days;

(2) the case is recommended by the Principal of the College of which the student is a member;

(3) the Syndicate considers that the reasons given for failure to secure the prescribed attendance are satisfactory.

Exemption in the case of students whose shortage of attendance exceeds 5 days shall be given only in exceptional circum-

stances. Exemptions in such cases may be granted by the Syndicate but each case should be reported to the Academic Council.

For language courses in Intermediate or B. A.

7. The Syndicate shall have power to grant exemption from production of the prescribed certificates of attendance for the course in any language other than English and Telugu in any part of the Intermediate or the B A Degree Examination to a student studying in a college in which the language in respect of which exemption is sought is not taught provided that the Syndicate is satisfied

(1) as to the reasons assigned by the student for not studying in a college where the language in question is taught, and

(2) as to the arrangements made for instruction being received by the student in that language.

For the Final M. B B. S. Degree.

8. The Syndicate shall have the power to grant exemption in the case of a candidate for the Final M.B.B S. Degree Examination who having failed in the examination is unable to produce an additional certificate of attendance for six months in one or more subjects of the examination in accordance with the Regulations, provided that he is recommended for exemption by the Principal of an affiliated Medical College.

For candidates who passed one part of the M. U. B A. Degree Examination under the old by-laws.

9. The Syndicate shall have the power to grant exemption from the production of the required attendance certificates, to candidates for the Degree of Bachelor of Arts who have passed at least one of the Divisions of the B.A. Degree Examination under the old by-laws of the Madras University and permit them to appear for the B.A. Degree Examination of the Andhra University in the Parts or Groups corresponding to the Divisions of the B.A. Degree Examination under the said old by-laws which they have not passed.

For Degree holders with one group to appear for another group.

10. The Syndicate shall have power to grant exemption from the production of the required attendance certificates to candidates who, having passed the B.A. Degree examination with one optional group, are desirous of appearing for the examination in another optional group, provided that there shall be an interval in each case of at least one academic year between passing one optional group of the B A Degree Examination and appearance at another group and provided also that a candidate, in case he wishes to present himself in any subject for which a practical course is necessary under the Regulations, shall produce a certificate from the Principal of a College affiliated in that subject to the effect that the candidate has taken such a course in a laboratory for a period of not less than one academic year.

For other Degree holders to appear for B A. Degree.

11. The Syndicate shall have the power to grant exemption from the production of the required attendance certificates to candidates who, having passed a Degree Examination other than the B A Degree Examination are desirous of appearing for the B.A. Degree Examination, provided that there shall be an interval in each case of at least one academic year between passing the first Degree Examination and appearance at the B A. Examination and provided also that a candidate, in case he wishes to present himself in any subject for which a practical course is necessary under the Regulations, shall produce a certificate from the Principal of a college affiliated in that subject to the effect that the candidate has taken such a course in a laboratory for a period of not less than one academic year.

12. The Syndicate shall have the power to grant exemption from the production of an annual certificate of attendance (1) to students who have been attending classes opened in a college with the sanction of the Syndicate pending affiliation, and (2) to students who are unable to obtain the necessary attendance certificate owing to the college of which they are members having to close for a time for reasons recognized by the Syndicate as satisfactory.

For Oriental Titles.

13. The Syndicate shall have the power to grant exemption from the production of either or both of the annual certificates of attendance required by candidates for the Oriental Titles Examinations provided that the candidate—

(1) is at the time of the examination at least twenty-five years of age, subject to the provision that women candidates shall be exempted from the operation of this age rule and

(2) is certified by the head of an affiliated or recognised institution, or by a member of the Board of Studies dealing with the subject or language offered for the examination or by a Mahamahopadhyaya or a Shamsul-ul-ulama or any other competent scholar recognised by the Syndicate, to be qualified by his attainments to appear for the examination.

Date of application.

14. All applications for exemption shall, as far as possible, be forwarded so as to reach the Registrar before the 1st October preceding the examination.

Exemptions permanent.

15. Orders of exemption granted under this Chapter shall be permanent.

CHAPTER XXIV

GENERAL RULES RELATING TO EXAMINATIONS

Place of Examinations Ordinance.

1 (a) Examinations shall be held at such places as may be appointed by the Syndicate. A list of centres at which examinations will be held shall be published annually in the Gazette in the preceding April.

(b) When there is more than one centre for a written examination question papers shall be given out to candidates on the same day and at the same hour in every centre.

Gazetted holidays dies non, Ordinance.

2. Gazetted holidays shall be considered *dies non* for the purposes of the University Examinations

Text-books and syllabuses Regulation.

The text-books to be prescribed and the syllabuses required by the Code other than those detailed in the Code shall be determined and notified from time to time by the Academic Council after considering the recommendations of the Boards of Studies.

Standard of question papers Regulation.

4. The papers set in all examinations shall be such as a candidate of decided ability well prepared in a subject can reasonably be expected to answer within the time allotted.

Religious belief Regulation.

5. No question shall be put at any University examination calling for a declaration of religious belief on the part of the candidate, and no answer or translation given by any candidate shall be objected to on the ground of its giving expression to any particular form of religious belief.

Conduct of examination. Regulation.

6. All examinations, except practical and *viva voce* examinations, shall be conducted by means of printed or written papers to be answered, except in the case of Vernaculars or Asiatic Classical Languages, in English unless otherwise stated therein.

Duties of Examination Boards. Ordinance.

7. The Examination Boards shall report to the Syndicate the results of all examinations conducted or supervised by them, and the Syndicate shall publish lists of those candidates who have passed the examinations in accordance with the regulations.

Pass certificates. Ordinance.

A certificate signed by the Registrar shall be given to each successful candidate at an examination other than an examination for a degree, title or diploma.

Applications for certificates of having passed the Intermediate Examinations shall reach the Registrar not later than the 1st September or 1st February succeeding respectively the March or September Examination. A fee of three rupees shall be charged for all certificates issued on applications received after that date.

CHAPTER XXV

FEES

Stat. and Ord.

1. Fees payable to the University are classified under the following heads:—

(a) Matriculation fee.

(b) Examination fee.

(c) Fee for registration of graduates

(d) Fee for supplying marks.

(e) Fee for recognition of change of names.

(f) Fee for migration certificates.

(g) Fee for furnishing copy of application for an examination.

(h) Fee for certificates not applied for in time.

(i) Penal fee for non-attendance at convocation.

(j) Fee for scrutiny of S.S.L Certificates.

(k) Fee for exemption from production of attendance certificates.

(l) Fee for recognition of examinations of other Universities and of S.S.L.C Examinations or the European High School Examinations conducted by bodies outside the jurisdiction of this University.

(m) Fee for the issue of a duplicate pass certificate.

(n) Fee for the issue of a provisional certificate.

(o) Fees payable to the University College:—

(1) Fee for registration of an application for admission.

(2) Admission fee.

(3) Tuition fee.

(4) Fees for residence.

(5) Games or athletic fee.

(6) Reading room and magazine fee.

(7) Library fee.

(8) University Union Fee.

2. Every candidate applying for registration as a Matriculate of the University shall pay a fee of Rs. 5 on receipt of which his name will be registered as a Matriculate. Matriculation Fee. Stat.

3. Candidates for examinations and degrees shall pay the following fees:— Fees for Examinations Stat.

Matriculation Examination	Rs. 15
Intermediate Examination-	
Whole Examination—	„ 28
Part I only	„ 12
Part II only	„ 10
Part III only	„ 20

Provided that no candidate shall pay more than Rs 28 at a time whatever be the number of parts in which he appears.

B. A. Degree Examination (Old Regulations).	
Whole Examination	„ 40
Either part	„ 25
B. A. Degree Examination (New Regulations).	
Whole Examination	Rs. 45
Part I	„ 20
Part II	„ 10
Part III	„ 25
B A. (Hons) Degree Examination:—	
Preliminary	„ 15
Final	„ 60
B Sc Degree Examination:—	
Part I	„ 10
Part II Main subject and two subsidiary subjects	„ 45
„ Main Subject	„ 25
„ Each subsidiary subject	„ 15
B Ed. Degree Examination	„ 20
M. Ed. Degree Examination	„ 100
M. B B. S Degree Examination:-	
Pre-Registration Examination (1st appearance)	„ 30
Separate subjects each	„ 15

1st M.B.B.S. Examination:—

Whole examination	„	45
Part I only	„	15
Part II only	„	35

Separate subjects after 1st appearance:—

Organic Chemistry	„	15
Anatomy or Physiology	„	20

2nd M B B.S. Examination:—

Whole examination	„	60
Part I only	„	20
Part II only	„	50

Separate subjects after 1st appearance:—

Pharmacology	„	20
Opthalmology	„	15
Hygiene or Pathology	„	20
Final M B.B.S Examination (1st appearance)	„	60
Part I only	„	15
Part II (1st appearance) only	„	50
Medicine or Surgery	„	20
Obstetrics and Gynaechology	„	15

Oriental Title Examination·—

Entrance Test to Ubhayabhasha Praveena Course (Dravidian Main)	„	3
Preliminary	„	12
Final	„	12
Certificates of Proficiency	„	10

Note·—It shall however be competent for the Syndicate to waive payment of the examination fees by students belonging to the depressed classes subject to the following conditions·—

(1) That the candidate is appearing for the first time for the examination concerned.

(2) That he is poor.

(3) That in the case of a college student, he is recommended for the grant of the concession by the Principal of the college in which he completed his course for the examination.

(4) That he could not get the benefit of the concession shown in G. O. No. 2396 L of the Public Works and Labour Department dated 20th October 1927 for want of sufficient funds with the Labour Commissioner, Madras.

Fee for registration of graduates Statute.

4. A fee for Registration of graduates shall be levied as fixed under Section 3 of Chapter XXVIII of the Code.

Fee for supplying marks. Ordinance.

5. Candidates will be supplied with a statement of the marks obtained by them in each paper in each subject on payment of a fee Rs. 4 and with a statement of total marks obtained by them in each subject on payment of Rs. 2

Change of name Ordinance.

6. A fee for recognition of change of name in each case shall be Rs. 5.

Migration Certificates Ordinance.

7. A fee of Rs. 5 shall be charged for issuing a migration certificate giving permission to graduates and under-graduates of this University proposing to apply for examinations of other Universities:

Provided however that no fee will be charged in respect of students migrating to other Universities to take up courses not provided for in the Andhra University.

Copy of an examination application Ordinance.

8. A fee of Rs. 2 shall be charged whenever a copy of an application for any of the University examinations is furnished.

Certificates not applied for in time Ordinance.

9. A fee of Rs 3 shall be charged for each certificate (Matriculation or Intermediate) issued on application received after the prescribed date.

Non-attendance at Convocation Statute

10. The penal fee levied for non-attendance at convocation after applying for permission to attend the same shall be that prescribed in Section 2 of Chapter XVI of the Code.

Scrutiny of the S. S. L. C Ordinance.

11. A fee of Rs. 3 shall be charged for scrutiny of the S S.L.Certificate of a candidate who sat for S.S.L.C public examination in a previous year.

Exemption from production of attendance certificates Ordinance.

12. A fee of Rs. 5 shall be charged for each application for exemption from the production of attendance certificates.

Recognition of outside examinations Ordinance

13. A fee of Rs. 5 shall be charged for each application for recognition of an examination of another University and of the S S L C examination or European High School examination conducted by bodies outside the jurisdiction of this University

Duplicate Certificate Ordinance

14. A fee of Rs 5 shall be charged for issuing a duplicate pass certificate.

Provisional Certificate Ordinance.

15. A fee of Rs 2 shall be charged for issuing a provisional certificate to a successful candidate before the degree is conferred or before a certificate is ordinarily issued.

University College Fees Ordinance.

16 (a) The fee for registration of an application for admission to the University College shall be Rs 2.

(b) The admission fee to the University College shall be Rs 5 which shall be paid together with the first fees payable to the University

(c) The tuition fee shall be Rs 40 per term, each academic year consisting of three terms

Note —It shall however be competent for the Vice-Chancellor to sanction the levy of tuition fee at half the rate prescribed above for deserving poor students, preference being given to Mussalmans, Oriyas, girls and members of the backward classes and castes approved under Section 92 of the Madras Educational Rules, subject to the following conditions:

(1) Concession shall be given only in the case of those students whose parents or guardians have been proved to the satisfaction of the Vice-Chancellor as being so poor that without the grant of the concession it would not be possible for those students to continue their studies;

(2) That the students are natives of the districts within the territorial jurisdiction of the Andhra University.

(3) That certificates of poverty, if any, submitted by the students shall be from the Principals of affiliated Colleges or officers of the Revenue Department of rank not lower than that of a Deputy Tahsildar and shall indicate the approximate annual income from all sources of the parent or guardian.

(d) The fees for residence shall be those prescribed by the Syndicate from time to time.

(e) The games or athletic fee shall be Rs 3 per term which shall be paid with the tuition fee for each term

(f) The Reading Room and Magazine fee shall be Rs. 3 per term which shall be paid with the tuition fee for each term.

(g) The library fee shall be Rs 2 per term which shall be paid with the tuition fee for each term.

(h) The University Union fee shall be Re 1 (one) per term which shall be paid with the tuition fee for each term.

The above fees are compulsory for all students, and shall be paid within a week of the commencement of the term. The penal fee for the non-payment of fees on due date shall be reckoned at annas 4 for each day intervening between the due date and the date of payment or one rupee per week, whichever is less. Should however the period of default extend beyond fifteen days, the student's name shall be removed from the roll of the College and shall not be re-entered during the course of the term till all the prescribed fees and an additional penal fee of Rs. 5 is paid. Penal fees on defaults extending beyond a term shall be decided by the Syndicate.

CHAPTER XXVI

Dates for payment of Examination fees and submission of Certificates, dates of commencement of Examinations, and dates of publication of results of Examinations.

Ordinances.

1. The latest dates on which fees for examinations shall be payable and applications for admission thereto and certificates to be produced by candidates or to be submitted to the Registrar in the forms prescribed, the date on which examinations shall begin, and the dates on which the results of the examinations shall be published at the University Office shall be :—

Examination	Last date for payment of fees and for submitting applications.	Last day for submitting certificates.	Date of commencement of examination.	Latest date for publication of results
Matriculation	Dec. 15	March 9	4th Monday in March	3rd Monday in May
Intermediate	Dec 15 or July 15	March 9 or August 19	4th Monday in March, or 2nd Monday in Sept	3rd Monday in May or October
B. A. Part I	Dec. 15 or July 15	March 19 or August 19	1st Monday in April or 2nd Monday in Sept	3rd Monday in May or October
B. A. Part II			2nd Monday in April or the Thursday following the 2nd Monday in Sept.	
B. A. (Hons) Prel.	Dec. 15 or July 15	March 19 or August 19	1st Monday in April or 2nd Monday in Sept.	3rd Monday in May or October.
B. A. (Hons) Final	Dec. 15	March 19	1st Monday in April	3rd Monday in May
B. Sc. Part I	Dec. 15 or July 15	March 19 or August 19	1st Monday in April or 2nd Monday in Sept.	3rd Monday in May or October
B. Sc. Part II			Next day after Part I.	
B. Ed.	Feb. 1	March 19	2nd Monday in April,	1st Monday in May

Examinations.	Last date for payment of fees and for Submitting applications	Last day for submitting certificates	Date of commencement of Examination	Latest date for publication of results.
Pre-Registration examination	October 15 or Jan. 15	8 days before the date of Examination	Dec. 15 or 1st Monday in April	Jan. 5 or 3rd Monday in April
M. B. B. S. 1st and 2nd Examinations	Do.	Do	Dec 15 or 1st Monday in April	Dec 2 or 3rd Monday in April
M. B B S. Final Examination	Do.	Do	Dec 15 or 2nd Monday in April	5th Jan or 1st Monday in May
Oriental Titles Preliminary	November 30	March 9	4th Monday in March	1st Monday in May
Final	Do.	Do	Immediately after the Preliminary examination	Do.
Optional Division for Certificates of Proficiency	Do.	Do	Immediately after the Final Examination	Do.

2. Examinations will commence on the next working day if the dates above mentioned happen to be holidays, Provided that in the case of the March—April Examinations,

(1) If the fourth Monday in March falls in the week preceding Easter Day, the Matriculation Examination shall commence on the previous Saturday and the Intermediate and Oriental Title Examination shall commence on the previous Tuesday.

(2) Thursday, Friday and Saturday before Easter Day and Easter Monday shall be *dies non*.

(3) The dates for the commencement of the Ubhayabhasha Praveena Preliminary and Final Examinations shall be so fixed as to avoid, as far as may be practicable, the setting of duplicate sets of question papers in the same subject

3. Applications for admission to examinations received within a period of five days after the dates specified above will be accepted on payment of a fee of rupee one per candidate subject to the condition that the reason given for the delay is satisfactory.

CHAPTER XXVII

Ordinances

(I) UNIVERSITY EXTENSION WORK

Extension Board.

1. The Extension work shall be organised and controlled by the Syndicate of the University through an Extension Board appointed for the purpose by the Syndicate.

Members of the Extension Board shall hold office for a period of three years, provided that a person appointed to a casual vacancy shall be a member of the Board for the residue of the term for which the person whose place he fills would have been a member.

Scope of work

2. The scope of the work shall, for the present, be broadly divided as follows:

(A) General Mass Education, and

(B) Vacation Classes, more especially for teachers

Sub ects,

3 The following subjects may be dealt with under (A) above.

(i) General Knowledge Subjects.
- (a) History of Modern Nations
- (b) Indian History.
- (c) Indian Constitutional History.
- (d) Indian Philosophy.
- (e) Andhra History.
- (f) Buddhism.
- (g) Jainism.
- (h) European History.
- (i) Islamic Culture and History
- (j) Principles of Local Self-Government.
- (k) Indian Literatures.
- (l) English (and European) Literatures.
- (m) Greek and Latin Literatures.
- (n) Indian Industries.
- (o) International Commerce.
- (p) Foreign Trade of India.

(q) Indians abroad.
(r) English Colonial History.
(s) Citizenship.
(t) History of Modern Sciences as Astronomy, Physics, Chemistry, Natural Science.

(ii) Welfare Subjects:
(a) Rural Reconstruction.
(b) Hygiene and Sanitation
(c) Co-operative Societies
(d) Ordinary Diseases.
(e) Sociology.
(f) Ethics.

The Syndicate may, in consultation with the Extension Board, add or delete from the above list any subjects at its discretion.

The subjects should be dealt with in the spirit of University instruction and never from the point of view of party politics or propaganda of any kind.

Staff.

4 The work shall be carried on by a staff consisting of one Director and such lecturers as the Syndicate may appoint from time to time The Director shall be in charge of the entire work excepting so far as the finance is concerned and shall work under the orders of the Vice-Chancellor.

Appointment of staff and their duties,

The Director and the Lecturers shall be whole-time officer and servants respectively of the University They shall in each case be appointed by the Syndicate from a list of persons recommended by a Committee of Selection appointed by the Syndicate for the purpose The appointment of each will be in the first instance for a period of 3 years, during the first year of which he will be on probation. Persons vacating their appointment at the end of any period of service shall be eligible for reappointment The qualifications of the Director and the Lecturers shall be such as may be laid down by the Syndicate from time to time The clerical and menial staff required shall be appointed by the Syndicate.

Local Committees.

5. Request for services of Lecturers in any one locality shall ordinarily be made by Local Committees of field organi-

sers. These Committees may be constituted by the Local Bodies or Municipalities or Co-operative Societies or they may be Committees formed by the citizens of the locality. The Committees should be recognised by the University.

(II) UNIVERSITY STUDENTS

Ordinances

Recognition of Unions

1 Unions of students and ex-students of colleges affiliated to the University desirous of being recognised as University Students' Unions shall apply to the Syndicate for such recognition.

Conditions.

2. The conditions of recognition shall ordinarily be these.

(1) That the Unions are organised bodies, the rules of which are approved by the Syndicate.

(2) That a membership fee is charged from each of its members

(3) That not less than *one-fourth* of the total annual income (exclusive of any donations to the permanent fund including any grant that may be given by the University) is set apart as a reserve fund, the corpus of which should on no account be utilised for current expenditure.

(4) That the President, Secretary and the other office bearers with the exception of the Treasurer are ordinarily students, each elected for one term.

(5) That the Treasurer is always either the Principal of the College or some member of the staff deputed by him.

(6) That the funds of the Unions are invested in Post office Savings Bank or the Imperial Bank or the District Co-operative Bank or in any other manner approved by the Syndicate.

(7) That the Unions have Committees of Trustees to manage their funds and property, the Committees being composed of President, Treasurer, two representatives of the University, one person elected by the Executive Committee of the Unions with the Treasurer as the Chairman.

(8) That all expenditure is limited to the allotment sanctioned by the Trustees for the current expenses during the year.

(9) That the Unions meet ordinarily in the College halls and should not ordinarily spend any money in maintaining separate lodges.

(10) That the Unions form an integral part of College life and not ex-cathedra organisations unless they are in a position to have buildings of their own.

(11) That the Unions do not expend any part of their money on the maintenance of reading rooms of their own.

(12) That the activities of the Unions are ordinarily confined to the holding of fortnightly debates, games and social service.

(13) That the accounts of Unions should be audited by a person nominated by the Syndicate and that a copy of the report should be submitted to the Syndicate for its review.

(14) That each Union should have its own colours and badge.

Grant

3. The Unions recognised by the Syndicate will ordinarily be eligible for an annual grant equivalent to one-third of their subscription income of Rs. 150 per annum whichever may be less, to be disbursed in three instalments, one in each term.

Application for recognition

4. All applications for recognition and grants should be submitted through the Principal of the College concerned.

(III) EMPLOYMENT BUREAU

Ordinances

Register of candidates.

1. The Registrar shall maintain a register of candidates seeking employment through the University.

Qualification.

2 Only those who have undergone a University course, in part at least, shall be eligible to have their names enrolled in the register.

Application.

3. Each applicant for registration shall fill a prescribed form and forward it to the Registrar through the Principal of

the Institution where he last studied together with a registration fee of Rs. 5.

Recommendations as to suitable candidates

4 All applications thus received shall be registered and the Registrar shall take all steps possible to bring to the notice of the prospective employers the names of such applicants as may be suitable for their purpose

Change of address.

5. The registered candidates shall inform the Registrar of changes, if any, in their addresses

(IV) UNIVERSITY SOCIAL WEEK

Ordinances

College teams and debates

1. Whereas it has been considered desirable that arrangements should be made by which students of the University would meet together, a University Week shall be held annually in the University Headquarters during the *Dassarah* week when College teams may meet in various games and Colleges in debates; the University may pay the travelling allowance of one teacher from each College to be in charge of its teams but all other travelling expenses shall be defrayed either by the Colleges or the individuals concerned.

Arrangements.

2 Boarding and medical arrangements shall be made by the University where necessary

Sports ground

3. A properly enclosed sports ground may be built and entrance fees charged

Referees,

4. All referees shall be appointed by the University.

CHAPTER XXVIII

REGISTRATION OF GRADUATES

Register of Graduates. Stat.

1 (1) The Registrar shall maintain a register of Registered Graduates in the form prescribed by the Syndicate.

(2) The register of registered graduates shall be revised on the 1st July of each year, and only those who are on the register on that date shall be entitled to claim and exercise the privileges of the constituency for the following academic year (i. e. 1st July—30th June of the following year). Graduates paying the prescribed fee after the 1st July of any year will be enrolled as members only with effect from the 1st July of the succeeding year.

(3) The register will be closed from the 15th June to the 1st July each year and no entries will be made during those days. These days will be devoted to the revision of the register and any persons paying their fees during that period will be regarded as persons who have paid after the succeeding 1st July.

Eligibility for Registration. Stat.

2. The following persons shall, on payment of fees prescribed in section 3 below, be entitled to have their names enrolled in the Register of Registered Graduates and to enjoy all privileges of Registration.—

(a) All graduates of the University,

(b) All graduates of any Indian University incorporated by any law for the time being in force or of any foreign University that may be recognised by the Syndicate for this purpose who are residents of or are domiciled in the University area and who took or will take their B A or B Sc. Degrees before the close of 1930, or their Honours or M.A. or M.Sc. or Professional Degrees at any time before the end of two years after the first corresponding Degree Examinations are held by the Andhra University.

If any question arises as to whether a graduate coming under clause (b) above is a resident of or is domiciled in the University area or not, the question shall be decided by the Syndicate and such decision shall be final.

Procedure and fee. Stat.

3. Any graduate who wishes to register himself as a graduate of the University shall apply in the prescribed form to the Registrar and pay a fee of Rs. 8, which will entitle him to have his name entered and retained in the register for life. But a graduate who, prior to the passing of this Statute had registered his name at any time for a term, shall, on payment of such amount as will bring up his total payment to Rs. 8, be registered for life.

A graduate who, prior to coming into force of this Statute, had registered his name for a specified term shall continue to have his name on the register for the period for which he was entitled under the Statute (section 3 of Chapter XXVI, 1927 edition of the Code) by virtue of his having paid the prescribed fee, and thereafter *either* his name shall be removed from the register *or* he shall have the option of enrolling himself as a life member in accordance with the provisions contained in the preceding paragraph of this Section.

The day of the convocation on which a person is admitted to his degree either in person or *in absentia*, shall be deemed the day on which he has graduated or taken his degree.

4. Any graduate, whose name is on the register, shall be entitled to inspect it during office hours on application to the Registrar and shall be entitled on payment of rupees two to have a copy of it, sent to him, corrected to date.

Privileges of Registered graduates. Stat.

5 Registered Graduates shall have, besides the right of electing certain number of members to the Senate as provided for in the Act, the following privileges:—

(1) They shall be entitled to the use of the University library on such terms as may from time to time be ordained by the Syndicate.

(2) They shall have priority of admission over unregistered graduates to all lectures delivered by the University Professors and Readers and to the Convocation.

CHAPTER XXIX

REPRESENTATIVES OF THE CHIEF LANGUAGES ON THE SENATE

1. The Senate shall consist of the following persons, namely, Act, Sec. 15. Class III (9)

* * * * *

Five persons to represent the chief languages in the University area chosen by election in such manner as may be prescribed and allotted as follows:—

Telugu	Two.
Kanarese	One
Urdu	One.
Oriya	One.

2 *Representatives for Telugu.*

One of the two representatives for Telugu shall be elected from among themselves by such of the numbers of the teaching staffs of the colleges affiliated in the courses prescribed for Arts and Science Examinations as are primarily engaged in the teaching of Telugu, and the other representative shall be elected from among themselves by such members of the teaching staffs of the colleges affiliated or recognised for the purpose of Oriental Title Examinations as are primarily engaged in the teaching of Telugu. Electorate. Stat.

3. *Representatives of Kanarese, Urdu and Oriya.*

One representative of each of the languages, Kanarese Urdu, and Oriya shall be elected from among themselves by (a) the teachers of the respective languages in the affiliated and special grade institutions within the University area, (b) holders of Oriental Titles in the respective languages conferred by the Madras University prior to 1927 or by this University, and (c) holders of Honorary titles of distinction in the respective languages by Government, provided no one shall be an elector who is not a resident of the University area. Stat.

Electoral Rolls Stat.

4. The Registrar shall maintain with respect to each of the constituencies mentioned in sections 2 and 3 above a register of persons entitled to vote. A copy of the current list may be had from the Registrar at a cost of as 8. Any person who is entitled to be included in the register of any electorate should address the Registrar substantiating his claim If the claim is admitted, his name shall be entered in the register concerned. In cases of doubt the decision of the Vice-Chancellor shall be final.

CHAPTER XXX

ELECTIONS TO THE AUTHORITIES OF THE UNIVERSITY

GENERAL

1. All vacancies among the members of any authority or body of the University shall be filled as soon as conveniently may be by the person or body who appointed, elected or coopted the member whose place has become vacant. Filling of vacancies. Act, Sec 30

Provided that vacancies arising by efflux of time among elected members of any authority or body of the University may be filled at elections which may be fixed by the Vice-Chancellor to take place on such days, not earlier than two months from the date on which the vacancies arise, as he thinks fit

2. Except as otherwise provided in the Code, the Vice-Chancellor shall be responsible for the conduct of all elections and shall have power (1) to fix the date of elections, (2) to determine the manner in which votes shall be counted, (3) to decide the validity or invalidity of each vote recorded and (4) to declare the results of each election Unless specifically provided otherwise, and subject to Section 27 of the Act, the decision of the Vice-Chancellor on any question relating to such election shall be final. Vice-Chancellor's responsibility for conduct of elections. Stat.

3. In the case of persons holding office as teachers of affiliated colleges, Headmasters of recognised Secondary Schools, and Pandits and teachers of Telugu in recognised High Schools, the persons for the time being performing the duties of each such office shall, during the continuance of the performance of such duties, have all the rights and powers vested in the persons holding such office by the Act and by these Statutes. Eligibility of persons to continue in office. Stat.

4 Managers of Secondary Schools and Affiliated Colleges shall, as changes are made in their staff, furnish revised list of persons who are entitled to take part in elections to the authorities of the University Changes in staff to be reported. Stat.

Disqualification for membership-Act, Sec 26, as amended by Act No. XIII of 1930.

5. No person shall be qualified for election or nomination as a member of any of the authorities of the University if he

(a) is at the date of election or nomination of unsound mind, a deaf-mute or suffers from contagious leprosy, or

(b) is an uncertificated bankrupt or undischarged insolvent, or

(c) has been convicted and sentenced by a criminal court to transportation or imprisonment for a period of more than one year for an offence, not being of a political character, unless such sentence has been reversed or the offence has been pardoned or a period of five years has elapsed from the date of the expiration of the sentence.

In cases of dispute or doubt, the Chancellor shall determine whether a person is disqualified under this section and his decision shall be final.

Preparation of voting papers Stat.

6. In the case of all elections in which voting papers are issued by the University, the names of the candidates shall be placed in alphabetical order.

Election not invalid by reason of vacancies in electorate or loss of voting paper Stat.

7. No election to an authority of the University shall be invalid by reason of any vacancy among the number of persons entitled to vote at such election, or in the case of a postal vote on account of the loss in the post of any notice or voting paper.

Publication of results. Stat.

8. The results of all elections shall be published in the Gazette and shall have effect from the date fixed in such notification.

THE SENATE

Statutes.

Registered Graduates Constituency Act, Sec. 15. III (1).

A. Fifteen persons elected by registered graduates from among themselves according to the principle of proportional representation by means of the single transferable vote.

Notification

9 When any vacancy occurs among the members of the Senate elected by registered graduates from among themselves

the Registrar, under the directions of the Vice-Chancellor, shall cause a notification of the fact to be published in the Gazette.

Nomination.

10 Those graduates only whose names are on the register on the first day of the academic year (i e, 1st July) during which an election is to take place, shall be eligible for election and entitled to vote Each registered graduate shall be at liberty to nominate a qualified person to fill the vacancy Every nomination shall be made by an elector in writing and shall be seconded by another elector Every such nomination shall be accompanied by the consent in writing of the nominee agreeing to serve on the Senate if elected, and must reach the Registrar not later than ten days after the publication of the notice in the Gazette.

Scrutiny of nomination papers.

11 The nomination papers thus received shall be scrutinised on the next working day by the Vice-Chancellor or by the Registrar if deputed by the Vice-Chancellor for the purpose. Every candidate or his agent will be entitled to be present at such scrutiny, and the Vice-Chancellor or the person scrutinising shall give them all reasonable facilities for examining the nomination papers

The Vice-Chancellor or the person deputed by him to scrutinise shall examine the nomination papers and shall decide all objections which may be made to any nomination paper on the ground that it is not valid and may reject either of his own motion or on such objection any nomination paper The decision of the Vice-Chancellor or the person deputed by him to scrutinise shall in every case be endorsed by him on the nomination paper in respect of which such decision is given

12 If the number of nominees does not exceed the number of vacancies to be filled, the Vice-Chancellor shall declare such nominees to be elected.

Notification if number of nominees exceed number of vacancies.

13 If the number of nominees exceeds the number of vacancies to be filled, the Registrar shall announce by notification in the Gazette the day appointed by the Vice-Chancellor for the election, the hours between which votes may be recorded, the day and hour when the scrutiny and counting of votes

will begin, the number of vacancies and the names of the persons nominated The date of the notification shall be not less than fourteen days previous to the date so appointed.

Voting papers

14 Not less than fourteen days before the date fixed for the poll, the Registrar shall issue through the post a declaration paper and a voting paper to each elector to the address entered against his name in the list of registered graduates, unless the elector has, since the publication of the list, changed his address and intimated the fact in writing to the Registrar.

15 The declaration shall be in Form I, and the voting paper in Form II The declaration paper shall bear on it a serial number corresponding to the number which a voter bears on the electoral roll. To each voter shall be issued the declaration paper and the voting paper.

16. Before the declaration papers and voting papers are issued, the Registrar shall—

(a) have the name of each elector entered on a declaration paper and

(b) satisfy himself that a declaration paper and voting paper are being issued to each elector.

17. With the declaration paper and the voting paper the Registrar shall send a cover addressed to himself in Form III, bearing on its face the serial number of the voter and an envelope marked 'Voting paper' and a letter in Form IV.

Procedure for recording votes

18 Each elector upon receipt of the papers shall, if he desires to vote in the election, sign the declaration in the declaration paper and record his vote on the voting paper.

19 (1) Every elector shall have one transferable vote.

(2) An elector in giving his vote—

(a) must place on his voting paper the figure 1 opposite the name of the candidate for whom he votes;

(b) may, in addition, place on his voting paper the figure 2 or the figures 2 and 3 and so on opposite the names of other candidates in the order of his preference.

20. The elector shall then enclose the voting paper in the envelope and stick it up and enclose the envelope and the declaration paper in the cover, and send the cover by Registered Post to the Registrar so as to reach him not later than the day and the latest hour fixed for the poll Covers received after such day and hour and covers not sent by Registered Post shall be rejected. No cover may contain more than one declaration paper and one voting paper.

Provided that, at his option the elector may, either in person or by an agent, deposit the cover in a ballot box at the office of the University on the day and during the hours fixed for the poll.

Incapacitated voters.

21 (1) If an elector is incapacitated from blindness or other physical cause from voting in the manner prescribed above, it shall be competent for him to record his vote by the hand of any of the officers or other persons empowered to attest his declaration and such officer or other person shall, on the declaration paper, certify the incapacity and attest the fact of his having been requested by the elector to mark the voting paper for him and of its having been so marked by him in the presence of the elector.

(2) The following officers or other persons are empowered to attest votes of incapacitated electors.—

Magistrates (under the Code of Criminal Procedure).

Judge of and above the rank of District Munsifs,

District Registrars,

Sub-Registrars,

District Educational Officers,

Deputy Inspectors of Schools,

Principals of Affiliated Colleges,

Headmasters of recognised Secondary Schools, and

Members of the Senate, or of the Academic Council.

Duplicate voting papers.

22. An elector who has not received his ballot and other connected papers sent by post or whose papers, before their despatch back to the Registrar, have been inadvertently spoilt in such manner that they cannot be conveniently used or who has lost his papers may, on his transmitting to the Registrar a declaration to that effect signed by himself, require the Registrar to send him new papers in place of those not received, spoilt or lost, and, if the papers have been spoilt, the spoilt papers shall be returned to the Registrar who shall cancel them on receipt In every case when new papers are issued, a mark shall be placed against the number of the elector's name in the register to denote that new papers have been issued in place of those not received, spoilt or lost

Scrutiny and counting of votes.

23 (a) No person shall be present at the scrutiny and counting of votes except the Vice-Chancellor, such persons as he may appoint to assist him, the candidates and not more than one representative of each candidate appointed in writing by him

(b) It shall be competent for the Vice-Chancellor to delegate any of the functions assigned to him hereunder to the Registrar

24 On the day and at the hour appointed for the scrutiny and counting of votes the covers received from the voters by the Registrar, except those rejected under Statute 20 above shall first be arranged serially according to the numbers entered on them and counted and shall then be opened by the Vice-Chancellor or in his presence and the declaration papers and envelopes taken out therefrom If the inner envelope is not accompanied by a declaration paper it shall not be opened but shall be endorsed 'rejected' and placed in a separate bundle The Vice-Chancellor shall then examine or cause to be examined whether the declaration papers are the one sent out by the Registrar and whether the declarations and attestations, if any, are *prima facie* regular If the Vice-Chancellor is satisfied on these points he shall file the declaration papers and place the envelopes in a separate heap If, in any case, the Vice-Chancellor is not satisfied that the declaration paper is the one sent by him or if he considers that the declaration or attestation is not in order, he

shall endorse the word "rejected" on the back of the declaration paper and place it with the connected envelope in a separate bundle.

25. The envelopes other than those rejected shall then be opened and the voting papers taken out and mixed together by the Vice-Chancellor or in his presence.

26 The Vice-Chancellor shall then proceed to count the votes rejecting as invalid all papers on which

(1) the figure 1 is not marked;

(2) the figure 1 is set opposite the name of more than one candidate,

(3) the figure 1 and some other figure is set opposite the name of the same candidate,

(4) the figure 1 is so placed as to make it uncertain for which candidate it is intended,

(5) there is any mark by which the voter may be identified, e g, initials or writing of any kind.

On every paper so rejected, the Vice-Chancellor shall endorse the word "invalid" and such papers shall be kept in a separate bundle.

27 The Vice-Chancellor shall arrange the voting papers (other than invalid papers) in parcels according to the first preferences recorded for each candidate He shall then count the number of papers in each parcel and credit each candidate with one vote in respect of each paper on which a first preference has been recorded for him. The Vice-Chancelor shall also ascertain the total number of valid papers

28 The Vice-Chancellor shall then divide the total number of valid papers by a number exceeding by one the number of vacancies to be filled and the result increased by one, disregarding any fractional remainder, shall be the number of votes sufficient to secure the return of a candidate (hereinafter called the "quota"). Quota

Transfer of surplus.

29. If at any time the number of votes credited to a candidate is equal to or greater than the quota, that candidate shall be elected.

30 (1) If the number of votes credited to an elected candidate is greater than the quota, the surplus shall be transferred in accordance with the provisions of this statute to the continuing candidates indicated on the voting papers in the parcel of the elected candidate as being next in order of the voters' preference.

(2) (a) If the votes credited to an elected candidate consist of original votes only, the Vice-Chancellor shall examine all the papers in the parcel of the elected candidate whose surplus is to be transferred and shall arrange the transferable papers in sub-parcels according to the next preferences recorded thereon.

(b) If the votes credited to an elected candidate consist of original and transferred votes or of transferred votes only, the Vice-Chancellor shall examine the papers contained in the sub-parcel last received by the elected candidate and shall arrange the transferable papers therein in further sub-parcels according to the next preference recorded thereon.

(c) In either case the Vice-Chancellor shall make a separate sub-parcel of the non-transferable papers and shall ascertain the number of papers in each sub-parcel of transferable papers and in the sub-parcel of non-transferable papers.

(3) If the total number of papers in the sub-parcels of transferable papers is equal to or less than the surplus, the Vice-Chancellor shall transfer each sub-parcel of transferable papers to the continuing candidate indicated thereon as the voters' next preference.

(4) (a) If the total number of transferable papers is greater than the surplus, the Vice-Chancellor shall transfer from each sub-parcel the number of papers which bears the same proportion to the number of papers in the sub-parcel as the surplus bears to the total number of transferable papers.

(b) The number of papers to be transferred from each sub-parcel shall be ascertained by multiplying the number of papers in the sub-parcel by the surplus and dividing the result by the total number of transferable papers A note shall be made of the fractional parts, if any, of each number so ascertained.

(c) If, owing to the existence of such fractional parts, the number of papers to be transferred is less than the surplus, so many of these fractional parts taken in the order of their magnitude, beginning with the largest, as are necessary to make the total number of papers to be transferred equal to the surplus shall be reckoned as of the value of unity, and the remaining fractional parts shall be ignored If two or more fractional parts are of equal magnitude, that fractional part shall be deemed to be the larger which arises from the larger sub-parcel and if the sub-parcels in question are equal in size, preference shall be given to the candidate who obtained the larger number of original votes.

(d) The particular papers to be transferred from each sub-parcel shall be those last filed in the sub-parcel

(e) Each paper transferred shall be marked in such a manner as to indicate the candidate for and to whom the transfer is made.

(5) (a) If more than one candidate has a surplus, the largest surplus shall be first dealt with

(b) If two or more candidates have each the same surplus, regard shall be had to the number of original votes obtained by each candidate, and the surplus of the candidate credited with the largest number of original votes shall be first dealt with and, if the numbers of the original votes are equal, the Vice-Chancellor shall decide which surplus he will first deal with.

(c) The Vice-Chancellor need not transfer the surplus of an elected candidate when that surplus together with any other surplus not transferred is less than the difference between the total of the votes credited to the two continuing candidates lowest on the roll.

Elimination of the lowest on the list.

31 (1) If at any time no candidate has a surplus (or when under the preceding statute any existing surplus need not be transferred) and one or more vacancies remain unfilled, the Vice Chancellor shall exclude from the poll the candidate credited with lowest number of votes and shall examine all the papers of that candidate, and shall arrange the transferable papers in sub-parcels according to the next preferences recorded thereon for continuing candidates, and shall transfer each sub-parcel to the candidate for whom that preference is recorded

The Vice-Chancellor shall make a separate sub-parcel of the non-transferable papers.

(2) If the total of the votes of the two or more candidates lowest on the poll, together with any surplus votes not transferred, is less than the votes credited to the next highest candidate, the Vice-Chancellor may in one operation exclude those candidates from the poll and transfer their votes in accordance with the preceding statute

(3) If, when a candidate has to be excluded under this statute, two or more candidates have each the same number of votes and are lowest on the poll, regard shall be had to the number of original votes credited to each of those candidates and the candidate with fewest original votes shall be excluded and, where the numbers of the original votes are equal, regard shall be had to the total number of votes credited to those candidates at the first transfer at which they had an unequal number of votes, and the candidate with the lowest number of votes at that transfer shall be excluded, and where the numbers of votes credited to those candidates were equal at all transfers, the Vice-Chancellor shall decide by casting lots which shall be excluded.

32 (1) Whenever any transfer made under any of the preceding statutes, each sub-parcel of papers transferred shall be added to the parcel, if any, of papers of the candidate to whom the transfer is made, and that candidate shall be credited with one vote in respect of each paper transferred. Such

papers as are not transferred shall be set aside as finally dealt with and the votes given thereon shall thenceforth not be taken into account.

(2) If after any transfer a candidate has a surplus, that surplus shall be dealt with in accordance with and subject to the provisions contained in section 30 before any other candidate is excluded.

33 (1) When the number of continuing candidates is reduced to the number of vacancies remaining unfilled the continuing candidates shall be elected.

(2) When only one vacancy remains unfilled, and the votes of some one continuing candidate exceed the total of all the votes of the other continuing candidates together with any surplus not transferred, that candidate shall be elected

(3) When the last vacancies can be filled under this statute, no further transfer of votes need be made

34 The Vice-Chancellor shall then declare the names of the candidates who have been duly elected. Declaration of the result.

35 Any candidate or his agent may at any time during the counting of votes, either before the commencement or after the completion of any transfer of votes (whether surplus or otherwise), request the Vice-Chancellor to re-examine and re-count the papers of all or any candidates (not being papers set aside at any previous transfer as finally dealt with) and the Vice-Chancellor shall forthwith re-examine and re-count the same accordingly The Vice-Chancellor may also at his discretion recount votes either once or more often in any case in which he is not satisfied as to the accuracy of any previous count provided that nothing herein shall make it obligatory on the Vice-Chancellor to recount the same votes more than once.

36. In the above statutes— Definitions.

(1) "continuing candidate" means any candidate not elected and not excluded from the poll;

(2) "first preference" means the figure "1", "second preference" means the figure "2" and "third preference" means the figure "3", set opposite the name of any candidate, and so on;

(3) "transferable paper" means a voting paper on which a second or subsequent preference is recorded for a continuing candidate,

(4) "non-transferable paper" means a voting paper on which no second or subsequent preference is recorded for a continuing candidate;

Provided that a paper shall be deemed to be a non-transferable paper in any case in which

(a) the names of two or more candidates (whether continuing or not) are marked with the same figure and are next in order of preference; or

(b) the name of candidate next in order of preference (whether continuing or not) is marked

(i) by a figure not following consequently after some other figure on the voting paper; or

(ii) by two or more figures;

(5) "original vote" in regard to any candidate means a vote derived from a voting paper on which a first preference is recorded for that candidate;

(6) "transferred vote" in regard to any candidate means a vote derived from a voting paper on which a second or subsequent preference is recorded for that candidate;

(7) "surplus" means the number of votes by which the total number of the votes, original and transferred, credited to any candidate exceeds the quota.

37. The Vice-Chancellor shall prepare a form showing—

(1) the number of electors who voted,

(2) the number of voting papers rejected,

(a) as being received too late,

(b) for being sent by ordinary post or in other than the prescribed ways,

(c) for irregularities connected with the declaration,

(d) as invalid.

38. **FORM I**

DECLARATION PAPER.

Election to the Senate.

Registeed Graduates Constituency.

Serial No.

Elector's name and number on the register.

Elector's Declaration.

I..... . .. ...(name in full and designation) declare that I am a Registered Graduate for this constituency and have signed no other voting paper at this election for this constituency.

Signature.

Address.

Dated.

Station.

FORM II

VOTING PAPER.

CONSTITUTION OF THE SENATE.

Election by Registered Graduates.

Mark order of preference in spaces below.	Names of candidates.

DIRECTIONS FOR THE GUIDANCE OF THE VOTER.

Vote by placing the figure 1 in the space opposite the name of the candidate who is your first choice. You may also place the figure 2 in the space opposite the name of the candidate who is your second choice, and the figure 3 in the space opposite the name of the candidate who is your third choice; and so on. Crosses must not be used.

A voting paper is invalid on which—

(a) the figure 1 is not marked; or

(b) the figure 1 is set opposite the name of more than one candidate; or

(c) the figure 1 and some other figure is set opposite the name of the candidate; or

(d) the figure 1 is so placed as to make it uncertain for which candiadte it is intended; or

(e) any mark is placed by the voter by which he may afterwards be identified, e. g, initials or writing of any kind.

Declaration papers need not be attested, but in the case of an elector who is incapacitated from blindness or other physical cause from voting in the manner prescribed above, it shall be competent for him to record his vote by the hand of any of the following officers or other persons.

Magistrates under the Code of Criminal Procedure; Judges of and above the rank of District Munsiffs; District Registrars; Sub-Registrars, District Educational Officers; Deputy Inspectors of schools, Principals of Affiliated Colleges; Headmasters of recognized Secondary Schools and Members of the Senate, or of the Academic Council; and such officer or other person shall, on the declaration paper, certify the incapacity and attest the fact of his having been requested by the elector to make the voting paper for him and of its having been so marked by him in the presence of the elector.

After marking the voting paper, the elector will, in accordance with the instructions given in the letter of intimation sent herewith return the voting paper to the Registrar, Andhra University, Waltair, by *registered post* so as to reach him not later than p.m. on or may in person or by messenger deposit the same in the ballot box provided for the purpose at the office of the University between the hours 11 a m. and 4 p.m on the same day.

If the voter inadvertently spoils a voting paper, he can return it to the Registrar who will, if satisfied of such inadvertence, issue to him another paper

(By Order)

Waltair, Registrar.

Dated

FORM III.

FORM OF FACE OF COVER.

Election to the Senate by Registered Graduates.

To

The Registrar,

Andhra University,

Waltair.

FORM IV

LETTER OF INTIMATION.

Registered Graduates' Constituency.

Sir,

The persons whose names are printed on the ballot papers sent herewith have been nominated as candidates for election to the Senate. Should you desire to vote at this election, I am to request under the direction of the Vice-Chancellor that you will

(a) sign the declaration paper;

(b) mark your vote in the column provided for the purpose in the ballot paper;

(c) enclose the ballot paper in the smaller envelope and close it; and

(d) put the smaller envelope thus closed and the declaration paper in the cover addressed to me and return it to me by *Registered Post* so as to reach me not later than $\frac{\text{١ M}}{\text{P M}}$ on the ....day of 19 or deposit the cover addressed to me in the ballot box provided for the purpose at the University Office between the hours and on the same day.

Voting papers will be rejected—

(1) If they arrive after the hour fixed for the closing of the poll,

(2) If they are not either sent by registered post or deposited in the ballot box at the University Office on the date fixed,

(3) If the outer cover does not contain the declaration paper,

(4) If the declaration paper is put in the smaller envelope with the voting paper,

(5) If the declaration paper is not the one sent by the Registrar; and

(6) If the declaration or attestation is not in order.

Station.

Dated. Registrar.

Act, Sec. 15. Class, III (2).

B. Three persons elected by the Academic Council from among its members.

Academic Council Constituency

39 When a vacancy occurs among the members of the Senate elected by the Academic Council from among its members, the election shall ordinarily be held at a meeting of the Academic Council.

The rules governing the conduct of these elections shall be those laid down in the appendix to this Chapter.

C. *Five persons elected from among themselves by the non-official members of the Legislative Council of Madras, who are residents of any of the districts of Ganjam, Vizagapatam, East Godavari, West Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor.* — Act, Sec. 15 Class III (3),

40. The Hon'ble the President of the Legislative Council shall be requested by the Registrar, under the directions of the Vice-Chancellor, to arrange for filling vacancies arising among the members of the Senate elected by the non-official members of the Legislative Council of Madras who are residents of the University area The election shall be conducted in such manner as the President may determine — Legislative Council Constituency.

D (a) *Two persons elected from among themselves by the Headmasters of Secondary Schools in the districts of Ganjam, Vizagapatam, East Godavari, West Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor, recognised by the Local Government.* — Act, Sec 15. III (4).

(b) *Two persons elected from among themselves by such of the landholders of any of the districts of Ganjam, Vizagapatam, East Godavari, West Godavari, Kistna, Guntur, Nellore, Bellary, Anantapur, Cuddapah, Kurnool and Chittoor, as are included in the electoral roll for the landholders' constituency of the Madras Legislative Council.* — Act, Sec. 15. Class III (6).

(c) *Five persons to represent the chief languages in the University area, chosen by election in such manner as may be prescribed and allotted as follows:*— — Act, Sec, 15, Class III (9),

Telugu	*Two.*
Kanarese	*One.*
Urdu	*One.*
Oriya	*One.*

Representatives of Headmasters, of Landholders and of Languages States.

41. When any vacancy occurs among the members of the Senate elected by the Headmasters of recognized secondary schools in the University area or by the landholders of the University area as are included in the electoral roll for the landholders' constituency of the Madras Legislative Council or by the electors of the representatives of any of the chief languages in the University area, the Registrar, shall, as soon as possible, under the directions of the Vice-Chancellor, cause a notification of the fact to be published in the Gazette.

42. Those persons only whose names are on the electoral rolls of any of the above constituencies on the date of the notification published in accordance with Section 41 above shall be eligible for election by the respective constituencies and entitled to vote thereat Each elector shall be at liberty to nominate a qualified person to fill the vacancy.. Every nomination shall be made by an elector in writing and shall be seconded by another elector Every such nomination shall be accompanied by the consent in writing of the nominee agreeing to serve on the Senate if elected and must reach the Registrar not later than ten days after the publication of the notification in the Gazette.

43 The nomination papers thus received shall be scrutinised on the next working day by the Vice-Chancellor or by the Registrar if deputed by the Vice-Chancellor for the purpose. Every candidate or his agent will be entitled to be present at such scrutiny, and the Vice-Chancellor or the person deputed to scrutinise shall give them all reasonable facilities for examining the nomination papers.

The Vice-Chancellor or the person deputed by him to scrutinise shall examine the nomination papers and shall decide all objections which may be made to any nomination paper on the ground that it is not valid and may reject either of his own motion or on such objection any nomination paper. The decision of the Vice-Chancellor or the person deputed by him to scrutinise shall in every case be endorsed by him on the nomination paper in respect of which such decision is given.

44. If the number of nominees does not exceed the number of vacancies to be filled the Vice-Chancellor shall declare such nominees to be elected.

45. If the number of nominees exceeds the number of vacancies to be filled the Registrar shall forward to each elector a voting paper which shall bear on it the date of posting together with a notice stating the number of vacancies, the date of election, the hour of closing of the ballot and the place and hour of scrutiny and counting of votes. The date of election shall not be less than ten days from the date of posting of the voting papers.

46 The number of nominees for whom each elector may vote may be less, but shall not be more than the number of vacancies to be filled, and any voting paper which contains votes for any number of nominees in excess of the number of vacancies or any mark by which the voter can be identified, such as initials or writng of any kind, shall be treated as invalid.

47. The voting papers, when filled, shall be returned to the Registrar in accordance with the directions thereon given by the Vice-Chancellor to secure the secrecy of the ballot, and so as to reach the Registrar not later than the date and the hour notified for the closing of the ballot Every candidate shall be at liberty to be present at the scrutiny and counting of votes. He shall also be at liberty to depute one person who shall also be an elector to be present at the scrutiny and counting of votes. In the event of equality of votes between any two or more nominees, the final selection of the nominee to fill the vacancy shall be made by the Vice-Chancellor from among the nominess receiving such equality of votes by drawing lots in such manner as he may determine

E. (*a*) *One person elected from among themselves by the members of the municipal councils and taluk boards and such members of the district board as are not members of these bodies in each district in the University area* (*b*) *two persons elected from among themselves by the members*

Representatives of local bodies Act, Sec. 15, Class III (5).

of the municipal councils and taluk boards and such members of the district board as are not members of these bodies in each of the districts of Bellary, Anantapur, Cuddapah, Kurnool and Chittoor.

48. When a vacancy occurs among the members of the Senate elected from among themselves by the members of the municipal councils and taluk boards and such members of the district board as are not members of these bodies in any one district, the Registrar, shall under the directions of the Vice-Chancellor, request the Collector of that district to arrange for an election to fill the vacancy. The election shall be conducted in such manner as the Collector may determine.

Representatives of Donors Act, Sec 15 Class III (8),

F. Every association making a donation of not less than Rs. 20,000 *and every person making a donation of not less than Rs.* 10,000 *to or for the purposes of the University shall be entitled to nominate one person who shall be a member for three years.*

49, Whenever an association makes a donation of not less than Rs. 20,000 or a person makes a donation of not less than Rs. 10,000 to or for the purposes of the University, the Registrar, under the directions of the Vice-Chancellor, shall request the association or person concerned to nominate one person to serve as a member of the Senate for a period of three years.

In case where a vacancy occurs within this period of three years, the Registrar shall request the association or person concerned to nominate one person to fill the vacancy thus caused.

G. Every association or person making an anual contribution of not less than Rs. 3,000 *to or for the purposes of the University shall be entitled to nominate one member who shall be a member so long as the annual contribution continues.*

50. The Registar shall maintain a register of every association or person making an annual contribution of not less than Rs. 3,000 and shall request each association or person thus contributing to nominate one member to the Senate.

In the case of a vacancy occurring while the contribution continues, the Registrar shall, under the directions of the Vice-Chancellor, take steps to cause the vacancy to be filled by nomination by the association or person entitled to nominate

SYNDICATE

Statutes.

(*a*) *Five persons elected by the Senate from among its members.* — Act, Sec. 18 Class II (1) & (2).

(*b*) *Three persons elected by the Academic Council from among its members.*

51. When a vacancy occurs among the members of the Syndicate elected from among themselves by the members of Senate or the Academic Council, the election shall be held ordinarily at a meeting of the Senate or the Academic Council as the case may be.

The rules governing the conduct of these elections shall be those laid down in the appendix to this Chapter

THE ACADEMIC COUNCIL

Statutes

Three persons who are not teachers elected by the Senate from among its members. — Act, Sec. 22 (1) Class II (1).

52. When a vacancy occurs among the members of the Academic Council elected from among themselves by the members of the Senate, the election shall be held ordinarily at a meeting of the Senate.

The rules governing the conduct of these elections shall be those laid down in the appendix to this chapter.

APPENDIX

Rules relating to Elections held under-

(a) Section 15, Class III, (2),
(b) Section 18, Class II, (1),
(c) Section 18, Class II, (2),
(d) Section 22 (1) Class II, (1),

of the Andhra University Act, 1926.

Notification.

1. Whenever an election has to be conducted under any of the above sections of the Andhra University Act, the Registrar shall, under the direction of the Vice-Chancellor, cause a notification of the fact to be published in the Gazette

Nomination.

2 Each elector shall be at liberty to nominate a qualified person to fill a vacancy Every nomination shall be made by an elector in writing and shall be seconded by another elector. Every such nomination shall be accompanied by the consent in writing of the nominee to serve on the body to which the election is to be made if elected, and must reach the Registrar not later than the time and hour fixed in the notification which shall ordinarily be not less than ten days from the date of such notification.

Scrutiny of nomination papers.

3 The nomination papers thus received shall be scrutinised on the next working day by the Vice-Chancellor or by the Registrar authorised by him for the purpose Every candidate or his agent will be entitled to be present at such scrutiny, and the Vice-Chancellor or the person deputed to scrutinise shall give them all reasonable facilities for examining the nomination papers.

The Vice-Chancellor, or the Registrar authorised by him to scrutinise, shall examine the nomination papers and shall decide all objections which may be made to any nomination paper on the ground that it is not valid and may reject either of his own motion or on such objection any nomination paper The decision of the Vice-Chancellor or the Registrar authorised by him to scrutinise shall in every case be endorsed by him on the nomination paper in respect of which such decision is given.

4 If the number of nominees does not exceed the number of vacancies to be filled, the Vice-Chancellor shall declare such nominees to be elected.

Election.

5 If on the expiration of such period, the number of candidates exceed the number of vacancies, the Vice-Chancellor will hold the election on the next meeting day of the authority electing

6 The Registrar shall act as the Returning Officer and shall, subject to these rules, do all things necessary for the conduct of the election.

7 The voting shall be by ballot All members shall be entitled to vote No vote shall be given by proxy.

Ballot paper

8 The Returning Officer shall ascertain that the person desiring to vote is a member who has not already voted and shall enter his name upon the counterfoil of ballot paper in a ballot paper book which shall be provided for the purpose of the election and shall then tear out the ballot paper corresponding to that counterfoil and, having initialled the ballot paper on the back thereof, shall hand it to the member Every ballot paper shall contain the names of all candidates for election.

9 When a member has received a ballot paper, he shall mark thereon for whom he intends to vote by putting × against the names of persons he intends to vote for The number of nominees for whom each elector may vote may be less than or equal to, but shall not be more than the number of seats to be filled The member shall then fold the ballot paper and drop it in a ballot box to be placed in front of the Returning Officer.

10 If a member inadvertently spoils a ballot paper, he may return it to the Returning Officer who shall if satisfied of such inadvertence, give him another paper and retain the soiled paper and this soiled paper shall be immediately cancelled and the fact of such cancellation shall be noted on the counterfoil.

11 A ballot paper shall be invalid—

(a) if a member signs him name or writes any word or makes any mark by which it becomes recognisable; or

(b) if it does not bear the initials of the Returning Officer; or

(c) if any mark other than × is used to indicate the candidate for whom the member wishes to vote; or

(d) if the mark × is placed against more names than the number of vacancies to be filled.

Scrutiny and counting of votes.

12. The scrutiny of voting papers and counting of votes shall be done either on the day of the voting or the next working day as the Vice-Chancellor may fix Every candidate shall be at liberty to be present at the scrutiny and counting of the votes.

13. In the event of an equality of votes between any two or more nominees the final selection of the nominee to fill the vacancy shall be made by the Returning Officer from among the nominees receiving such equality of votes by drawing lots in such manner as he may determine.

14 Subject to Section 27 of the Act the decision of the Vice-Chancellor in all cases of disputes shall be binding on the parties concerned and shall be final.

CHAPTER XXXI

CO-OPTATION TO THE ACADEMIC COUNCIL

(*Regulations*)

1. When a vacancy occurs among the co-opted members of the Academic Council the Vice-Chancellor shall summon a meeting of the Academic Council as constituted under Sub-clause (1) of Section 22 of the Act after giving due notice of at least 15 days to the members

2. The vacancy shall be filled by co-optation at the meeting.

CHAPTER XXXII

TRANSITORY STATUTES

Holding of examinations by Andhra University.

1. The Andhra University shall hold as from 1927 all University examinations with the reservation contained in para 3 below, for which any college or institution in the University area is preparing students after having been duly affiliated or recognised in the subjects concerned, and it shall not be competent for the Madras University to hold these examinations in the University area

Names of Examinations.

2. The following are the examinations which will be held under para 1 above by the Andhra University as from 1927 —

(a) Intermediate Examination.

(b) B. A. Degree Examination.

(c) B Ed Degree Examination.

(d) Oriental Titles Examinations.

Medical Examinations.

3. Students who joined the Medical College, Vizagapatam, prior to the commencement of the Act shall be entitled to be provided with courses of instruction in accordance with the Regulations prescribed by the Madras University and may appear for the Medical examinations of either the Madras University or the Andhra University, provided, however, they shall not claim to be entitled to appear for examinations of the Andhra University if no such examinations are conducted by it.

Students who have joined the Medical College at Vizagapatam subsequent to the date on which the Andhra University Act came into operation will be required to take the examinations conducted or approved by the Andhra University.

Fees

4 The fees for admission to the University examinations shall be those prescribed in Chapter XXV of the Code.

CHAPTER XXXIII

TRANSITORY REGULATIONS

1. Candidates entitled to be admitted for the whole or any part of the Intermediate or B.A. Degree Examinations held by the Madras University *in or prior to* 1926 will be eligible for admission similarly to the whole or a part of the respective examinations conducted by the Andhra University provided that they had qualified to take these examinations as students or ex-students of colleges affiliated to the Andhra University and provided they had not appeared for any part of the examinations of the Madras University after 1926.

2 If a candidate has passed any one part of the Intermediate or B.A Degree Examination in the Madras University and passes in the other part in the Andhra University he shall be deemed to have passed the whole examination in the Andhra University.

CHAPTER XXXIV

COMMITTEE OF SELECTION FOR APPOINTMENT OF UNIVERSITY TEACHERS

Constitution.

1. Appointment of University Teachers shall be made by the Syndicate on the recommendation of a Committee of Selection constituted as follows:—

(i) The Vice-Chancellor (*Chairman*);

(ii) The Director of Public Instruction, Madras;

(iii) The Chairman of the Board of Studies in the department of knowledge concerned;

(iv) Two members elected by the Academic Council from among themselves provided that no one who is a member of the Syndicate serving in the Council shall be so elected;

(v) Two members elected by the Senate from among themselves provided that no member who is a member of the Syndicate, or the Academic Council, or who belongs to the teaching profession shall be so elected;

(vi) The University Professors in the department concerned;

(vii) Two experts to be nominated *ad hoc* by the Syndicate in respect of each selection to be made.

No member of the Committee who is an applicant for a post under the consideration of the Committee shall take part in the deliberations of that body so far as that post is concerned.

All vacancies shall be duly advertised and applications called for. All such applications should be considered by the Committee of Selection before making its recommendation to the Syndicate.

Provided however it shall be competent for the Syndicate, on the recommendation of the Committee of Selection empanelled

as above, to offer University Teacherships to eminent savants without advertising the places.

2. The election of the representatives of the Senate and the Academic Council shall be held in accordance with the Rules laid down in the appendix to this Chapter. Election.

3. Members elected by the Senate and the Academic Council shall hold office for a period of three years or for the period of their membership of these bodies, whichever is the shorter period. Tenure of office.

APPENDIX

Rules relating to the election of two members each by the Senate and the Academic Council respectively to the Committee of Selection.

1. Whenever a vacancy occurs among the elected members of the Committee of Selection constituted under Chapter XXXIV of the Code, the Vice-Chancellor shall arrange for the election of a person to fill the vacancy by the Senate or the Academic Council, as the case may be.

2 The election shall be held as far as possible at a meeting of the body concerned but it shall be open to the Vice-Chancellor to have the election conducted by postal voting whenever he deems it to be necessary.

3. In the case of election at meetings the following procedure shall be adopted:—

(a) The Registrar, under the direction of the Vice-Chancellor, shall, twenty days before the date of the meeting at which the election is to be held, notify the members of the vacancy and call upon them to send their nominations. Each member shall be at liberty to nominate a person to fill the vacancy. Each such nomination shall be seconded by another member of the electing authority. The nominating member shall also send at the same time a declaration that he had consulted the person nominated and ascertain that he is willing to serve on the Committee, if elected.

(b) All such nominations should be sent to the Registrar by registered post within 15 days after the date on which the notice calling for nominations was issued.

(c) If the number of nominees does not exceed the number of vacancies to be filled, the Vice-Chancellor shall declare such nominees to have been duly elected.

(d) Otherwise out of the persons thus validly nominated, an election by ballot shall be held at the said meeting of the electing authority and the person getting the largest number of votes shall be declared to have been duly elected.

4. In the case of elections conducted by post the following procedure shall be adopted.—

(a) The Registrar shall call for nominations in the manner prescribed in Section 3(a) and (b) above.

(b) If the number of nominees does not exceed the number of vacancies to be filled, the Vice-Chancellor shall declare such nominees to have been duly elected.

(c) In case the number of nominees exceeds the number of vacancies to be filled, the Registrar, shall, not less than 14 days before the date fixed for the poll, issue through the post a voting paper to each elector containing the names of all persons nominated for election. Each elector shall upon receipt of the paper, if he desires to vote in the election, record his vote on the voting paper and return it to the Registrar so as to reach him not later than the day and the latest hour fixed for the poll. Covers received after such day and hour and covers not sent by registered post shall be rejected. No cover may contain more than one voting paper.

(d) The Vice-Chancellor, or the Registrar in case he is authorised to do so by the Vice-Chancellor, shall scrutinise and count the votes not later than two days after the day of the poll and declare the result immediately after such scrutiny.

5. Where there is an equality of votes between any two or more nominees the counting officer shall cast lots in such manner as he may determine.

CHAPTER XXXV

UNIVERSITY PROFESSORSHIPS, READERSHIPS, LECTURERSHIPS AND OTHER TEACHING POSTS

Classification. Statute.

1. Teachers of the University shall comprise Professors, Readers, Lecturers, Pandits and Munshis, Tutors and Demonstrators.

Conditions of service Act, Sec. 34.

2 (1) Save as otherwise provided, every salaried teacher of the University shall be appointed under a written contract.

(2) The contract shall be lodged with the Registrar and a copy thereof shall be furnished to the teacher concerned

Honorary Teachers, Statute.

3. It shall be open to the Syndicate to appoint Honorary Teachers of the University without salary.

Determination of posts, Statute.

4. The Senate shall have power, on the motion of the Syndicate, to determine from time to time, after considering the proposals of the Academic Council, the Professorships, Readerships, Lecturerships or other Teaching posts that should be instituted

Suspension or abolition of Post. Statute.

5. The Senate shall have power to suspend or abolish any Professorship, Readership, Lecturership or other teaching post after report from the Syndicate and the Academic Council thereon, provided however in the case of a post which is not at the time permanently vacant, no such suspension or abolition shall take effect till after six months notice has been given to the permanent incumbent

Appointment Sec. 19 (c). Act.

6. The Syndicate shall on the recommendation of the Committee of Selection constituted under the Statutes (Vide Chapter XXXIV of the Code) appoint teachers of the University, fix their emoluments, and define their duties and conditions of their service.

Removal. Statute.

7. The Syndicate shall have power, upon sufficient cause shown and after due investigation, to suspend any teacher of the University from office and from the emoluments thereof either in whole or in part for any period not exceeding one year,

or to require him to retire, or to remove him from office and during the suspension of any teacher to make provision for his work. It shall however be open to the teacher concerned to appeal to the Chancellor against the order of the Syndicate provided however the appeal is made within one month after the date of service of the order.

Appeal to Chancellor.

Termination of service. Statute.

8 It shall be competent for the Syndicate to terminate the services of a teacher, if satisfied on the report of a Medical Board appointed by it for the purpose, that the teacher is incapacitated and is likely for a period of not less than one year from the date of the report to continue to be incapable of discharging his duties by reason of his ill-health.

Ordinance.

9. Appointments of University Teachers shall be made on the basis of their original work and research and not merely on the basis of the college record of the applicant.

Ordinance.

10. The salary of a Professor shall ordinarily be Rs. 800-50|2—1,000, of a Reader Rs 400—25—500; of a Lecturer Rs 250—10—350, of a Pandit or Munshi Rs. 150—10—200; and of a Tutor or Demonstrator Rs. 150—10—200.

It shall however be competent for the Syndicate to recruit in special cases teachers on such special terms and for such periods not exceeding five years as may be found necessary

Standing Order.

11. Teachers of the University shall ordinarily be appointed in the first instance on probation for a term not exceeding three years and shall be eligible for confirmation at the end of that period. Teachers so confirmed shall be eligible to hold their appointments until they are 55 years of age subject to the provisions of Sections 5 and 7 of this Chapter.

Standing Order.

12. A Teacher of the University shall not be engaged in remunerative work other than that of his office without the prior sanction of the Syndicate.

Standing Order.

13. Every Teacher of the University shall be required to contribute to the Provident Fund in accordance with the Provident Fund Rules under Chapter XX of the Code.

Standing Order.

14. Teachers of the University shall be required to live in the head-quarters of the University except during the vacation

time and during ordinary or other kind of leave. Permission to leave head-quarters may be granted by the Syndicate or in cases of urgency by the Vice-Chancellor.

15. Teachers of the University shall be entitled to a summer vacation and all gazetted holidays in addition to those, if any, fixed by the Syndicate. Vacation counts as duty. Standing Order.

16 The Syndicate shall have power to grant leave to Teachers of the University and to pay leave allowances in accordance with such Ordinances as may be in force for the time being. Standing Order.

17. Leave cannot be claimed as a matter of right; and when the exigencies of the University so require, discretion to refuse or revoke leave of any description is reserved to the Syndicate. Standing Order.

Casual leave may be granted for not more than five days at a time inclusive of holidays or 10 days in all in an academic year.

Ordinary leave on half salary will be earned by a Teacher of the University at the rate of one month for every academic year, including the summer vacation. Such leave shall not be granted for more than three months at a time ,except on the production of a medical certificate.

The Syndicate shall have power to permit the vacation to be prefixed or suffixed to the ordinary leave.

The Syndicate may grant to University Teachers on reappointment after the expiry of their original term of service, study leave not exceeding one year on half pay.

18. Residential accommodation shall, as far as possible, be provided for members of the teaching staff and in all cases where such accommodation is provided, rent calculated at the rate of 6 per cent on the capital cost of the building subject to a maximum of 10 per cent of the salary shall be recovered from the occupant of the building. Standing Order.

CHAPTER XXXVI

UNIVERSITY LECTURES

(Ordinances)

University lectures

1. The Syndicate shall have power in consultation with the Boards of Studies, and where this is not possible, with the Chairmen thereof, to make from time to time arrangements for lectures or courses of lectures on such subjects as the Syndicate may select or approve.

Character of lectures

2. The lectures to be arranged for under this scheme should be of an advanced character embodying either the researches of the Lecturer himself or the latest researches in the subject chosen.

Honorarium

3. It shall be competent for the Syndicate to grant such honoraria as it might decide to the Lecturers.

Publication.

4. The right of publication of the lectures shall vest in the University, provided however that such a right shall be deemed to have lapsed if the University does not take steps within one year of the date of the delivery of the lectures to have them published.

CHAPTER XXXVII

MATRICULATION

(Regulations.)

Matriculation of S. S L C. holders

1. Subject to such rules and directions as the Syndicate may issue from time to time, holders of completed Secondary School Leaving Certificates issued under the authority of the Government of Madras or such other authority as may have been accepted by the Syndicate, may be admitted by the Head of an affiliated college to a University course of study, and when so admitted shall be registered as Matriculates of the University. Women holders of such certificates who wish to study privately for the Intermediate Examination may submit their certificates to the Syndicate, and the Syndicate, if satisfied with their certificates, shall order their registration as Matriculates of the University.

Matriculation of those other than S. S. L. C. holders.

2. Other candidates for Matriculation shall be required to pass some other examination accepted by the Syndicate as equivalent thereto*.

Register of Matriculates.

3. The Registrar shall maintain a register of all the Matriculates of the University.

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* Note. The following examinations have been recognised by the Academic Council, in accordance with Section 37 (1) of the Act, as equivalent to the Matriculation Examination of the Andhra University:—

S.S.L.C. Public Examination conducted by the Local Government.
European High School Examination.
Matriculation Examination of any other Statutory Indian University.
Mysore S S.L C. Examination.
Hyderabad (Deccan) High School Leaving Certificate Examination (1st and 2nd Class Certificates only)
Travancore E. S. L. C. Examination.
Royal Indian Military College Diploma.
Cambridge Senior Certificate Examination.
London Matriculation Examination.
Oxford School Certificate Examination.
Dufferin Final passing out Certificate Examination.

CHAPTER XXXVIII

MATRICULATION EXAMINATION

(Regulations)

Conditions of admission.

1. No candidate shall be admitted to the Matriculation Examination unless he shall have completed the age of fifteen years on or before the first day of the examination; provided that the Syndicate may exempt from the operation of this Regulation any candidate who is specially recommended for such exemption by the Head Master of the school of which he is a pupil and who produces a certificate of physical fitness from a registered Medical Practitioner. Applications for such exemption must be forwarded so as to reach the Registrar before the 1st of December preceding the examination

2. Unless specially exempted by the Syndicate no candidate who is not a pupil of a recognized high school shall be permitted to appear for the examination.

3. A candidate who fails to pass the examination on the first occasion shall, on the next occasion on which he seeks admission to the examination, forward a second certificate in the form prescribed under Regulation 8 of Chapter LIX No further certificates need be produced for subsequent appearances

Recognition of Schools

4. Schools falling under any of the following classes shall be recognized by the University:—

(a) Schools recognized by the Director of Public Instruction of Madras as teaching up to Matriculation standard.

(b) Schools in Ceylon certified by the Director of Public Instruction, Ceylon to be organized and conducted so as to ensure efficient training up to the standard of the Matriculation Examination.

(c) Schools in Indian States of Southern India certified by the Darbars of the States in which they are situated to be organized and conducted so as to ensure efficient training up to the standard of the Matriculation Examination.

Exemption from attendance certificate.

5. The Syndicate shall have the power to exempt from the production of the prescribed certificate of attendance (a) candidates who hold completed Secondary School-Leaving Certificates issued under the authority of the Government of Madras or such other authority as may have been accepted by the Syndicate and who have twice appeared for the Final Examination qualifying for such certificates and (b) candidates who, during the previous three years, have been educated privately or in schools outside the territorial limits of the Andhra University, and (c) women candidates, provided that in each case they produce satisfactory evidence that they are of good character and that they have received suitable instruction. Applications for exemption from the production of the certificate of attendance should be forwarded so as to reach the Registrar before the 1st October preceding the examination.

Courses of study and Subject for Examination.

6. The examination shall comprise five divisions. (i) English Language, (ii) Second Language, (iii) Mathematics. (iv) Elementary Science, (v) History and Geography.

(*i*) *English Language.*

Text books shall be prescribed, of which a detailed knowledge may be required.

There shall be two-papers set upon the English language: one paper of two-and-half hours' duration, which shall be mainly upon the prescribed texts, and shall be designed to test the candidate's proficiency in composition and his knowledge of grammar and idiom; and one paper of two-and-a-half hours' duration, which shall consist of (a) composition and paraphrase not based on the texts, and (b) the conversion, expansion, and condensation of sentences. Some of the exercises in the second paper shall be based on the texts. Paraphrase shall be treated as a test of the candidate's power to understand and give the general meaning of passages of prose and poetry.

(*ii*) *Second Language.*

One of the following languages at the option of the candidate:—

(a) Classical—Sanskrit, Arabic, Persian.

(b) Foreign—French, German.

(c) Modern Indian Languages—Telugu, Kannada, Tamil, Oriya, Sinhalese, Hindi, Urdu, Marathi, Malayalam.

In each classical or foreign language there shall be one paper of three hours' duration divided into two parts, of which the first shall contain passages for translation from the text-books and questions on grammar and idiom, and the second shall contain unseen passages for translation from the selected language into English and from English into the selected language. To the second part of the paper not less than half the total number of marks shall be assigned.

In each of the modern Indian languages there shall be one paper of three hours' duration divided into two parts, of which the first shall contain questions on the text-books and on grammar and idiom, and the second part shall consist of original composition. The text prescribed shall be mainly in modern prose. To the second part of the paper not less than half the total number of marks shall be assigned.

(iii) Mathematics.

There shall be two papers set in Mathematics, one in Arithmetic and Algebra of three hours' duration, and the other in Geometry of two-and-a-half hours' duration.

(a) *Arithmetic.*—The principle and processes of Arithmetic applied to whole numbers and vulgar and decimal fractions The metric system. Approximations to a specified degree. Contracted methods of multiplication and division of decimals. Practice, ratio and proportion. Square and cubic measure. Direct application of the term *per cent*; including interest, present-worth, profit and loss, exchange Square root.

(b) *Algebra.*—Symbolical expression of general results in Arithmetic. Algebraical laws and principles and their

applications. Factorization of simple functions Equations, conditional and identical. Equations of the first degree in one, two and three variables and the principles involved in their solution. Solution of problems by means of such equations Equations of the second degree in one variable and the principles involved in their solution. Theory of positive integral indices Square root Graphs of simple algebraic functions A working knowledge of logarithms (a knowledge of the theory is not required.)

(c) *Geometry—Experimental*—Construction of lines, angles, circles, perpendiculars, parallels, tangents, chords, triangles and regular polygons from given data Division of lines in given ratios Bisection of angles Graphical extraction of Arithmetical square roots.

Theoretical—Angles at a point Parallel straight lines. Triangles and rectilinear figures Areas Ratio and proportion of similar triangles Simple loci Elementary propositions on circles Proofs of the constructions in Experimental Geometry. Easy deductions.

A detailed syllabus in Geometry will be prescribed from time to time.

(*iv*) *Elementary Science.*

There shall be one paper of three hours' duration in Elementary Science comprising Elementary Physics and Elementary Chemistry, as defined in a syllabus.

(*v*) *History and Geography.*

There shall be two papers set in History and Geography each of two hours' duration.

1. *History.*

(1) Outlines of the History of Great Britain and Ireland—a period or periods, as defined in a syllabus, to be prescribed each year.

(2) Outlines of the History of India—a period or periods, as defined in a syllabus, to be prescribed each year.

2 Geography—

(1) Geography of India, Great Britain and Ireland, as defined in a syllabus.

(2) Geography of Europe, Asia, Africa, America and Australia, as defined in a syllabus.

Marks qualifying for a pass.

7. A candidate shall be declared to have passed the examination if he obtains not less than forty per cent of the marks in the English language and not less than thirty-five per cent of the marks in each of the remaining divisions, provided that a candidate who fails to obtain the required minimum in one subject only but who passes in English and gains fifty per cent of the total number of marks shall be declared to have passed. All other candidates shall be deemed to have failed in the examination.

Classification of successful candidates.

Successful candidates who obtain not less than sixty per-cent of the aggregate marks shall be placed in the first class and ranked in the order of proficiency as determined by the total marks obtained by each Successful candidates who obtain less than sixty percent and not less than fifty percent of the aggregate shall be placed in the second class and ranked in the order of proficiency as determined by the total marks obtained by each. All other candidates who pass shall be placed in the third class.

SYLLABUSES

I. THEORETICAL GEOMETRY

Theoretical Geometry.

Angles at a point.—If a straight line stands on another straight line, the sum of the two angles so formed is equal to two right angles; and the converse.

If two straight lines intersect, the vertically opposite angles are equal.

Parallel straight lines.—When a straight line cuts two other straight lines, if

(i) a pair of alternate angles are equal, or

(ii) a pair of corresponding angles are equal, or

(iii) a pair of interior angles on the same side of the cutting line are together equal to two right angles,

then the two straight lines are parallel; and the converse.

Straight lines which are parallel to the same straight line are parallel to one another.

Triangles and rectilinear figures.—The sum of the angles of a triangle is equal to two right angles.

If the sides of a convex polygon are produced in order the sum of the angles so formed is equal to four right angles.

If two triangles have two sides of the one equal to two sides of the other, each to each, and also the angles contained by those sides equal, the triangles are congruent.

If two triangles have two angles of the one equal to two angles of the other, each to each, and also one side of the one equal to the corresponding side of the other, the triangles are congruent.

If two sides of a triangle are equal, the angles opposite to these sides are equal; and the converse

If two triangles have the three sides of the one equal to the three sides of the other, each to each, the triangles are congruent.

If two right-angled triangles have their hypotenuses equal and one side of the one equal to one side of the other, the triangles are congruent.

If two sides of a triangle are unequal, the greater side has the greater angle opposite to it; and the converse.

Of all the straight lines that can be drawn to a given straight line from a given point outside it, the perpendicular is the shortest.

The opposite sides and angles of a parallelogram are equal; each diagonal bisects the parallelogram, and the diagonals bisect one another.

If there are three or more parallel straight lines, and the intercepts made by them on any straight line that cuts them are equal, then the intercepts made by them on any other straight line that cuts them are also equal.

Areas.—Parallelograms of the same altitude on the same or equal bases are equal in area.

Triangles of the same altitude on the same or equal bases are equal in area.

Equal triangles on the same or equal bases are of the same altitude.

Illustrations and explanations of the geometrical theorems corresponding to the following algebraical identities —

$$k(a+b+c+\cdots) = ka+kb+kc+\cdots$$
$$(a+b)^2 = a^2+2ab+b^2$$
$$(a-b)^2 = a^2-2ab+b^2$$
$$a^2-b^2 = (a+b)(a-b)$$
$$(a+b)^2-(a-b)^2 = 4ab$$
$$(a+b)^2+(a-b)^2 = 2a^2+2b^2$$

The square on a side of a triangle is greater than, equal to or less than the sum of the squares on the other two sides, according as the angle contained by those sides is obtuse, right or acute. The difference in the cases of inequality is twice the rectangle contained by one of the two sides and the projection on it of the other.

Loci.—The locus of a point which is equidistant from two fixed points is the perpendicular bisector of the straight line joining the two fixed points

The locus of a point which is equidistant from two intersecting straight lines consists of the pair of straight lines which bisect the angles between the given lines

The locus of the vertices of all triangles which have the same base and the sum of squares of their sides equal to a given square is a circle having its centre at the middle of the base.

The locus of the vertices of all the triangles which have the same base and the difference of the squares of their sides equal to a given square is a straight line perpendicular to the base.

The locus of the vertices of all the triangles which have the same base and their vertical angles equal to a given angle is the arc of a segment of a circle.

The Circle—A straight line drawn from the centre of a circle to bisect a chord which is not a diameter, is at right angles to the chord; conversely, the perpendicular to a chord from the centre bisects the chord.

There is one circle and one only, which passes through three given points not in a straight line

In equal circles (or, in the same circle) (i) if two arcs subtend equal angles at the centres, they are equal; (ii) conversely, if two arcs are equal they subtend angles at the centres.

In equal circles (or, in the same circle) (i) if two chords are equal, they cut off equal arcs; (ii) conversely, if two arcs are equal, the chords of the arcs are equal.

Equal chords of a circle are equidistant from the centre; and the converse.

The tangent at any point of a circle and the radius through the point perpendicular to one another.

If two circles touch, the point of contact lies on the straight line through the centres.

The angles which an arc of a circle subtends at the centres is double that which it subtends at any point on the remaining part of the circumstance.

Angles in the same segment of a circle are equal; and if the line joining two points subtends equal angles at two other points on the same side of it, the four points lie on a circle.

The angle in a semi-circle is a right angle; the angle in a segment greater than a semi-circle is less than a right angle; and the angle in a segment less than a semi-circle is greater than a right angle.

The opposite angles of any quadrilateral inscribed in a circle are supplementary, and the converse.

If a straight line touch a circle, and from the point of contact a chord be drawn the angles which the chord makes with the tangent are equal to the angles in the alternate segments.

If two chords of a circle intersect either inside or outside the circle, the rectangle contained by the segments of the one is equal to the rectangle contained by the other; and the converse.

Ratio and Proportion.—(a) Definition and elementary theorems connecting the antecedents and consequents

A given straight line can be divided internally in a given ratio at one and only one point and externally at one and only one point.

A straight line drawn parallel to one side of a triangle cuts the other two sides or those sides produced, proportionally; and the converse.

If the vertical angle of a triangle is bisected internally or externally the bisector divides the base internally or externally into segments which have the same ratio as the other sides of the triangle; and the converse.

In equal circles, angles, whether at the centres of circumferences, have the same ratio as the arcs on which they stand.

If two triangles have one angle of the one equal to one angle of the other, their areas are proportional to the rectangles contained by the sides about the equal angles. Similarly for parallelograms having one angle of the one equal to one angle of the other.

Similar Triangles.—If two triangles are equiangular, then their corresponding sides are proportional; and the converse.

Two triangles which have one angle of the one equal to one angle of the other and the sides about these equal angles proportional are similar.

The areas of similar triangles are in the ratio of the squares of the corresponding sides.

ELEMENTARY SCIENCE (a) PHYSICS (b) CHEMISTRY

Elementary Science.

[*The examination shall test whether the subjects included in the following syllabus have been taught by the aid of the experimental demonstrations—wherever this is possible. The application of physical and chemical facts and principles to experience in ordinary life should receive particular attention.*

It is desirable that, as far as the accommodation and equipment of the school will allow, pupils receive practical instruction in the physical and chemical processes included in the syllabus]

(a) Physics.

a *Physics*—Measurement of length Meaning of a unit and the measurement of a physical quantity. British and metric units, their multiples and sub-multiples Derived units of area and volume Measurement of area and volume.

Measurement of time Unit of time. Rotation of the earth Measurement by simple pendulum.

Speed its measurement involving length and time; calculation of speed in given cases. Elementary ideas regarding acceleration. Illustration of First Law of Motion; definition of force.

Matter· definitions. Measurement of mass. British and metric unit; determination of mass by spring balance, and by ordinary balance. Density and specific gravity.

Gravitation All matter attracted by the earth; illustration of Second Law of Motion, attraction is mutual; illustration of Third Law of Motion. Universality of gravitation. Weight of a body. Distinction between mass and weight.

Properties of matter, extension, inertia, gravitation, divisibility, porosity, hardness, elasticity, transparency and opacity,

cohesion, ductility, malleability, brittleness, plasticity, viscosity. The three states of matter. Changes of state produced by heating and cooling. Permanent and temporary effects of heating different substances, effects on organic substances, tempering of metals.

Simple machines. The lever: its general principle and application to the common balance, and the wheel and axle The pulley, and the inclined plane application to the screw.

Centre of gravity; definition Experimental determination of centre of gravity in simple cases Condition of equilibrium of a body resting in a given position, stable, unstable and neutral equilibrium. The common balance, how mass is measured by weighing.

Solids. Permanence of shape and volume which are only altered by application of forces.

Liquids. no permanent shape Surface of liquid at rest horizontal. Pressure defined In fluids it acts in all directions and is greater at greater depths Transmission of pressure and its evaluation. Bramah Press The principle of Archimedes; its experimental proof and applications.

Gases: how distinguished from liquids Gases have weight. Balloons. Pressure of the atmosphere, the mercury barometer; variation of atmospheric pressure with height proved by mercury barometer; the water barometer Evaluation of pressure of atmosphere by means of barometer; applications. Air-pump; Water pump. Pressure of a gas: Boyle's Law.

Temperature. Liquids expand by heat; the special case of water. Thermometer used for measuring temperature by observing change of volume of liquid. The mercury thermometer; method of graduating; determination of fixed points; fundamental interval; the Centigrade and Fahrenheit scales. Thermal expansion of solids, liquids and gases.

Distinction between heat and temperature. Heat as a quantity and how it may be measured; the thermal unit; specific heat. Changes of physical state due to heat. Fusion and latent

heat of fusion; evaporation and ebullition and latent heat of evaporation Water vapour present in the atmosphere and determination of its amount. Cooling produced by solution and evaporation; freezing mixtures The conduction and convection of heat; convection currents in the atmosphere and ocean; the trade winds; land and sea breezes and gulf stream The circulation of water vapour in the atmosphere, clouds, rain

Light. Rectlinear transmission. Rays and pencils of light, shadows etc produced by different sources, and images of sources produced by pin-holes The laws of reflection of rays of light; reflection of pencils by plane mirrors and images formed by plane mirrors Direct reflection of pencils from concave spherical mirrors, experimental proof of law of distances The laws of refraction of light; refraction of rays through a plate and a prism Refraction through a convex lens, experimental proof of law of distances, the principal focus of a lens Image formed by a convex lens; the simple microscope · the photographic camera, the telescope. Analysis of white light by a prism; the method of producing, and order of colours in the spectrum The spectrum of sun light, and of candle light. Recombination of the colours of the spectrum into white light.

Electrification by friction; positive and negative electrifications Laws of attraction and repulsion. Conductors and non-conductors Simple voltaic cell; Grove's cell Electric current. Magnetic effects of currents in straight and coiled wires Simple galvanometer. Heating effects of currents. Simple facts of electrolysis.

Magnetic substances. Laws of magnetic attraction and repulsion. Magnetic induction. Methods of magnetization.

Graphic representation by use of squared paper of the relation between any two of the physical quantities referred to in the syllabus.

b. Chemistry.—Examples of mixtures and solutions; (1) sand and sugar, (2) sulphur and iron filings, (3) sand and salammoniac, (4) copper sulphate and water. Explanation of the processes of separating the ingredients of these mixtures, (b) Chemistry

filtration, decantation, mechanical or magnetic separation, evaporation, distillation, sublimation.

Chemical compounds Characteristic differences between compounds and mixtures; illustrations.

Chemical combination illustrated by (1) candle burning in air, (2) sulphur burning in air, (3) magnesium wire burning in air, (4) quick lime combining with water.

Chemical decomposition illustrated by (1) heating mercuric oxide, (2) action of sodium on water, (3) heating potassium chlorate, (4) heating lead nitrate.

Iron in contact with air and water is converted into rust. Rusting is oxidation. Copper, lead, mercury, magnesium, sulphur and phosphorus also oxidize, but their oxidation takes place at different temperatures Rapid oxidation Combustion of candle, the products of the combustion are heavier than the candle itself One of these products is a gas which turns lime-water milky and it is the same product which is obtained when charcoal burns in air Water is another product of the combustion Similar observation may be made and similar conclusions deduced when oil burns in air. Structure of a candle flame

The rust or oxide is always heavier than the substance from which it is formed When a substance (e g iron or phosphorus) oxidises in a confined volume of air about one-fifth of the air ultimately disappears. Remaining air is inactive (e g, candle will not burn in it) Composition of air has two components: active (oxygen) and inactive, (nitrogen).

Oxygen; its discovery: its mode of preparation and properties. Oxides; products formed when a candle, charcoal, sulphur, phosphorus, sodium or iron burns in Oxygen Burning in oxygen and air compared. Illustrations of acid and alkaline properties.

Hydrogen produced by the action of sodium on water. Products of the decomposition. Same gas is produced when dilute sulphuric acid or hydrochloric acid on zinc, or on iron. Pro-

perties of hydrogen; its density, and its combustion with air or oxygen. Water the sole product of this combustion.

Elements and compounds. Two ways of determining the composition of compounds (i) by synthesis, (ii) by analysis, illustrated by the case of water. Synthesis of water (1) by burning hydrogen in air or oxygen, (ii) by passing hydrogen over heated copper oxide Analysis or decomposition (1) by action of sodium on water, (ii) by passing steam over red hot iron filings, and (iii) by electric current Composition of water by weight and by volume Constancy of composition of chemical compounds illustrated by the case of water Solvent action of water, crystallization, forms of crystals, water Solvent action Solubility of gases in water, carbonic acids gas, air, and oxygen Soda water, spring, river, well and sea water Suspended and dissolved impurities. Purification by distillation Extraction of salt from sea water by evaporation, salt pans

Carbon, the different forms in which it occurs, their properties and uses Carbon burnt in air or oxygen produces carbon dioxide. This gas is always formed when candles, oil, etc, burn. Its preparation and properties Action on lime-water exhaled by living animals, action of plants on carbon dioxide Solution of carbon dioxide in water and properties of the solution. Hard and soft water, permanent and temporary hardness Methods of softening hard water.

Nitrogen the inactive constituent of air; preparation and properties Two of its important compounds, viz, nitric acid and ammonia.

(a) Nitric acid, its preparation from nitre and sulphuric acid. Its properties; power of dissolving copper and mercury and many other metals. Relations between acids, bases and salts illustrated by (1) nitric acid and caustic soda (2) magnesium oxide and sulphuric acid, (3) lime and hydrochloric acid.

(b) Ammonia, its preparation and properties. Solubility in water, power of neutralizing acids and forming salts, such as ammonium chloride and nitrate; behaviour of these salts on heating.

Hydrochloric acid and chlorine. Treatment of common salt with sulphuric acid and production of hydrochloric acid gas. Properties of this gas, solubility in water Production of chlorine from hydrochloric acid and manganese dioxide Its properties its power of combining with hydrogen and with metals, such as antimony, to form chlorides. Bleaching action of chlorine.

Sulphur, the different forms: their properties The changes induced by heat—when burnt in air or oxygen produces sulphur dioxide Sulphuric acid—its properties and uses

Phosphorus, the different forms, their properties and uses.

Silicon; occurrence in nature. Chief compound silica Occurrence of silica in nature, free and combined as silicates Chief forms of silica, quartz, sandstone, flint.

Metals and non-metals, their general properties.

Sodium and potassium; their occurrence and properties Distinguishing properties of the alkali metals; their more important compounds, common salt, Glaber's salt, washing soda, sodium bicarbonate, caustic soda, potassium carbonate, potassium chlorate, caustic potash, saltpetre, potassium permanganate. Gunpowder.

Calcium. Chief compound calcium carbonate Its occurrence and various forms Limestone burnt into lime in limekilns. Slaked lime. The use of lime in making mortar and plaster.

Calcium sulphate; gypsum and plaster of Paris.

The occurrence, general method of preparation, properties and uses of the following Metals:—

Zinc, iron, copper, mercury, lead and silver. Their chief oxides and their salts which have been used or produced in experiments and illustrations included in the above syllabus.

HISTORY OF GREAT BRITAIN AND IRELAND

History of Great Britain and Ireland.

Pre-Norman Period.—The early inhabitants of Britain: their modern descendants; what languages they speak, where

they live. The Roman occupation, Agricola The coming of the English; their original homes their chief tribes The conversion of the English. Celtic and Roman Christianity the supremacy of the latter, reasons and results, the struggle for supremacy between the Heptarchy Kingdoms· the supremacy of Wessex. The coming of the Northmen. who they were, the results of their coming. The struggle between Wessex and the Northmen· the victory of Wessex Alfred Athelstan Edgar Dunstan The Danish conquest: reasons. Canute. The English line restored.

The Norman and early Plantagenet Period.—The Norman conquest· its causes and effects Character of the Norman kings and of their rule Feudalism The opposition of the baronage to the royal power The anarchy of Stephen's reign. Order restored by Henry II His aims his quarrel with Becket reasons and results The Reforms of Henry II. His foreign possessions extent His quarrel with the barons The loss of Normandy its effects The baronage of a national party struggle with John· the Great Charter The weak rule of Henry III: subservience to the Papacy, foreign favourites The barons' war· Simon de Montfort, his character and aims Revival of the monarchy under Edward I effect of the baronial war seen in his reforms The beginnings of Parliament The conquest of Wales. The attempted conquest of Scotland Scotland and France. Edward II's reign. Bannockburn temporary supremacy of the baronial party

The later Plantagenets—Edward III's reign The Hundred Years' War causes Sluys, Crecy Poitiers the treaty of Bretigny. the Black Prince. Increased power of the Parliament. Social and economic changes: the Black Death its results. Wat Tyler: the peasants' rebellions The attempted autocracy of Richard II his overthrow. Literary activity Langland and Chaucer. The **Lancastrian kings**: the strength of Parliament at the beginning Beginnings of dynastic troubles. Early religious reforming movement· Wycliff: the Lollards. Rebellions against Henry IV Renewal of the Hundred Years' War reasons. Havre, Agincourt the treaty of Troyes The minority of Henry VI· failure in the Hundred Years' War· reasons,

close of Hundred Years' War. effects Renewed social troubles. Outbreak of dynastic Wars of the Roses causes. chief events. Warwick, the King-maker. The Yorkist Dynasty its character and aims reasons for its power The effects of the Hundred Years' War on English political, commercial and social life.

The Tudor Period.—The strength of the Tudor possession of the throne Their despotic rule. The overthrow of rival claimants. The final suppression of the old baronage The creation of a new subservient baronage. The need for peace. Henry VII's policy Henry VIII's character. The career of Wolsey. foreign policy. Ecclesiastical reform the Reformation in England. its causes The overthrow of the Papal authority. The phases of the Reformation in England under Henry VIII, Edward VI, Mary and Elizabeth Comparison with continental Reformation Luther and Calvin Social results of the Reformation the rebellions under Edward VI Elizabeth's Poor Law. The jealously of England and Spain. causes English navigators: the development of English commerce Elizabeth's foreign policy: the war with Spain. its results Literary activity of the sixteenth century its connection with the Reformation and the Renaissance. The three religious parties under Elizabeth —the Roman Catholics the Anglicans· the Puritans their aims and characteristics chief sects of Puritans. The Anglicans supreme· policy of uniformity absence of idea of toleration. The Puritans and royal political supremacy

The Stuarts.—King and Parliament The difference between the absolutism of the Tudors and the Stuarts. Suppression of the Roman Catholics: attempted suppression of the Puritans by James I. Growing hostility to royal power· the influence of Puritanism in the party of opposition The chief points of dispute between the Crown and Parliament. The failure of Charles I's foreign policy: increased opposition met by further claims of the prerogative The Petition of Right Temporary victory of the Crown Renewed opposition over ship money and Laud's religious policy The Bishop's Wars Summons of Parliament. Early acts of Long Parliament. Outbreak of War:

immediate and remote causes. Chief events of the war. The victory of the Parliament: reasons, Breach between the Parliament and the Army The execution of Charles I The Commonwealth · rule of Puritan Minority. Cromwell in Ireland and Scotland. The Protectorate Cromwell's character and aims. Reasons of his success and the failure of his system. The Restoration why possible Net gains of the Rebellion Puritan Literature. Milton. Bunyan The despotic and Catholic policy of Charles II and James II the ministers of Charles II his French intrigues The Whigs and Tories their respective aims. The exclusion Bill. Temporary triumph of absolutism. Its overthrow at the Revolution James's rashness compared with Charles's discretion.

The Bill of Rights the triumph of Parliament. James II in Ireland William III and Scotland. The beginnings of Party Government under William III and Anne the unscrupulousness of party politicians Harly St John Marlborough. The reforms of William III · the Act of Settlement The wars with France causes Marlborough as a general the chief events of the war The treaty of Utrecht. English colonial gains.

The Hanoverian Period.—The Whig supremacy: Reasons for the discredit of the Tories 1715 rebellion The rise and power of Walpole, his policy and methods The establishment of Party Government with Prime Minister and Cabinet. The reasons for Walpole's long tenure of Office The rise of an opposition. The Family Compact hostility with Spain and France: reasons. Overthrow of Walpole Whig supremacy continued with a war policy The rise of the elder Pitt. The war of the Austrian succession. England's share in it Colonial rivalry of France and England The Seven Years' War · its phases: chief events. English gains in 1763 Pitt as a popular minister · his character and aims The colonial policy of Pitt's successors the loss of the American colonies. Chief events. Overthrow of the Whig supremacy, reasons for the weakness of the Whig party Final check to royal control of politics.

The Revolutionary Period.—The Tory rule of the Younger Pitt. Internal reforms and domestic policy of Pitt · comparison with the policy of Walpole. The outbreak of the French Revolution · Pitt forced into war. The revolutionary and Napoleanic wars: Chief events on sea and land. Death of Pitt; his character.

Nelson and Wellington: their careers and characters. Reasons for the success of England at sea The role played by England in resisting the Napoleanic schemes The downfall of Napolean Religious and literary activities of the period Wesley: Burke The industrial development: its nature and causes.

The 19th Century.—(1815-1902) · The influence of the French Revolution in England The great period of reform Economic and social evils: their causes and remedies: riots: socialists movements the Chartists the repeal of corn laws · Sir Robert Peel. Cobden and Bright and free trade factory laws: the spread of education Political reform: the extension of the franchise Cabinet government · municipal reforms. Great ministers of the period Russel Palmerston Disraeli Gladstone · Salisbury. Colonial expansion during the period Wars of the period mainly frontier and colonial the Crimean war · the Boer war causes, results and chief events The life and influence of Queen Victoria Great poets and novelists of the century.

4 INDIAN HISTORY

The Pre-Mussalman Period ·—

Indian History

1. Physical configuration of India. Distribution of land and water, mountains, rivers and the sea. Position in relation to the rest of the world. Historical consequence of the foregoing.

2. The aboriginal and non-Aryan races.

3. The Indo-Europeans (so-called Aryans). Their immigrations and settlement. Aryan culture Social and economic conditions. Caste (till circa 500 B. C.).

4. Social, economic, religious and political conditions in the sixth century B. C. Jainism and Buddhism. The growth of the kingdom of Magadha

5. The satrapy of Darius (circa 500 B C). The invasion of Alexander. Its consequences and results.

6 Breakdown of local independence. The Mauryan Empire Chandragupta Asoka Social, religious and economic conditions under the early Mauryans

7 The disruption of the Mauryan empire. Rivalry between Brahmanism, Buddhism and Jainism and the Prakrit dialects and Sanskrit The Sunga, Kanva and Andhra dynasties (circa A. D. 250.)

8 Foreign influences, invasions and immigrations, Indo-Greek, Indo-Bactrian, Indo-Parthian, and Indo-Scythian dynasties Revival of Buddhism. Kanishka's empire. Graeco-Roman influence The Great Satraps of the West. Religious and social conditions (till circa A D. 300).

9. The Gupta dynasty and empire Brahmanic revival Literary activity Religious and social conditions Fa Hian

10 The Huns, break up of the Gupta empire.

11. The reign of Harshavardhana Social, economic and religious conditions (till circa A. D 650) Hiouen Tsang The early Chalukyan empire in the Dekhan The Pallavas in South India.

12. Minor local dynasties in North India—Kabul, Punjab Sindh; Magadha, Kanouj, Delhi Behar and Bengal Bundelkhand and the Central Provinces. Ajmir, Malwa and Gujarat

13. The empire of the Dekhan to circa A. D 1300—The early Chalukyas, the Rashtrakutas, the later Chalukyas and the Yadavas of Devagiri

14. The South Indian supremacy. The Pallavas. The Chola supremacy. Cheras and Pandyas. The Hoysalas and the Kakatiyas. Economic and social conditions. Dravidian literary and religious activity.

Mediaeval India (to circa 1761) :

1. Early Muhammadan invasions.

2. Mahamud of Ghazni, Mahamud of Ghori. The Slave, Khalji, Tuglakh, Shahi dynasties Social, religious and literary conditions (circa A. D. 1400)

3 Break up of the empire of Delhi Local Muhammadan dynasties in Jaunpur, Bengal, Malwa and Gujarat.

4 The Bahmini kingdom of the Dekhan · its break up, 1526 final conquest and absorption by the Mughal Empire

5 History of the empire of Vijiyanagar till A. D. 1565. The successors of Vijiyanagar to circa 1750.

6 Rajputana till A. D. 1556.

7. The Great Mughals, 1526-1707.

8. The Maharathas to 1714.

9. Routes of Indo-European trade. The Saracen conquests and the results on Indo-European commerce. The age of discovery The Portuguese in India. Albuquerque. Causes of the decline of the Portuguese power in India (till circa 1600).

10. The decline of the Mughal empire 1707-1761. The Maratha conquests, 1714-1761. Rise of the Sikhs. Panipat.

(*Modern India down to the death of Queen Victoria*).

1 Importance of sea power in Indian History Early English attempts to reach India. Rivalry between the Dutch and the English till 1623. The French in India till 1741.

2. The Karnatic wars. Dupleix and Clive. French supremacy in South India. The English in Bengal. The Black Hole tragedy. Plassey Final French attempts. Coote and Lally (till 1761).

3. The administration of Bengal, 1758-1771.

4. Rise of Haidar Ali. The First Mysore war. The revival of the Maratha confederacy Madhava Rau Peshawa (till 1772).

5. Warren Hastings.—English politics and Indian affairs (1748-72). The Regulating Act. Rohillas Benares. The first Maratha and second Mysore wars. Effects of the American war. Suffren on the Indian seas. The First Armed Neutrality Successful end of Hastings' administration. His work. Pitt's India Bill.

6. Cornwallis and Sir John Shore.—The Mysore war Economic and administrative reforms. The policy of non-intervention.

7 Wellesley.—England and revolutionary France War with Tippu The second Armed Neutrality. The battle of Aboukir Bay The Subsidiary System Second and third Maratha wars. Minor reforms. Wellesley's work.

8. Cornwallis and Minto Administrative reforms Conference of Tilsit Capture of Java

9 Marquess of Hastings and Lord Amherst. Ghurka war The Pindari war Last Maratha war. Extinction of the Peshwaship First Burmese war The Bhartpur affair. Internal affairs.

10. Bentinck.—His reforms.

11 Auckland and Ellenborough.—Rise and history of Ranjit Singh. Afghanistan and Punjab The first Afghan war and the 'avenging expedition' Conquest of Sindh. Gwalior affairs.

12 Hardinge and Dalhousie—The first and second Sikh wars Annexation of the Punjab The second Burmese war. The 'doctrine of the lapse.' Dalhousie's annexations. Railway and Telegraph.

13 Canning—The Mutiny Canning's clemency The Queen's proclamation. India under the Crown. Financial and military reforms.

14 India under the Crown to the death of Queen Empress Victoria.

5 GEOGRAPHY

I —South Continents

Australia

1. Relief and Rivers of Australia.

2 Climate of Australia The seasonal distribution of temperature and rainfall.

3. Vegetation and animals, relation between rainfall and natural vegetation, regions of Australia, peculiarity of its animal life

4. Life and work of the people with special reference to (a) East Coast Region, (b) Murray-Darling Basin, (c) Mediterranean regions of West Australia and Victoria.

5 Favourable position for trading with lands around the Pacific and Indian Ocean

Africa.

6. Structure—effect upon the coastline, rivers and lakes of Africa, relief and drainage.

7 Climate and vegetation of Africa, apparent seasonal migration of the sun and the duplication of climatic and vegetation belts North and South of the Equator.

8. Chief Natural Regions of Africa.

9. Peoples of Africa.

10. Trade routes of the Indian Ocean.

South America.

11. Structure and relief; rivers.

12. Climate and vegetation of South America, the effect of a mountain barrier, of a cold current and of altitude upon rainfall and temperature; Andean Zones.

13 Peoples and States of South America; the importance of minerals in the past and present development of the continent.

14. Temperate countries of South America—Argentina, Uruguay and Chile.

15. Tropical countries of South America—Brazil—the world's chief storehouse of tropical products.

16. Revision of the three southern continents

II.—North America.

1 Structure and relief, the work of rivers as illustrated on a large scale by the Colorado and Mississippi and as seen by actual observation of local streams.

2 Climate and vegetation, factors that modify climate as evidenced in North America, natural regions of North America

3 Population and political divisions, immigration.

4 *United States—*

(a) North-eastern industrial and commercial region.

(b) South-eastern plantation region

(c) Central framing region

(d) The basins and mining regions of the Rockies

(e) Pacific shorelands—fruit, grain, timber and minerals.

5 *Dominion of Canada and Newfoundland—*

(a) Eastern Canada—agriculture, dairying, timber, fisheries, mining and manufacture.

(b) Prairie provinces.

(c) British Columbia.

6. Mexico, Central America and West Indies

7 Transport and communications of North America and important links in round the world routes.

III.—Eurasia and India.

1. Surface, relief and rivers of Eurasia.

2. Climate of Eurasia, the major climatic regions, comparison of temperature, conditions on east and west margins; effect of latitude and distance from the sea on range of temperature, causes of monsoons and their effect on climate of South-east Eurasia.

3 British Isles, relief, influence of the sea and the climate upon the life and activities of the people, fisheries and farming; the chief industrial regions and their outlets.

4. Western Mainland of Europe—France—agriculture and industry; position of Paris and Marseilles. Belgium—plain of Flanders and the Sambre-Meuse Valley. Holland—a delta land reclaimed from the sea; its colonies and sea trade. Denmark—co-operative dairy farming Germany—plain and plateau, forestry and development of social industries, industries of the Ruhr and Saxon coalfields.

5 Baltic Region—the new border states, Scandinavian peninsula—forestry and woodwork of Sweden

6 Central Highlands of Europe, Czecho-Slovakia—its minerals and industries, agriculture of the Mid-Danubian plain. Alpine region—development of hydro-electric power and effect on industrial development

7 Mediterranean region—influence of climate on plant adaptation and fruit culture. Spain—its mineral wealth but lack of coal Italy—alluvial plain of Lombardy and its industrial development—peninsular Italy.

8 South-western lands of Asia—region of plateau and deserts with one important alluvial plain; its historical importance as a highway.

9. Central and Northern Eurasia—rich, wheat and pasture lands of Rumanian and Russian plains—desert conditions of the Aral Sea Basin; tundra, taiga and steppe of Siberian plain, contrast development of this region with similar region in North America.

10. China—her dependencies Effect of climate and relief upon occupations and industries.

11. Japan.—A mountainous country, yet productive; agricultural, mineral and industrial development—importance of Korea.

12. South-east Asia and the East Indies.

13. Position, relief, soils and minerals of India and Burma.

14. Climate of India; her chief climatic regions; means of irrigation.

15 Vegetation and animal life of India

16 Peoples of the Indian Empire.

17 Survey of the Provinces and States—

(*a*) Mountain States.

(*b*) Great Plain.

(*c*) Plateau states and provinces.

(*d*) Madras.

(*e*) Bombay.

18 Occupations and industries of India

19. Trade, transport and seaports.

20 Ceylon.

IV.—The World.

1. Studies in climate—size and shape of the earth—movements of the earth, day and night, the seasons, annual and seasonal distribution of temperature, pressure winds and rainfall, ocean currents, natural vegetation.

2 Regions of the world—

(1) Tundra and Ice-cap.
(2) The Cold Forests.
(3) Broad-leaved Forests
(4) Temperate grasslands.
(5) Mediterranean Lands
(6) Desert Lands.
(7) Equatorial forests and tropical grasslands.

(8) Monsoon Lands.

(9) Islands of the Pacific.

(10) High mountain and plateau.

(11) Industrial Regions of Europe.

(12) Industrial Regions of North America.

(13) Regions of the Empire

Books recommended:

Text-books—

(1) The New Regional Geographies—Book IV, The World, Leonard Books; London University Press.

(2) Any one of the following:—

(*a*) India, World and Empire, Herbert Pickles, Oxford University Press.

(*b*) Our World, Morrison; Macmillan.

(*c*) Do. ,Morrison and Subramanyam, Macmillan.

(*d*) The World, Dudley Stamp, Longmans, Green & Co (1929 edition)

Reference books for teachers—

(1) Physiography, Herbertson; Oxford University Press.

(2) Every one's Book of the Weather, Franco Willams Sheldon Press.

(3) Out-door Geography, Hated, Blackie.

(4) Surface of the Earth, Pickles; Cambridge University Press.

(5) Human Geography for Secondary Schools, Fairgrieve and Young; G. Philip and Son.

(6) A Graded Course of Geography, E S Price; G Philip & Son.

(7) The Rambler Travel Books; Blackie

(8) The World, Howarth & Bridewell, Oxford University Press.

CHAPTER XXXIX

INTERMEDIATE EXAMINATION IN ARTS AND SCIENCE

1. Matriculates proceeding to a University course of study shall, for two years each consisting of three terms ordinarily consecutive, undergo in an affiliated college courses of study in the following three parts :— Course of study.

Part I—English.

Part II—Second language.

One of the following languages at the option of the candidate—

(*a*) Classical—Sanskrit, Latin, Arabic, Persian, Pali.

(*b*) Modern European—French, German

(*c*) Modern Indian—Telugu, Kannada, Tamil, Oriya, Hindi, Urdu

Part III—Three subjects out of the following groups A, B and C at the option of the candidate.—

A

(1) Mathematics

(2) Physics

(3) Chemistry

(4) Botany

(5) Zoology including Human Physiology

(6) Geography

B

(1) Logic

(2) Indian History

(3) Ancient History

(4) Modern History

(5) A third language—an advanced course if the language taken be one taken under Part I or II, or a less advanced course in a really third language.

Provided that a student selecting any History subject under Group B shall select Indian History.

C

(1) Commercial Geography

(2) Banking

(3) Accountancy

(4) Agriculture

(5) Electrical Engineering

(6) Mechanical Engineering

(7) Surveying

(8) Drawing

(9) Music

English.

2 (i) The course of study in English under Part I shall consist in—

(a) The detailed study of certain of the set books

(b) The perusal as disinct from detailed study of the other set books.

For this course books in English Prose and Poetry shall be prescribed The books prescribed under (a) above in any year shall not be more than one play of Shakespeare; about 600 lines of Modern Poetry and two prose books while those prescribed under (b) above shall not exceed two books.

Second language.

(ii) The course of study in a second language under Part II shall have for its object the training of the student to employ the language as a vehicle of expression of modern thought.

Text-books shall be prescribed for detailed study in all the languages, while text-books for perusal as distinct from a detailed study shall also be prescribed in the case of Modern Indian Languages

Optional subject.

(iii) The courses of study in the subjects under Part III shall be as prescribed in the syllabuses appended to this chapter.

As for the languages the course shall be as indicated or regulated by the text-books which will be prescribed from time to time

Option to appear at whole examination or in parts.

3 A candidate for the Intermediate Examination may at his option present himself for the examination either in whole or in parts at a time.

Subjects for examination and duration of papers.

4 A candidate shall be examined in—

Part I—English There shall be three papers in English, each of three hours' duration.

The first paper shall be on the books of poetry set for detailed study The second paper shall be on the books of prose set for detailed study The third paper shall be on composition and shall contain exercises designed to test the candidate's power to apply the principles studied in the course; in particular, it shall contain (a) exercises in epitomising and paraphrasing passages of prose and poetry which shall not be taken from any of the books prescribed for detailed study or for perusal and (b) subjects for two short essays drawn from the subject-matter of the books prescribed for perusal as distinct from detailed study and from topics of general interest The papers in the examination shall be so set that candidates shall be able to get full marks in the examination without answering questions on matters relating to purely literary criticism or scholarship.

Part II—A second language There shall be two papers, each of three hours' duration, the first on prescribed text-books on prose and poetry and applied grammar, and the other on (1) translation from and into English of seen and unseen passages in the case of classical languages or (2) Composition, subjects for which will be selected from the set books prescribed for non-detailed study and translation from and into English of passages unseen by the student in the case of Modern European and Indian languages.

Part III—Special subjects There shall be six papers, two in each of the three subjects selected out of Groups A, B and C in Regulation (1) above—all of 2½ hours each.

Botany First Paper will contain questions on Part I of the syllabuses and Botany Second Paper will contain questions on Part II of the syllabuses

Advanced Second Language.—In the case of classical languages there shall be two papers, the first paper being set on prescribed text-books relating to prose, poetry, grammar and rhetoric and the second on translation from and into English of unseen passages only In the case of modern Indian languages, there shall be two papers each on prescribed text-books relating to prose, poetry, drama, grammar, prosody and poetics and composition on subjects bearing upon the prescribed texts.

Third language.—In the case of classical languages there shall be two papers, the first paper being set on prescribed text-books of easy prose and poetry, and the second on translation from and into English of seen and unseen passages In the case of modern Indian languages, there shall be two papers, each containing questions on prescribed text-books relating to easy prose, poetry, drama, and elements of grammar and prosody and composition on subjects bearing upon the prescribed texts.

The text-books for each of the languages shall be prescribed from time to time on the recommendations of the Boards of Studies concerned.

Marks qualifying for a pass

5. A candidate shall be declared to have passed the Intermediate Examination if he obtains (1) not less than 35 per cent of the marks in English under Part I, (2) not less than 35 per cent of the marks in a Second Language under Part II and (3) not less than 35 per cent of the marks in each of the three special subjects selected under Part III.

All other candidates shall be deemed to have failed in the examination.

Classification of successful candidates.

Out of candidates who pass in all the three Parts at one and the same examination, those who obtain fifty per cent and more of the total number of marks shall be placed in the first class and ranked in the order of proficiency as determined by the total marks obtained by each, and those who obtain less than fifty per cent of the total number of marks shall be placed in the second class.

Candidates who pass in all the Parts at the same examination and obtain not less than sixty per cent in Part I or Part II or in any subject of an optional group under Part III shall be declared as having gained distinction in that subject.

Candidates who obtain the prescribed minimum number of marks in each part in separate examinations and are declared to have passed the whole examination shall be placed in a separate list in the second class.

Qualification for admission into a Degree course

6 A candidate who wishes to proceed to a Degree in Arts or Science shall be required to choose two at least of his special subjects under Part III from either Group (A) or Group (B):

Provided however that candidates who choose at least two of the Commercial subjects under Group C, viz, Commercial Geography, Banking and Accountancy, shall not be debarred from proceeding to Group (II), (III), (IV) or (V) of the B A. Degree courses.

TRANSITORY REGULATIONS

7 No examination under the old Regulations (i e in force prior to the academic year 1928-29) shall be held as from the Intermediate Examination of March 1931. †

8. Candidates for the Intermediate Examination who commenced their courses of study for that examination under the Regulations in force prior to the academic year 1928-29 shall be permitted to complete the Intermediate Examination under the new Regulations subject to the following provisos:—

† For the old Regulations vide Appendix to the A U Code for 1929—30.

(a) A candidate who has passed Part I of the examination under the old Regulations shall be deemed to have passed in Parts I and II under the new Regulations.

(b) A candidate who has passed Part II of the examination under the old Regulations shall be deemed to have passed in Part III under the new Regulations.

(c) A candidate who has failed in both parts of the examination under the old Regulations shall be required to pass in all the three parts of the examination under the new Regulations provided that he shall take for Part II of the examination under the new Regulations the same language in which he appeared for Part I-B of the examination under the old Regulations and for Part III of the examination under the new Regulations the same subjects in which he appeared for Part II of the examination under the old Regulations, it being at the option of candidates who took Group (ii) (Natural Science, Physics and Chemistry) under the old Regulations to offer any three of the following subjects —Botany, Zoology, Physics and Chemistry—for the examination under the new Regulations. It shall be permissible in the case of candidates coming under this Regulation to take two languages under Part III of the New Regulations and the Examination in those languages shall in each be as for an advanced course in a second language.

On and after the 1st June 1929 candidates for the Intermediate Examination who had completed the first year's course of study prescribed for the examination under the Regulations in force immediately prior to the academic year 1928-29 and had earned the attendance and progress certificates prescribed for that year and were unable to complete the course under those Regulations, will be permitted to complete the second year course of study by attending classes under the new Regulations

and to appear for the examination under the new Regulations. They shall be exempted from the production of attendance certificates required for the first year of the course.

SYLLABUSES

PART III—A (1)—MATHEMATICS

Part III—A (1) Mathematics.

In addition to the subjects prescribed for the Matriculation the course shall comprise Algebra, Plane Trigonometry and Geometry. A candidate shall be required to be acquainted with the use of logarithmic tables and to be able to solve questions by graphic methods.

(a) *Algebra.*—Algebraical laws and principles and their applications. Ratio and Proportion. Theory of indices.

Elementary Theory of Logarithms. Variation Simple surds. Solution of equation of the second degree in one or two variables and of equations of higher degree whose solution depends on them. Theory of the equations and expression of the second degree in one variable The three progressions and other series whose summation depends on arthimetical and geometrical series Values of $^{n}P_{r}$ and $^{n}C_{r}$. The Binomial theorem for the positive integral exponent and direct applications of the theorem for any exponent.

(b) *Plane Trigonometry*—Measurement of Angles. Trigonometrical functions and their relations to one another. Solution of simple trigonometrical equations. Addition, multiplication and division formulae Properties of triangles, and of the circles connected with them. Solution of triangles. Application of logarithms to trigonometrical computations, measurements and distances.

(c) *Geometry* (1) *Pure Geometry* (*plane*).—Similar figures. Concurrence and collinearity. Properties of triangles. Properties of circles.

Harmonic Sections.

N. B.—The order in which the theorems are stated in the Syllabus *is not imposed as the sequence of their treatment.*

Similar Figures—If two triangles are equiangular their corresponding sides are proportional: and the converse.

If two triangles have one angle of the one equal to one angle of the other and the sides about these equal angles proportional, the triangles are similar.

Two triangles are similar, if the sides of the one are respectively parallel or perpendicular to the sides of the other

If two triangles have two sides of the one proportional to two sides of the other, and an angle in each opposite one corresponding pair of these sides equal, the angles opposite the pair are either equal or supplementary

If from the right angles A of a right-angled triangle ABC, AD is drawn perpendicular to BC, then (1) AD is the mean proportional between BD and BC, (2) BA is the mean proportional between BD and BC and (3) CA is the mean proportional between CB and CD.

If two triangles are similar, their corresponding lines such as medians, altitudes, inradii, etc are to one another in the ratio of their corresponding sides.

Similar triangles are to one another as the squares on their corresponding sides.

Two similar polygons can be divided into the same number of triangles similar to each other and similarly placed; and the converse

The perimeters of two similar polygons are to each other as any corresponding sides.

Concurrence and Collinearity—The use of signs as applied to lines, angles and areas If two parallel lines are cut by three or more concurrent transversals, the corresponding segments are proportional and the converse.

If X, Y, Z are points in the sides BC, CA, AB of a triangle ABC, such that the perpendiculars to those sides at these points are concurrent then

$$(BX^2-XC^2)+(CY^2-YA^2)+(AZ^2-ZB^2)=0,$$

Or $$BX^2+CY^2+AZ^2=CX^2+AY^2+BZ^2$$

and the converse.

If any transversal meets the sides BC, CA, AB of a triangle in D, E, F, then

$$AF.\ BD.\ CE=AE.\ CD.\ BF.$$

and conversely, if the three points D, E, F, taken on the sides BC, CA, AB of a triangle, satisfy the relation AF BD CE equals AE CD BF then, D, E, F are collinear

If the lines joining any point to the vertices A, B, C of a triangle meet the opposite sides in D, E, F, then

$$AF,\ BD,\ CE.-FB.\ DC.\ EA.$$

and conversely, if three points D, E, F, taken on the sides BC, CA, AB of a triangle, satisfy the relation AF, BD, CE, equals FB, DC, EA, then AD, BE, CF are concurrent.

If two unequal similar figures are similarly placed, the lines joining the vertices of one to the corresponding vertices of the other are concurrent

Properties of Triangles—The three medians of a triangle meet in a point, and this point is a point of trisection of each median, and also of the line joining the circumcentre to the orthocentre.

If D is a point in the side BC of a triangle ABC such that BD equals $1/n$ BC, then

$$(n-1)\ AB^2+AC^2=n.\ AD^2+(1-1/n)\ BC^2$$

The perpendiculars from the vertices of a triangle on the opposite sides meet in a point, and the distance of each vertex from the orthocentre is twice the perpendicular distance of the circumcentre from the side opposite to that vertix.

The circle through the middle points of the sides of a triangle passes also through the feet of the perpendiculars of the triangle and through the middle points of the three lines joining the ortho-centre to the vertices of the triangle.

If a perpendicular drawn from the vertex to the base of a triangle is produced to meet the circumcircle, then the distance of this point of inter-section from the base is equal to the distance of the orthocentre of the triangle from the base.

The feet of the perpendiculars drawn on the sides of a triangle from any point P on the circumcircle of that triangle are collinear.

The pedal line of P bisects the line joining P to the orthocentre of the triangle.

If the vertical angle of a triangle is bisected by a straight line which cuts the base, the rectangle contained by the side of the triangle is equal to the rectangle contained by the segments of the base together with the square on the straight line which bisects the angle.

If from the vertical angle of a triangle a straight line is drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

Properties of Circles.—The locus of the points of intersection of tangents drawn at the extremities of chords of a circle which pass through a fixed point, is a straight line.

If the polar of A passes through B, then polar of B passes through A.

If P and Q are any two points in the plane of a circle whose centre is O, then OP bears to OQ the same ratio as the perpen-

dicular from P on the polar of Q bears to the perpendicular from Q on the polar of P.

The locus of points from which the tangents to two given co-planar circles are equal is a line perpendicular to the line of centres

In two circles, if any two parallel radii are drawn (one in each circle), the straight line joining their extremities cuts the line of centres in one or other of two fixed points (called centres of similitude.)

If through a centre of similitude S of two circles, a line is drawn cutting the circles, the radii to a pair of corresponding points are parallel.

If through a centre of similitude S of two circles, a line is drawn cutting the circles, then the rectangle under the distances of one pair of non-corresponding points from S is equal to the rectangle under the distances of the other pair of non-corresponding points from S; and each of these rectangles is a constant.

(1) *Harmonic Section*:—

If AB is divided harmonically at P and Q then (i) PQ is divided harmonically at A and B, (ii) AB is a harmonic mean between AP and AQ

If AB is divided harmonically at P and Q, and if O be the middle point of AB, then $OP.\ OQ = OA^2$ and the converse.

Any chord of a circle through a fixed point P is *divided harmonically* by P and the polar of P.

(2) *Pure Geometry (Solid)*.

The course is indicated by that given in Hall and Stevens' 'A School Geometry' Part VI, omitting 'Solid Angles and Polyhedra.'

(3) *Plane Analytical Geometry.*

The straight line and circle referred to rectangular axes.

Co-ordinates of a point Distance between two points: Co-ordinates of a point dividing a segment of a line in a given ratio. Area of a triangle whose vertices are given.

Equations of a straight line (i) in terms of its gradient and the intercept on the y—axis, (ii) in terms of the length of the perpendicular from the origin and its inclination to the axis, (iii) passing through a point and having a given gradient.

(4) *Passing through two given points*

Co-ordinates of the point of intersection of two straight lines, and the angle between them, conditions of perpendicularity and parallelism of two straight lines, Distance of a point from a straight line Equations of a circle in the forms

$$x^2 + y^2 = a^2 \text{ and } x^2 + y^2 + gx + 2fy + c = 0$$

Condition that a given straight line may touch a circle (by using the property that the distance from the centre is equal to the radius)

In the Intermediate Examination, there shall be two written papers of two hours and a half each, and each shall carry 50 marks The first paper shall deal with Algebra, Trigonometry and the second paper shall deal with Geometry, pure and analytical.

PART III—A(2)—PHYSICS

Part III—A(2) Physics.

No question shall be asked which cannot be answered by simple mathematical methods

The course shall include a more detailed study of the matter included in the Matriculation syllabus and in addition the following:—

Dynamics—The units of length and time Displacement, speed, velocity and acceleration of a particle moving in a straight line Newton's laws of motion, the units of mass and force Motion of a particle in a straight line under the action of a force in that line and in a vertical plan under the action

of gravity. Energy, work, power and their units. Simple illustrations of the conservation of energy.

*Conditions of equilibrium of a body under three concurrent forces (the parallelogram law), and under parallel forces. Centre of gravity. Simple machines

*The motion of simple pendulum; determination of g.

Hydrostatics.—Pressure at a point in a fluid; definition and illustrations, transmissibility of pressure Evaluation of pressure at a point in a heavy fluid at rest, its uniformity in all directions. Resultant thrust in simple cases The principle of Archimedes, floating bodies, hydrometers Applications to practical determination of density and specific gravity. The pressure of a gas and its determination, the barometer. Boyle's Law; air pumps and water pumps

Heat.—Temperature and its measurement, the construction and graduation of thermometers The thermal expansion of solids, liquids and gases and their accurate determination; the air thermometer Heat as a quantity, the unit of heat, specific heat and the more direct methods of calorimetry, Laws of fusion, evaporation and ebullition, latent heat, vapour pressure and how it is measured Conduction and convection of heat; thermal conductivity. Radiation, absorption and reflection, law of cooling The dynamical equivalent of heat, the conservation of energy.

Light.—The experimental facts and laws of transmission, reflection and refraction of light; simple geometrical deductions from these, applicable to small direct pencils incident on plane and spherical surfaces. Applications to the lens, telescope, microscope. The dispersion of light, the spectroscope. Radiation and absorption spectra Total reflection Determination of refractive indices.

Magnetism.—Properties of magnets; poles Laws of magnetic force, unit poles Lines of force, uniform magnetic fields and experimental methods of comparing them.

* Only experimental proofs are required in these cases.

The earth magnetic field; the compass Magnetic Induction; the magnetic properties of iron and steel.

Electricity—The more common forms of voltaic cells and the actions that go on in the cell while producing a current. The action of currents on magnets; galvanometers depending on such action including suspended coil type. Metallic conductors and electrolytes laws of electrolysis Electro Motive Force, Ohm's Law, resistance and the simple methods of determining it Dissipation of energy in circuit by current and heating effects Electro-magnet Potentiometer and measurement of E. M F.

Sound.—The production and propagation of sound, the velocity of sound in air and its determination Nature of wave motion and sound waves Frequency of vibration, pitch Amplitude of vibration loudness Laws of vibration of strings and air columns The deflection of sounds· echoes

PRACTICAL PHYSICS

The following scheme is not exhaustive, but is intended to indicate the general nature and extent of the course of Instruction in Practical Physics for the Intermediate Examination in Arts and Science

Length measurements by millimeter scale, vernier, micrometer gauge, and spherometer.

Determination of areas and volumes by measurement of linear dimensions

Verification of conditions of equilibrium of a body under co-planar forces.

Determination of the centre of gravity of plate.

Verification of the law of simple pendulum determination of g.

The inclined plane· systems of pulleys.

Use of balance sensitive to .01 gram.

Determination of volumes by weighing in water, determination of capacities of vessels.

Reading Fortin's barometer and correcting for temperature.

Specific gravities of solids and liquids, use of hydrometer.

Verification of Boyle's law.

Determination of fixed points of a Theronometer.

Determination of co efficient of expansion of a rod

Determination of co-efficient of apparent expansion of a liquid

Expansion of air at constant pressure

The constant volume gas thermometer

Curves of cooling melting points.

Determination of specific heats of solids and liquids.

Latent heat of water and steam.

Determination of vapour pressures, boiling points.

Use of Regnault's (or Dines') wet and dry bulb hydrometers.

Comparison of thermal conductivities

Radiation of heat from different surfaces

Verification of Laws of Reflection.

Tracing the path of ray of light through a block of glass and deduction of refractive index.

Focal lengths of concave mirrors and convex lenses.

Arrangement of two lenses for telescope, microscope and lantern.

Measurement by spectrometer of the angle of a prism, and the refractive index for sodium light

Use of simple photometers

Tracing the lines of force in a magnetic field.

Comparison of magnetic moments.

Comparison of strength of magnetic field by vibration.

Study of the simple cell, the Daniel and Lechlanche cells.

Absolute measure of current (i) by tangent galvanometer, (ii) by electrolysis.

Measurement of heat developed by current.

Measurement of resistance of wires

Comparison of electromotive forces, the potentiometer.

Verification of laws of transverse vibration of strings.

Determination of velocity of sound by resonance.

PART III—A(3)—CHEMISTRY

Part III—A(3) Chemistry.

The course shall include a more detailed study of the matter included in the Matriculation syllabus and, in addition, the following.—

The laws of chemical combination by weight and by volume Atomic theory, symbols and their use Equivalents Atomic weights Molecular weights Avogadro's hypothesis and the relation of gas density to molecular weight. Chemical equations and calculations, nomenclature.

A general knowledge of the properties of the elements and of the chief types of their compounds with a view to their classification. Elementary ideas of the periodic law and mass action.

The ordinary methods of preparation, and the chief properties of the following elements and their principal compounds:—hydrogen, oxygen, halogens, sulphur, nitrogen, phosphorus, arsenic, boron, carbon and silicon.

Chief sources, preparation and properties of the common metals, viz., sodium, potassium (ammonium), silver, mercury, lead, copper, zinc, magnesium, calcium, barium, aluminium, iron, manganese, chromium, tin, and the preparation and properties of their oxides, hydroxides and their salts with the more common negative radicles.

COURSE OF INSTRUCTION IN PRACTICAL CHEMISTRY.

The practical instruction in Chemistry in the Intermediate Course shall be on modern lines, such as are indicated in Dr. Alex. Smith's Experimental Inorganic Chemistry.

Tables, such as Clarke's Mathematical and Physical Tables (published by Oliver and Boyd, Edinburgh), are recommended for use by students undergoing the Intermediate Courses of Study in Physical Science.

PART III—A(4)—BOTANY

First Part.

Part III—A(4) Botany.

(1) Living and non-living things—and their main features. Protoplasm, Cell.

Organic and inorganic substances. their main properties.

Plants and animals—differences and resemblances—similarity of vital functions such as feedings, respiration, movement, response to stimuli, and reproduction

(2) The green leaf.

Its external and internal structure.

Photosynthesis.

Transpiration.

Leaf form and internal structure—as well suited to carry on the above two functions.

Adaptations to facilitate and check transpiration; leaf adjustments to light, photo-tropism.

Arrangements of the leaf on the plant.

Struggle for light among plants

Climbing plants and epiphytes.

General leaf forms.

Stipules and their work.

Modifications of leaves and stipules

(3) Root.

Its external form and internal structure, work of roots—absorption and fixation—root cap, root hairs, region of root hairs, Osmosis.

Root-pressure Study of the soil Structure and nature of the soil in relation to water contents.

Branching of the roots, elongation and growth of roots in thickness

Different kinds of roots Modification of roots. Response of roots to gravity, light and water.

(4) Stem.—

Work of the stem—supporting and conducting; its internal structure, path of the sap current; intercellular spaces, ventricles, increase of steam in thickness cork formation, sap wood and heart wood, modification of stem Response of the stem to gravity and to light; stems of water plants.

(5) Flowers —

Parts of a flower, functions of different parts, pollen grains; pollen tube, ovule, egg cell; fertilisation· seed formation; parts of a seed

Arrangement of the part of a flower; insect visitors; cross and self-pollination.

Advantages of cross-pollination, adaptations for cross-pollination, wind pollination and inconspicuous flowers. Inflorescences, seeds, fruits, kinds of fruits; seed and fruit dispersal and its advantages Struggle for existence, survival of the fittest; variety, species, heredity and evolution.

Second Part.

Study of the following families—Anonaceæ, Capparideæ, Malvaceæ, Leguminoseæ, Cucurbitaseæ, Subiaceæ, Compositeæ, Convovulaceæ, Subiaceæ, Apocynaceæ, Acanthaceæ, Labiateæ, Euphoribaceæ, Liliaceæ, Musaceæ, and Palmæ.

Some plant products—Starch, oils, sugars, alkaloids, gums, resins, coutchouc fibres, the plants and the parts of the plant producing them

(6) Apex of the stem and the root Meristem, cell structure Cell division, changes seen in the cell contents and the nature of the cell wall

(7) Euglena, structure, locomotion, all the life functions carried out by the single cell.

A brief account of Chalmydomonas, Pandorina, and Volvox. Origin of sex, increase in plant body and division of labour. Origin of Soma.

Life histories of Ulothrix, Spirogyra, Fucus; Liverworts, Moses, Fers, Selaginella and Cycas. Seed plants

(8) Bacteria, their structure and life history. Fermentation; Enzymes, Symbiosos. Pathogenic Bacteria; Fungi, Saprophytes, Parasites, Yeast plants. Mucor; Mushroom; Parasitic flowering plants, Insectivorous plants.

Practical Work:—Students are expected to examine with hand lens the external features of all the plants and to be able to refer the plants to their families They should be able to prepare free hand sections of the various parts of the plant body for microscopical examination and identify the prepared slides of the forms mentioned in paras 6, 7 and 8 Special attention must be given to experimental demonstrations of the various physiological functions of the plant organs.

In the Intermediate Examination there shall be two written papers in Botany, viz., Botany I, and Botany II. Each paper is for two hours and a half and shall each carry 50 marks.

PART III—A(5)—ZOOLOGY INCLUDING HUMAN PHYSIOLOGY

Part III—A(5) Zoology including Human Physiology.

Zoology.—The chief characters of living organisms. Protoplasm Cell. Plants and animals· how they agree and how they differ. Meaning of the terms Biology, Morphology, and Physiology The theory of evolution treated in an elementary manner. Fossils: their bearing on evolution.

The structure of the following animals treated in an elementary manner with special reference to their physiology Amœba, Paramœcium, Hydra Obelia, Tapeworm, Round-worm, Earth-worm, Fresh water mussel, Crab and Scorpion Outline of their reproduction.

A more detailed study of the external character and of the general arrangement and relation of the chief internal organs as revealed by dissection in the Cockroach, Fish, Teleost Frog, Bird and Rabbit General outline of their life history Life history of the butterfly and mosquito.

All the types above mentioned are to be studied with special reference to their environment

Candidates will be expected to be able to make simple diagrams to show the arrangement or general features of the chief organs and structures in the animals enumerated in the above syllabus.

Human Physiology. The human skeleton and its parts. The action of muscles. The arrangement of the chief viscera in man. The leading facts of human physiology. The nature of food and the manner in which it is digested and absorbed. Glands. The liver,

its structure and functions. The nature and functions of blood. The heart and the circulation. Respiration. Waste products and their removal. The temperature of the body and how it is maintained. The chief functions of the central nervous system, nerves and sensory organs

In the Intermediate Examination there shall be two written papers of two hours and a half each, and each shall carry 50 marks The first paper will include Zoology and second paper Human Physiology.

PART III—A(6)—GEOGRAPHY

First Year Course.

I The Physical Basis of Geography: Part III—A(6) Geography.

(*a*) *The earth as a planet* Its shape, size, and motions; the inter-relations of the sun, the earth and the moon, causing day and night, and seasons, the phases of the moon and eclipses; location on the globe—latitude and longitude—and measurement of time; terrestrial magnetism; the general structure of the earth.

(*b*) *The Atmosphere*: Its composition; the local and world distribution of pressure, temperature, and humidity (including precipitation), the circulation of the atmosphere—permanent winds, seasonal winds and local winds. The collection of meteorological data, and the preparation of weather charts and climatic maps Types of climate

(*c*) *The Hydrosphere*· the form, extent, and distribution of the oceans, depth, configuration and composition of the ocean floors; continental shelf composition of sea-water, distribution of salinity and temperature; movement of sea-water—waves, tides, currents; coral reefs and islands.

(*d*) *The Lithosphere*: Land-forms; materials of the earth's crust and the forces that shape it; soils; changes in the earth's crust, elevation and subsidence; the agencies and processes of denudation, rivers and the development of river sys-

tems; under—ground water, snow and ice, lakes. Wind as an agent of transport and deposition Volcanoes and earthquakes; shore-lines, rising and sinking coasts; deltas and estuaries.

II. Cartography.

(*a*) *Elements of map-reading*· Map-setting conventional signs and symbols; representation of relief, visualisation in the three dimensions; interpretation of contoured maps, representing different topographical features planimetry

(*b*) *Simple map-construction* Making of sketch-maps in the field using prismatic compass clinometer, aneroid barometer and planetable; contouring

(*c*) *Elements of map-projection* Properties and uses of the chief types of map-projection in common use, e g , orthographic, stereographic, globular, conical, cylindrical (including Mercator's) equivalent (Mollweid's)

(*d*) *Practical work* Field work enlargement and reduction of maps, construction of scales and sections

III Bio-geography

(*a*) *Geography of vegetation* Factors controlling plant-life, vegetation regions of the world—woodlands, grasslands and deserts, mountain vegetation

(*b*) *Geography of animal life* Distribution of animal life, habitat and ecology of typical animals, natural barriers against dispersal Marine animals Man's influence in the present-day distribution of animals

(*c*) *Anthropo-geography* A general account of the distribution of the chief races of mankind Racial characteristics. Influence of geographical environment on the life, occupation, arts, social organisation and migration of primitive peoples.

Second Year Course.

IV. General Regional Geography on a World Basis

(*a*) *Physical side*. Coastal outline, relief, river systems, climate, vegetation. Division of the world into *Major Natural Regions.*

(*b*) *Human side* (*i*) *Economic* Geographical conditions affecting the production of important commodities, such as rice, wheat, cotton, wool, coal, iron, tea, coffee, tobacco, rubber Growth of industries, trade-centres, and trade-routes, distribution of population; development of new regions and sources of trade.

(*ii*) *Political* Political partition of the world Comparison of the political units with the major natural regions of the world Political sub-divisions for administrative purposes, capitals.

V. Detailed study of Eurasia, India and the Home Region:

(*a*) *Eurasia* Coast-line, relief, climate, vegetation, population and communications of Eurasia as a whole

Major natural regions Tundra forest-lands, and steppes-lands of Eurasia, the British Isles, the Central Plains of Europe; the Central Highlands of Europe the Mediterranean Region, the South-western Highlands of Asia, Mid-Asian Deserts; the Monsoon Regions.

(*b*) *Regional Geography of India, Burma and Ceylon.*

(*c*) *Intensive study of the Home Region* such as the Northern Circars, the northern part of the Carnatic Plain, or, the Ceded Districts.

VI. History of Geographical Discovery and Exploration.

Geographical knowledge among ancient peoples, mediaeval geography, age of discoveries, colonial expansion, progress in discovery and exploration of America, Australia, Africa, and the Polar Regions; Evolution of Geographical conceptions.

The syllabus is framed to suit a two years' course with four hours a week, of which two consecutive periods may be set apart for *Practical Work* These periods for practical work may preferably be fixed in the afternoon, so that they can conveniently

be utilised for occasional excursions, which should be looked upon as an essential part of the course.

There shall be two papers for the final examination, the first on the portion done in the first year (i. e. on sections I, II and III) and the second on the portion done in the second year (i. e. on sections IV, V and VI).

PART III—B(1)—LOGIC

Part III—B(1) Logic

Elementary principles of Logic as indicated in Creighton's Logic—Parts I and II.

PART III—B(2)—INDIAN HISTORY

Part III—B(2) Indian History

The 1st paper shall deal with Ancient and Mediaeval Indian History down to 1526 A.D. and the second paper shall deal with Indian History from 1526 A.D. to the present day. A knowledge of Geography shall be required from candidates.

PART III—B(3)—ANCIENT HISTORY

Part III—B(3) Ancient History.

(1) Greek History from the earliest times to the death of Alexander the Great.

(2) Roman History from the earliest times to the death of Augustus.

A knowledge of Geography shall be required from candidates.

(i) History of Greece

The physical features of Greece and their effects on the people.

Pre-Greek civilisation · Aegean civilisation in Crete, Melos, Mycenæan civilisation in Tiryus, Mycenæ etc.

Early Greek settlements. Achæan, Dorian and other invasions, Expansion to the Eastern Aegean.

Hellenic Inheritance. The civilisation of Greece as pictured in Homer, The Myths of Hellas and their importance in Greek life and thought.

Institutions.—Religion, Delphic oracle, Amphictyonic council.

Games. Olympic, Pythian, Nemean and Isthmian.

Their influence on Greek life

Political: The city-state, its characteristics and origin.

The fall of monarchy and the establishment of aristocracies. Their achievements

Colonies Causes of colonisation. Relation of colonies with the mother city.

History of Sparta —Conquest of Messenia—classes in Sparta Constitution of Sparta Kings, Gerusia, Apella, Ephors History of the city.

Regulations as to land, trade and money. Krypteia, Education of the Spartan. Phiditia Motives of Spartan discipline and supremacy of Sparta in the Peloponnesus.

History of Attica.—The Synoecism of Attica under Athens and the evolution of monarchy. Fall of kingship and transition to aristocracy. The aristocratic constitution of the Athenian republic in the 7th century. Archon, King, Polemarch, Areopagus.

Classes in Athens and unrest. Draco and Solon Tyranny in Athens; its achievements and fall. Democracy under Cleisthenes.

General overthrow of aristocracies in Greek cities by tyrants.

Typical tyrants and their achievements

Wars with Persia —Rise of Persia and conquest of Ionia. Revolt of the Ionian colonies with the help of Athens Expedition of Darius. Marathon. Themistocles and the naval policy of Athens

Invasions of Xerxes, Thermopylæ, Salamis etc.

Naval policy of Athens further developed Confederacy of Delos, and its transformation into the Athenian Empire.

The Age of Pericles Further movement towards democracy Athens, the School of Hellas

Peloponnesian War Causes First year and death of Pericles Further incidents to the Peace of Nicias.

Second Period Expedition to Sicily and its failure. Spartan successes and capture of the Athenian fleet.

Spartan hegemony. War with Persia and peace of Antalcidas Capture of Thebes and its liberation by Pelopidas Epaminondas and the Boetian league. Battle of Leuctra and Mantinea.

Macedonian hegemony Philip of Macedon End of Greek freedom. Alexander and his campaigns.

Greek civilisation —Art. Architecture. Doric, Ionic and Corinthian columns. The Partheon.

Sculpture. Phidias, Praxiteles.

Literature. Homer, Hesiod and Pindar.

Aeschylus, Sophocles, Euripides.

Herodotus, Thucydides and Xenophon.

Demosthenes.

Socrates, Plato and Aristotle.

(ii) HISTORY OF ROME

1. *State and its peoples.*

Significance of the history of Rome in the history of the world. The physical features of Italy and their importance. The position of Italy in the Mediterranean and that of Rome in Italy. The peoples of Italy in historic times and their characteristics. The Gauls the Ligurians, the Etruscans, the Latins, the Sabellians, the Oscans and the Greeks

2 *Rome as Kingdom.*

The legends of the Romans regarding the seven kings of Rome Criticism. Elements of truth in the legends.

Early institutions of Rome Divisions of Society, Family Gens, curia, tribe

The King, senate and comitia curiata Reforms of Servius and their importance Plebeians and Patricians

Roman gods, oracles, sacred colleges and games

The growth of the city of Rome under the Kings; causes and consequences of their expulsion

3 *History of the early Republic* (a) External:

Stage I B C 509—450 Wars with the Etruscans, Aequii and Volsci Roman character as exemplified in the stories of Cincinatus and Coriolanus League with the Latins and Hernicans and its advantages to Rome

Stage II Period of aggression B.C. 450—345. The Aequians and the Volscians subdued. Etruscans defeated and Etruria annexed up to the Ciminian hills. Latin rebellion and Latin war. Latinus corporated and the Hernicans subdued.

(b) Internal; Struggle between the Orders:

Stage I B.C 509—499 · Foundation of the Republic to the Valerio Horatian Laws Stage II. 449—367 to the Licinia Sextian Laws.

4 *Conquest of Italy*. The Samnites and their expansion. The Samnite wars War with Pyrrhus. War with the Gauls in the north.

Causes of Rome's successful conquest of Italy.

Organisation of Italy. Nature of a Roman colony. Grades of Roman citizenship Roman roads

5 *Punic Wars*. Comparison of Rome and Carthage on the eve of the wars in imperial organisation, army, navy and finance.

First Punic war and its results.

Difficulties of Carthage between the first and second Punic Wars The History of the Carthaginian dominion in Spain.

Consolidation of Roman power in the interval. Rome supreme on the Sea

Second Punic War. Results of the Punic wars.

Third Punic War—Destruction of Carthage.

6 *Rome an Imperial Power*: Wars in Spain, with Macedonia and Asia.

7. *Internal changes in the Period of the Great wars*.—

Institutions of the city state with imperial responsibility. The Roman constitution a democracy in theory.

Illustrations—Cursus nononem, election of religious officers.

But an aristocracy in practice: The ascendancy of the Senate, illustrations, causes of the ascendancy (a) over the magistrates (b) over the Assemblies.

Problems of the Empire. Civic problem, unemployment and the agrarian question. Causes.

Italian Problem: Policy towards the allies had worsened after the victories Differences in treatment of Romans and Italians. Italian burdens.

Provincial Problems A description of the Provincial government. Arrangements for the safety of the frontiers inadequate. Safety of the Seas.

The Senate incompetent The Assembly no less Roman citizenship to individuals. Hence the assembly a chance gathering. The Romans uncultured and hence with no knowledge of imperial problems—Poor and with a cry for bread and games. Powerful with a vote. Hence Assembly incompetent.

8 *Caius Flaminius* and the agrarian question Grachhi and their reforms Politicians but no soldiers.

Marius, his part in the Jugurthen war, his military reforms Victories over the Cimbri and Teutones Marius impolitic with Saturninus and Glaucia. His fall.

Social war, causes particularly after the fall of Livius Drusus and Varian exiles Pacification of the Allies, but failure of Marius Marius with Sulpicius Sulpician reform. March of Sulla on Rome Reforms Return of Marius Reign of Terror. Death of Marius Curia proves incompetent. Failure of the democratic party.

9 *Sulla* in Asia Mithradatic war War with the democratic party. Sulla a Dictator. Proscriptions Reforms Retirement and death.

Break up of Sullan reforms Failure to revive the Senate

10. *Pompey*: His ancestry, service under Sulla, in Spain and against slaves. Gabinian law and suppression of pirates. Manilian law and expedition against Mithradates.

Cicero: Early history Consul and conspiracy of Catiline. His idea of concordia ordinarum. Its failure.

Caesar: Early history, First triumvirate laws of Caesar.

11 *Caesar's Gallic wars* His march on Rome and subjugation of enemies. His reforms and death.

12. *The second triumvirate*. Philippi—quarrel between Antony and Octavius—Battle of Actium The Empire.

Reforms of Octavius.

PART III—B(4)—MODERN HISTORY

Part III—B(4) Modern History.

The History of Great Britain and Ireland,* *constitutional* and economic.

The first paper shall deal with History down to 1603 A D. and the second paper shall deal with History from 1603 A D. to the present day.

A knowledge of Geography shall be required from the candidates.

ECONOMIC HISTORY OF ENGLAND

1. *Economic life in England before the Norman Conquest*:

Roman Contribution: General stimulus and Roads.

Saxon Contribution. The Saxon Village, Markets.

Danish Contribution: Freemen, trade with continent and internal trade, towns. The influence of the church.

2. *Mediaeval conditions in village and in town*:

A. Rural life and agriculture The manor, a description. The landless freemen and labourers. Beginnings of commutation General characteristics.

B. Urban life and trade Why the volume of trade was small; Absence of money; economy and dangers of land and sea trade.

Origin and growth of town "Freedom" of town. Rise of merchant guilds. Their functions. Fairs and markets and their regulation.

Mediaeval trade in Europe Italian towns and the Hanseatic league Why England was backward in trade and in industry then. The help of aliens in the development of English crafts and their encouragement by Kings.

* Substitute 'political' for constitutional' as from the examinations of 1934.

3 *Disintegration of Mediaeval conditions*

A. Rural life. The Black Death and the disintegration of the Mediaeval village. Statutes of labourers and stock and land lease system. Movement towards enclosures.

B. Town life. Rise of craft guilds Their functions and decay. The rise of the clothier and of small factories.

4. *National Problems and National Policies*:

Favourable conditions —The influence of the political conditions of England and of the Tudor Monarchy Geographical discoveries and improvements in the art of Navigation and commercial organisation Banking, Bills of Exchange and Precious Metals.

The Mercantile system and its uses.

Natural solution of social problems. Enclosures, coinage, pauperism and craft regulation Elizabethan Legislation

5. *Large Scale Production*·

Favourable conditions Large scale demand due to consolidation of the nation and colonial expansion. Old colonial policy and its failure Large Scale trade Merchant Adventurers —Chartered companies—causes of their rise and growth. Joint stock system. Increase in Free Capital Rise and growth of banking; notes, the Bank Charter Act, cheques.

Inventions and discoveries The Industrial Revolution. The Factory System and its characteristics.

The Agrarian *Revolution*:

6. *Results of the Revolution.*

A. Social evils of the Factory system.

Remedies· Factory Legislation; Free Trade Movements; Trade Unions, Collectivism, Co-operation and Socialism.

B Decay of English agriculture. Small Holding Acts. The new Poor Law, Old Age Pensions, National Insurance.

7. *Further Developments.*

Combinations of Employers, Trusts

Communications: Roads, Canals, Railways, Steamships, Tramways, Motor-cars, Aviation.

Imperialism and Commercial Revolution

8. *Summary*:

England's present position in the world of commerce. Alleged defects and remedies.

PART III—B (5)—A THIRD LANGUAGE—Telugu

(Where the second language is not Telugu).

Part III—B(5) A Third Language, Telugu

(1) Poetry. About 200 stanzas from the literature of the Purana Yuga, about 200 stanzas from Prabandhas and about 100 stanzas from Modern Poetry.

(2) Prose: About 300 pages

(3) Grammar, Prosody and Poetics According to syllabuses.

(Where the second language is Telugu)

(1) Poetry· About 300 stanzas from the literature of the Purana Yuga, about 300 stanzas from Prabandhas and about 200 stanzas from Modern Poetry.

(2) Prose: About 300 pages.

(3) Drama: A drama

(4) Grammar, Prosody and Poetics According to syllabuses.

SYLLABUS IN TELUGU GRAMMAR, PROSODY AND POETICS

1. అక్షర ప్రకరణము.

1. ఆంధ్రవర్ణ సమామ్నాయము :—అచ్చులు, హల్లులు, ఉభయములు, హ్రస్వదీర్ఘప్లుతములు, పరుషసరళస్థిరములు.

2. "అర్ధానుస్వార శకట రేఫములు. పదాది యు కార వకారములు. దంత్య తాలవ్య చ, జ, లు" అనువీని విషయమున దిజ్మాత్ర ప్రదర్శనము.

11. పద ప్రకరణము.

1. శబ్దము లైదువిధములు. "నామవాచకములు, సర్వ నామములు, విశేషణములు, క్రియలు, అవ్యయములు" అను వీని స్వరూప స్వభావముల దిజ్మాత్ర ప్రదర్శనము.

2. మహాప్రమహాన్మతీ వాచకములు, ఏకవచన బహువచన ములు, ప్రథమాది విభక్తిప్రత్యయములు, జడవాచకముల విభక్త్యర్థ విశేషములు.

3. సాధారణములగు నామవాచకములయొక్కయు, సర్వ నామములయొక్కయు, ఔపవిభక్తిక ప్రత్యయములయొక్కయు, విభక్త్యంత సిద్ధరూపముల పట్టికలు.

4. ద్వివిధ విశేషణములు, గుణవిశేషణములు, ధాతుజవి శేషణములునను వీని స్వరూప స్వభావనముల దిజ్మాత్ర ప్రదర్శన ము-విశేషణములకు విభక్తివివక్షించు నప్పటి తచ్ఛబ్దాను పయోగము. తత్సమ విశేషణముల లింగవిభక్తివచనముల విషయ మున దిజ్మాతోపదేశము. విశేషణ విశేష్యముల నడుమ "అగు" ధాతుజ విశేషణములు నిలుచుట.

5. ధాతువులు, ఎల్లధాతువులును, సరచుగా ఉకారాంత ములే యగును. ఆచ్చికధాతువులయొక్కయు, తత్సమధాతువుల యొక్కయు దిజ్మాత్రవినరణము. "సకర్మకములు, అకర్మకములు, ద్వికర్మకములు, భూతకాలము, వర్తమానకాలము, భవిష్యత్కా లము, తద్ధర్మాద్యర్థములు, వ్యతిరేకార్థములు"అను విషయముల దిజ్మాత్ర ప్రదర్శనములు.

సామాన్యములగు ధాతువులనుండి పై కాలములందును, అర్థములందును గల్గెడి సమాపకక్రియల సిద్ధరూపముల పట్టికలు.

సామాన్యములగు ధాతువుల యసమాపక క్రియల సిద్ధ రూపములు. అసమాపకక్రియలు మూడువిధములు.

(a) నామవాచకములు - భావార్థక, వ్యతిరేక భావార్థక కృదంతములు.

(b) విశేషణములు - భూతార్థక, వర్తమానార్థక, భవిష్యదర్థక, తద్ధర్మాదర్థక వ్యతిరేకార్థకములు.

(c) క్వార్థకవ్యతిరేక క్వార్థక శత్రర్థక శానచ్ఛతుమున్నానంతర్య చేదాద్యర్థకములు.

(i) "కర్మార్థక ధాతువులు, ఆత్మనే పదార్థకధాతువులు, ప్రేరణార్థక ధాతువులు" అనువాని దిఙ్మాత్ర వివరణము.

(ii) క్రియల రూపసాధనములో వచ్చెడి సాధారణములైన పూర్వ వర్తమానాది కార్యములు.

6. అవ్యయములు - లాక్షణికములు, ప్రతిపదోక్తములు.

7. అచ్చుతెలుగు పదములలోని గల్గు వర్ణముల మార్పులు:- "గ=వ; అయి=ఐ; అవు=ఔ; ఇయ=ఎ." ఇట్టిసాధారణ విషయములను మాత్రమే చూపవలయును. సాధారణము లగు నాచ్చిక కృదంత తద్ధితాంతముల రూపములు.

III వాక్యప్రకరణము.

1. కర్తర్యర్థకవాక్యము, కర్మార్థకవాక్యము, ప్రేరణార్థక వాక్యము అను వీని స్వరూపముల వివరణము - వీనిలోని కర్త కర్మ క్రియల విషయములను వివరించుట.

2. అన్వయ స్వరూపము, వివిధవాక్యములోని పదముల పరస్పర సంబంధము - శబ్దలక్షణము (Parsing).

3. సమాసములు - సిద్ధసాధ్యసమాసములు. సాధ్యసమాస ములలో సంస్కృత శబ్దములు తత్సమములయిన పిదపనే యాంధ్రశబ్దములతో సమసించును. సాంస్కృతి కాచ్చికమిశ్ర సమాసభేదములు. తత్పురుషాది సమాసభేదములు-తత్పురుషము, కర్మధారయము ద్విగువు, ద్వంద్వము, బహువ్రీహి. అవ్యయీ భావము. వీని స్వరూపమును దిజ్మాత్రముగ నివరించుట.

4. కళాత్మక ప్రకృతికముల దిజ్మాత్ర ప్రదర్శనము.

5. సంధులు:-(1) నియతములగు స్వరసంధులు:-ఉకారసంధి, మధ్యమ పురుషైకారసంధి, ఆమ్రేడితసంధి, ప్రకృతిప్రత్యయసంధి.

(ii) అనియతములగు స్వరసంధులు:- అకారాదిసంధి, ఇకార సంధి. సంహితలో యకారాగమస్థలములు అరు రాని చోటులు.

(iii) ద్రుతముపైని అచ్చునిలుచునప్పటి కార్యములు:- అవ సానద్రుత కార్యములు-సరళశిరవరక ద్రుతసంధి, సరళా దేశసంధి (దిజ్మాత్రము) పడ్వాది పరక మువర్ణకసంధి - అనుకృతిసంధి (దిజ్మాత్రము) గసడదవా దేశసంధి (దిజ్మా త్రము) టుగాగమసంధి - ద్విరుక్తటకారాదేశము, నుగా గమ రుగాగమములు, పు, ం పులు వచ్చుట. వాక్యాంత సంధి వైకల్పికత్వము. సంధిలోని సామాన్యములగు ఇతర విషయములు.

(iv) సామాన్యములగు సంస్కృత సమాసములలోని సంధి కార్యములు.

వ్యాసలేఖన పద్ధతులు: —

విషయవిభాగముచేసి పేరాల నేర్పుచి వ్రాయుట. వస్తు వర్ణనము. వ్యాసరచనా యోగ్యభాష. రచనా గౌరవము ఉప క్రమోపసంహారములరీతి. వాక్యాంత చిహ్నాదులగు గుఱుతులు.

IV ఛందఃప్రకరణము.

(1) గురు లఘు సామాన్య లక్షణము. మాత్రాస్వరూపము, గగణము, లగణము, మగణాది త్ర్యక్షర గణములు, చతుర్మాత్రాగణములు, ఇనగణములు, ఇంద్రగణములు.

(2) యతి ప్రాసముల స్వరూపము. (దిఙ్మాత్రము)

(3) కందము—తేటగీతి—ఆటవెలది—సీసము—ఉత్పల మాల—చంపకమాల—శార్దూలము—మత్తేభము.

V అలంకారశాస్త్ర పరికరణము.

కావ్యలక్షణము. కావ్యభేదములు. నవరసములు. వాని సామాన్యలక్షణము. అలంకారములు—అనుప్రాసము. ఉపమ. రూపకము. ఉత్ప్రేక్ష. అతిశయోక్తి. స్వభావోక్తి. అర్థాంతర న్యాసము.

Part III—B(5) A Third Language. English.

PART III—B(5)—A THIRD LANGUAGE—English

The course shall consist of —

(a) A course in Rhetoric and Prosody.

(b) A detailed study of set books in prose and poetry.

Rhetoric and Prosody A student taking up optional English should have a sound knowledge of the principles of Rhetoric and Prosody as a basis for further study either in B.A. Group v.—optional English or in English Honours.

The scope of the paper may include questions on

(*a*) Sentence and paragraph structure.

(*b*) Sentences to correct or criticize with regard to grammar, idiom, etc.

(*c*) Figures of speech to be recognised or illustrated.

(*d*) Explanation of metres.

(*e*) Scansion of simple passages.

(*f*) The principles and forms of style.

(*g*) The structure and outlines of essays.

(*h*) Exercises in punctuation.

The paper on set books Prose and Poetry· The portion shall consist of about 1500 lines of verse and about 125 pages of Prose The books will be of a slightly more advanced standard than the books set for detailed study under Part I. The prose books will not be earlier than the Age of Johnson.

PART III —C(1)—Commercial Geography

SECTION—I.

Part III—C (1) Commercial Geography.

1 Detailed study of the physical characteristics of India. Reliefs, mountains and rivers, climate, temperature, monsoon and rainfall natural regions—the Himalayas, N W land, Indus Plain, Gangetic Plain, the Thar Desert, Black Soil, Coastal Plain, etc Vegetation and minerals, peoples, occupations, trade, exports and imports Communications, Railways, Harbours and Canals the chief Provinces and Native States, how far the Geography of India has influenced its history

2 Physical Geography, as a basis of the various types of civilization and a determining factor of national and economic development Configuration of the great land masses and ocean.

3 Climate and its fundamentals Altitude and relief of the world the mountain systems temperature and its determining factors maximum, minimum and average mean temperature, temperature maps of the world pressure of air pressure and altitude pressure of latitude and temperature distribution of pressure the wind system windless belts cyclones moistures: causes of rainfall· rainfall belts and their distribution in the Northern and Southern Hemispheres ocean and ocean currents: their effects weather reports. Main features of other continents, commodities Man the producer and the trader.

4 Economic and Commercial Geography with special reference to India —(1) Chief needs of man—drink, clothing and shelter· exchange of

(2) Products and the determining factors—climate, soil, and physical features.

(3) Vegetable products: (a) Food and materials e. g. wheat, rice, barley, rye, maize, oats, millet, sugar, fruits, and their preservation (b) Beverages and drinks e. g. tea, coffee and spirits. (c) Oils and oil seeds and spices. (d) Drugs, e. g., Opium, tobacco and cinchona (e) Clothing and textile materials e. g. Cotton, jute, hemp, flax, (f) Shelter materials e g Timber.

(4) Animal products Food materials e g meat from cattle, sheep, birds and fish Dairy produce · Clothing materials, wool, fur, silk, leather, feather Other Products e g Pearl and coral, sponge, honey.

(5) Mineral products Metals and their ores such as iron, copper, lead, zinc, silver and gold Mineral fuel and Mineral oil.

(6) Indigo and other dye stuffs Tanning barks and Tapioca.

(7) Forest products.

(8) Transport and Communications Land transport and water transport Natural conditions affecting Commerce—Climate, winds and current, town sites, harbours, ocean trade routes and mercantile marine steam power and electricity, petrol.

(9) Empire communications—bases and cooling stations.

SECTION—II.

Recent Economic History.

Economic History of Great Britain. Economic development of India. The historical and analytical study of the commercial substitutes such as artificial, synthetic colours and other commodities of commerce

PART III—C(2)—BANKING

(1) *Economics.*

Part III—C(2) Banking.

Scope of Economics: meanings of economic terms: chief problems of production, causes of difference in productive

power, agents of production · the theory of value the theory of rent chief problems of distribution · causes of difference in wages, profits and interests. the chief problems of consumption: exchange and transport · money, its functions and its relation to prices credit elements of currency and exchange. Money, market, rate of discount causes of commercial fluctuations, the elements of the theory of International Trade The Foreign exchanges The economic functions of Government · the principles and incidence of taxation etc (a clear conception of underlying principles rather than the detailed descriptive knowledge will be required)

(2) *Currency*

The Bank of England and its relations to Government. Banking world and the general public The Bank Act of 1844 The Bank Return.

The structure of English Banking System. The Clearing House (both in England and in India) The sources of a Banker's profits The Reserve

The functions and economic significance of Bank viz., the Modern deposit Banks Banking transactions and usages connected with deposits, cash credits, loans, overdrafts, advances against securities and bill discounting Investments and remittances Letters of Credit Relations between Banker and Customer Bankers and Borrowers Banker's lien Guarantees

Banking operations connected with import and export trade Banking practice as applied to cheques and bills of exchange. Crises and seasonal trade depressions.

The Imperial Bank of India and its constitution. Indian Joint Stock Bankers Exchange Banks.

Functions of good money. Various forms of money Present day coinage. Methods of economising metallic currency and the service of Bank in that respect.

The various standards. The gold standard The gold exchange standard Gold bullion standard. Preservation of

purity Token coins legal tender variation in the purchasing power of money Methods of maintaining internal equivalence of legal tender Monies Note issue the proportion between the note circulation and reserve in England and India (Conserves. Functions of councils and reverse councils in India). The gold standard reserve

Currency deterioration—its causes, measures and remedies The money market and its fluctuations, periodic and others. The reserve and the discount rate Bill brokers Foreign exchanges.

PART III—C(3)—ACCOUNTANCY

SECTION—I.

Part III—C(3) Accountancy.

1. Book-keeping its principles and practices by means of double entry The uses of subsidiary books accounts of trading and non-trading concerns preparation of annual accounts Manufacturing Trading and Profit and Loss Accounts and Balance Sheet real, personal and nominal accounts Goodwill Depreciation Reserves Reserve Fund Sinking Funds.

2 Capital and Revenue Account Receipts and Payments Account Income and Expenditure Account.

3. Departmental and Branch Accounts including Foreign Branches Consignment and Joint Adventures

4. Partnership Accounts including dissolution of partnerships and questions of goodwill Adjustment of accounts as between partners Share capital and share records. Issue of shares Allotments.

5. Joint-stock Companies' Accounts. Statutory books and returns Calls. Debentures Premium and discount on shares and debentures Purchase of business. Reduction of capital. Reconstruction, amalgamation and absorption.

6. Systems of accounting as applied to commercial enterprises: public undertakings· charities· hospitals, etc. Forms of annual accounts in various undertakings such as Railways, Shipping, Gas, Water, Insurance, Financial, Banking, Colliery and Mining. Basis of valuation of assets. Single entry, its defects and conversions to double entry.

SECTION—II.

General Commercial Knowledge. Business Organisation.

1. Nature of constitution of Business Houses, Partnerships, Public and Private Companies Financing New Business: Organization of control and responsibility Organization of credit Inquiring Agencies Bank and business references Value and methods of statistical investigations

2 The organization of markets and the interdependence of market phenomena and industrial phenomena Produce markets and markets for manufacturers The concentration of specialised industries, production on a large scale, localised industries.

PART III—C(4)—AGRICULTURE

Part III—C(4) Agriculture

Theoretical: (2 hours a week for 2 years, each year consisting of 32 working weeks—total 128 hours)

Weather Climate, seasons, monsoons and rainfall, as affecting the growth of crop

Soils Origin, Formation, Soils of the Madras Presidency. The proximate constituents, sand, clay, lime and humus Fertility of soil as modified by its physical, chemical and biological properties Water capacity and movement of water in soils. Drainage Dormant and available plant food Retentive power of soils for manurial constituents.

Land Measurement Measurement of land Laying out of fields Calculation of areas

Tillage and Tillage Implements Necessity for and effects of tillage Tilth Tillage operations in wet and dry lands. Ploughs and ploughing Wooden and iron ploughs The parts of a plough and general adjustments. Harrows, Guntakas, Cultivators, Rollers Tools employed in tillage operations.

Seeds and Sowing: Preparation of land for sowing Deep and shallow sowing. Broadcasting and drilling Implements used Preparation of seed for sowing Quantity and quality of seed. Selection of seed and seed strains. Germination of seed. Seed beds. Nurseries. Transplanting.

Plant Life Plant nutrition as illustrated by the growth of farm crops. Functions of roots, stems, leaves, flowers and seeds Reproduction from seed and by vegetative growth. Weeds and their distribution in land Eradication of weeds. Interculturing Implements and tools used.

Irrigation Necessity for water Sources of water-supply Laying out irrigation channels in the field Methods of lifting water and duty of water generally.

Manures and Manuring: Necessity for manures General principles governing the application of manures Classification of manures. Farm manures, their collection and preservation. Synthetic Farm Yard Manure. Green manuring, oil-cakes, bone-meal, fish manure. Ammonium Sulphate, Sodium Nitrate, Ammophos and Superphosphate Unit values of manures

Harvesting Harvesting, threshing, cleaning and measuring or weighing of produce Storage of produce

Crops and Cropping Crops and Cropping Rotations and mixed cropping Fodder and Green manure crops The Chief Cereal pulse and industrial crops of the Circars *Paddy, Ragi, Cumbum, Cholam, Groundnut, Green and Black Gram, Gingelly, Tobacco, and Sugar cane

A practical working knowledge of the local crops is required, deduced, as far as possible, from the students having taken part in all field operations, including the preparation of the land, sowing and planting, manuring, irrigation, weeding, harvesting, threshing and preparation for the market.

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* Deccan Cholam, Korra, Cumbu, ragi, paddy, cotton, groundnut bengal gram, red gram

Carnatic paddy, cumbu, cholam, ragi, tenai, groundnut, green gram, redgram, and gingelly.

Central· paddy, cholam, ragi, groundnut, red gram, sugar cane and gingelly.

South. Paddy, ragi, groundnut, red gram, cotton, sugar cane, tobacco and gingelly

West Coast Paddy, cocoanuts, pepper, plantains, arecanuts, ragi, gingelly and groundnut.

'Damage caused by the following crop pests—Control measures'·—

Insect Pests: Paddy caterpillar (spodoptera mauritia); Rice hispa (Hispa aenescens), Paddy stem-borer (Schoenobius incertellus), Grass hopper (Hieroglyphus banian and oryzivorous); the Pink Boll worm (platyedragossypiella), the Spotted Boll worm (earias insulana E—Fabia), Mango hopper (Idiocerus), Rhinocerus beetle (Oryctes), Mealy—wing bugs (Aleurodes).

Fungoid Pests. Paddy 'Blast' Piricular oryzae

Paddy (Helmin thosporium spp)

Ground-nut 'Wilt' (Rhizoctonia batatıcola.)
Cholum 'Smut'

Sugar cane 'Red rot' (Collectotrichum falcatum).

Farm Animal and Feeding Care and management of cattle Breeds of cattle, Breeding Points of good animal Common ailments and First-Aid treatment Cattle foods roughages and concentrates Rations for growing animals working cattle and milching cows Milk and its general properties

Practical (1½ hours in morning twice a week for 2 years each year consisting of 32 working weeks—total 64 classes):

Each student should take part in all operations going on in the farm—not merely seeing work done by coolies—maintain a field-book of observations, corrected and testified by the class-teacher and the Principal as student's own work Field-books should be produced at the time of the Practical Examinations Not less than 75 per cent of practical classes should have been attended by each student.

Examination· The examination will be both written and practical. The paper to be of 2½ hours' duration and to carry 50 marks.

The practical to be of 3 hours' duration, to consist of ploughing and other field operations as well as an oral examination and to carry 50 marks.

The minimum for a pass may be the same as for other optional subjects, i. e. 35 per cent

Notes of Instructions

1 The subject should be treated from a practical point of view Applied sciences will be taught to a minimum extent: just enough to elucidate the general principles of agricultural practice.

2 Time recommended for study is 5 hours a week of which 3 hours should be devoted to practical work The practical work should be done in two periods of 1½ hours each The time-table should be arranged for practical work in the mornings.

3 Local crops should be grown on the farm in preference to others supplemented when possible by those specified in the syllabus which are not cultivated in the immediate vicinity.

4 Sufficient area of land should be attached to a College for ploughing and other field operations by students, and this farm should be well-equipped with the necessary implements, tools and other accessories and cattle

5 Students should be taken on short excursions to typical tracts with a view to enable them to have a wider outlook than they learn in a small farm.

PART III—C(5)—ELECTRICAL ENGINEERING

Part III—C(5) Electrical Engineering.

Section I.—Mechanical Engineering.

1. *Geometry (Under Mathematics, Experimental Geometry)* Add tangents, inscribe and describe figures. Areas of plane figures, plane curves such as parabola, ellipse and hyperbola, methods of drawing and chief properties, cyclodal, spiral and other common curves and loci.

2. *Solid Geometry*—Lines, points and planes. Projection of simple solids. Regular solids Sections of solids. Isometric projection.

3. *Graphics.*—Problems relating to the reduction of a system of forces in two dimensions Arithmetic. Plotting of the curves from given data.

4. *Machine Drawing.*—Ability to copy accurately to scale and supply additional views. The preparation of drawings of simple machines from dimensioned sketches, models or actual parts of machines.

5. *Strength of Materials*—Machanical properties of Engineering materials Stress and strain Modulus of elasticity. Elastic limit Ultimate strength Factor of safety and working strength. Statics and application to structures Co-planar forces Application by graphical methods to simple frames with pin joint such as cranes, etc. Elementary study of beams. Bending moment and shearing force Sections in iron, steel and wood. Struts and columns Formula of Gordon and Euler. Simple sheer and torsion Strength of shafts. Principle of work Potential and Kinetic energy Centrifugal force.

6 *Materials.*—Characteristics of cast·iron, wrought iron and steel. Ordinary forms of wrought iron steel. Working strength of these materials in compression, tension and shear. Characteristics of copper, brass, gun metal and aluminium.

7. *Shafting and Bearings*—Forms of shaft and shaft couplings, friction and dog clutches, universal joints, arrangements of simple pedestals and footstep bearings. Materials for belts. Forms of ordinary spur and bevil wheels and their velocity ratios.

Section II.—Electrical Engineering.

8. *General Principles*—Electro-magnetic C G.S. system of units· Principles of Electro-magnetic induction; practical system of electric units; Electro magnets; Magnetic force and magnetic induction; Hysteresis loop, Eddy currents; Production of alternating currents. Commutation. Alternating

E.M.F. and current R M.S. values; Frequency; Power; factor; Polyphase currents; Capacity, Inductance and Impedence. Star and mesh connections.

9. *Measurements*—Ammeter, Voltmeter, Megger, Watt-meter, Watt-hour meter, Power factor meter, Frequency meter.

10 *Generators.*—Continuous current generator (Shunt series, Compound), Alternators. their characteristics and methods of testing their efficiency and voltage regulation. Transformers and their uses.

11. *Motors*—Continuous current motors, shunt series and compound, their characteristics and uses. Alternating current motors, inductions motors, synchronous motors; methods of starting and their application.

12. *Batteries.*—Construction and management of secondary batteries, their practical applications

13. *Transmission.*—Methods of transmitting electrical energy, calculation of conductor, size and transmission losses.

14. *Distribution.*—Methods of distributing electric power in streets, overhead and underground mains

15. *Illumination.*—Candle power, Photometers, use of shades.

PART III C(6)—MECHANICAL ENGINEERING

Part III—C(6) Mechanical Engineering

Geometry (under Mathematics—Experimental Geometry)—Add tangents, inscribe and describe figures, areas, figures, plane curves such as the parabola, ellipse and hyperbola methods of drawing and chief properties; cycloidal, spiral and other common curves and loci.

Solid Geometry—Lines, points, and planes Projection of simple solids. Regular solids Sections of solids. Isometric projection.

Graphics.—Problems relating to the reduction of a system of forces in two dimensions Arithmetic. Plotting of the curves from given data.

Machine Drawing —Ability to copy accurately to scale and supply additional views. The preparation of drawings of simple machines from dimensioned sketches, models or actual parts of machines.

Strength of materials —Mechanical properties of Engineering materials Stress and strain Modulus of elasticity. Elastic limits Ultimate strength Factor of safety and working strength. Statics and application to structures Co-planar forces. Application by graphical methods to simple frames with pin joint such as cranes, etc Elementary study of beam Bending moment and shearing force Sections in iron, steel and wood. Struts and columns Formula of Gordon and Euler Simple shear and torsion Strength of shafts Principle of work. Potential and Kinetic energy. Centrifugal force.

Heat Engines —Properties of steam, sensible and latent heats. Dry saturated and superheated steam Boiling point of liquids. Relation between temperature and pressure of steam Laws of perfect gases Curves of volumes and pressures. Theoretical diagram of work and estimates of mean pressure. Work done in the conversion of water into steam. Work done in cylinder. Efficiency.

Steam Engines.—History and early types. Modern type of land, marine and locomotive engines. High speed engines. Uniflow engines and steam turbines, description and working, essential differences and scope of usefulness. General design as affected by conditions of working.

Internal Combustion Engines —Early history and development. Later types. Modern, high duty, high efficiency engines Carnot's cycle Air engine cycle. Modern engine cycles and their applications. Types of engines as affected by requirements of power and the nature of available fuel as petrol, kerosine oil, crude oil and gas (suction and pressure).

General construction of the above types of engines.—Characteristic properties of coal, lignite, peat, crude oil, light oils,

petrol, benzole and tar oils, alcohol and vegetable refuse (Begasse and Paddy husk), Producer gas, Suction gas plants.

Boilers.—Description and working of Cornish, Vertical Lancashire, Locomotive. Water tube and Marine Boilers. Feed heaters, economisers, superheaters and other accessories and mountings.

Machine construction and design.—The production of sketches, working drawings, tracings and finished drawing of more complex parts of machines, the dimensions being taken from actual machines or models. The details will be chosen from the following.—Engines, gearing, valves, hand and machine tools, workshop fittings and appliances, boilers and rivetted joints, screws, belts and nuts, flanges, cottered joints, plumber blocks and brasses and stuffing boxes

Materials.—Characteristics of cast iron, wrought iron and steel. Ordinary forms of wrought iron and steel. Working strength of these materials in compression, tension and shear. Characteristics of copper, brass, gun metal and aluminium.

Connexions.—Forms and properties of rivets and arrangements of rivets in lap and butt joints, single and double rivetted Pitch of rivets Treatment of three or four overlapping plants. Junctions of plates by angle and T-irons. Forms and proportions of bolts and nuts. Flange joints: different forms of screw threads; lock nuts, key and cotter fastenings.

Shafting and bearings.—Forms of shafts and shaft couplings; friction and dog clutches, universal joints, arrangement of simple pedestals and footstep bearings; methods of lubricating bearings.

Belt and toothed gearing.—Forms of belt pulleys. Velocity ratio of a pair of pulleys Stepped speed cones Tension of belts, joint of belting. Materials for belts. Forms of ordinary spur and bevel wheels and their velocity ratios.

Engine details.—Usual forms of cranks and levers Methods of fixing crank pins Forms of excentrics Ordinary arrangements of connecting rods, cross heads and coupling rods Forms of cylinders, flangers and covers, simple forms of pistons and methods of packing, attachment of piston rods Simple forms of stuffing box and gland. Construction of simple slide valve.

Mechanical Engineering and Electrical Engineering.—The instruction in these subjects should include considerable practical work in workshop and laboratories supplemented by visits to various Engineering works The range covered by each of these subjects is necessarily very wide and the knowledge expected in many portions of the syllabus can only be general and descriptive. It may be necessary to allot extra hours for practical work as for example—Saturday mornings. For satisfactory instruction, equipment by way of workshop and laboratories are required.

PART III —C(7)—SURVEYING

Part III—C(7) Surveying.

Chain.—Prismatic Compass and Plane Table —Running a chain line, measuring offsets, use of the cross staff; optical square, survey of areas with chain only, well conditioned triangles, check or tie lines; testing the chain, modes of passing obstacles, chaining across a river or other obstacle survey of areas with prismatic compass, keeping the field book plotting surveys made with chain and compass, survey of areas with plane tables; inaccessibble points, filling in a survey; finding one's place in a survey.

Setting out—Ranging straight lines by eye Laying out curves by chords and offsets.

Level.—Permanent and temporary adjustments, levelling field book; two methods of reducing the field book; levelling; contouring, cross sections, correction for curvature of the earth and refraction; check levels; bench marks use of Abneys level;

clinometer and Ghaut tracer; setting out gradient for railways, canals and sewers.

Theodolite.—Use and adjustments of theodolite, traversing; Gale's system; setting out straight line and curves.

Drawing and mensuration.—Use of drawing instruments, construction of scales, conventional signs; estimation of acres; use of planimeter and pentagraph; plotting lines of levels and taking out quantities of earth-work; copying plans to different scales by squares, representation of ground by contours section on contoured plans; location of roads and railways on contoured plans showing cuttings and embankments, estimation of areas and volumes; reduction and plotting of a theodolite traverse.

PART III—C (8)— DRAWING

Part III—C(8) Drawing.

Syllabus not yet framed.

PART III—C (9)— MUSIC

Part III—C(9) Music.

There shall be two papers of three hours' duration each on the following course and there shall be a practical test on Sections 2 and 5. In the latter, the candidates will be expected to sing or to play on one of the following instruments: Veena, Violin and Flute.

1 *Theory of Music.*

(a) Musical sounds and intervals, including laws of vibration of strings and air columns Harmonies and upper partial tones Pitch, intensity. Timber and Voice-Registers (Sthayi). Sruits. Swaras 7, 12 and 16, their names in Carnatic and Hindustani Music. Consonant and Dissonant Notes—Vadi, Samvadi and Anuvadi.

(b) Raga and Tala Meanings of the term Raga Raga Classifications in Carnatic and Hindustani Music. Meaning of the term Tala. The Tala system of Carnatic Music; the Dasa Pranas and the Pancha Talas. Simple Talas in Hindustani Music.

2. *Musical Composition.*

Knowledge of the different types of musical composition, both voice production exercises and classical pieces, including Gitas, Varnas, Ragamalikas, Kirtanas and Padas. Principles of Carnatic Notation and of Western Staff Notation.

3. *History of Music.*

A knowledge of the history of Music, from Bharata to the present day, with special reference to the following scholars, Musicians and composers·

1. Bharata	2 Sarangadeva
3 Ahobila	4 Rama Amatya
5. Venkatamakhi	6 Somanatha
7. Tulajaji	8 Jayadeva
9 Tirtha Narayanaswami	10 Purandara Vittala
11. Dikshita family	12 Tyagaraja
13. Syama Sastri	14 Patnam Subramania Aiyar
15 Subramanya Kavi	16 Mysore Sadasiva Rao
17. Arunchala Kavirayar	18 Gopalakrishna Bharati
19. Ananta Bharati	20 Vedanayakam Pillai
21. Kavi Kunjara Bharati	22 Kulasekhara Maharajah
23. Kshetrayya	

4. *Musical Instruments.*

A knowledge of the structure and use of the chief instruments of South India.

5. *Ragas**

A knowledge and fair practice of the following 20 ragas, with the ability to render at least one classical composition in each —Dhanyasi, Saveri, Bhupalam, Bhairavi, Mukhari, Vasanta, Madhyamavati, Sriraga, Mohana, Kamboji, Surati, Sahana, Anandabhairavi, Suddha Saveri, Bilahari, Arabhi, Begada, Kalyani, Todi, Sankarabharana.

Candidates will be expected to give accurate definitions of the above ragas with illustrations, which, in the oral examination, will be sung or played and, in the written examination will be set down in musical notation.

* The choice of Ragas may be changed after some years.

CHAPTER XL

B. A DEGREE EXAMINATION

Conditions of admission.

1 Candidates for the Degree of Bachelor of Arts (B. A) shall be required—

(i) to have passed the Intermediate Examination in Arts and Science of this University as prescribed in section 6 of Chapter XXXIX of the Code or the Intermediate Examination of any other Statutory Indian University accepted by the Syndicate as equivalent thereto;

(ii) to have undergone subsequently a further course of study in an affiliated college as prescribed hereunder, extending over a period of two years, each consisting of three terms consecutive, and

(iii) to have passed the Examination for the Degree hereinafter prescribed.

Courses of study.

2. The course for the B. A. Degree shall comprise the following subjects of study:—

Part I—English Language and Literature

Part II—A second language One of the following languages at the option of the candidate.—

(a) Classical—Sanskrit, Latin, Arabic, Persian, Pali.

(b) Modern European—French, German.

(c) Modern Indian—Telugu, Kannada, Tamil, Oriya, Hindi, Urdu.

Part III—One of the following groups:—

(i) Mathematics.

(ii) *Philosophy

(iii) History and Economics (History main).

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* From 1934 Examinations, it will read as follows:—
(ii-A) Philosophy
(ii-B) Philosophy.

(iv) History, and Economics (Economics main).

(v) One of the languages included in Parts I and II above.

Eligibility for the Degree.

3. No candidate shall be eligible for the Degree of Bachelor of Arts until he has passed an examination in English Language and Literature, and in a second language, and in one of the optional groups prescribed

Option to appear at whole examination or in parts.

4. A candidate for the B A Degree Examination may at his option present himself for the whole or for a Part at any one time.

Subjects for composition and duration of papers

5. Candidates shall be examined in—

Part I—English Language and Literature

There shall be four papers in English, three of three hours' duration and the fourth of two hours and a half duration

The course shall be (a) Composition on matter supplied by books set for perusal, (b) the study in detail of certain prescribed books and of the History of English Literature so far as it is represented by these books.

The books set under (a) shall consist of two books and may include works of fiction, literary criticism, biography, history, science, philosophy or sociology

Books set under (b) shall be arranged in the following classes:—

(1) Two plays of Shakespeare

(2) Modern Poetry about 2,000 lines.

(3) Modern Prose Four set books.

The paper in the books under (a), which shall be of three hours' duration shall consist exclusively of subjects for short essays, and of these the paper shall contain a larger number than the candidate is required to attempt.

Under (b) the papers on Shakespeare and Prose shall each be of three hours' duration, and the paper on Modern Poetry of two hours and a half duration. No question shall be set on the General History of the Drama or on General English Literature in the papers on Shakespeare and Prose respectively

Part II—A second language.

There shall be two papers of three hours' duration each.

(a) Classical—Sanskrit, Pali, Arabic and Persian.

The course shall comprise (a) a detailed study of prescribed text-books on prose, poetry and drama and applied grammar and poetics; and (b) translation of seen and unseen passages from and into English

The first paper shall be upon (a) and the second upon (b).

(b) Modern Indian-Telugu, Kannada, Tamil, Oriya, Hindi, and Urdu.

The main object of the course shall be the training of the student to employ the language as a vehicle of expression of modern thought.

The course shall comprise (a) a detailed study of prescribed text-books on prose, poetry and drama and applied grammar and poetics, and (b) original composition, composition on text-books in prose set for non-detailed study and translation from English only.

The first paper shall be upon (a) and the second upon (b).

Part III—One of the groups mentioned under Part III in section 2 above at the option of the candidate

GROUP (i) MATHEMATICS.

There shall be six papers set in this group—four of which viz., on (1) Algebra and Trigonometry, (2) Astronomy, (3) Pure and Analytical Geometry, (4) Calculus shall be each of three hours' duration, and two of which viz (1) Dynamics and

(2) Hydrostatics and Properties of Matter shall be each of two hours' duration.

There shall be no practical examination in Hydrostatics and Properties of Matter for Group (i) candidates.

*GROUP (ii) PHILOSOPHY

(1) Psychology, (2) Ethics, (3) Logic and Theory of Knowledge (4) A philosophical work bearing upon a school or period of Indian Philosophy, and (5) A philosophical work bearing upon a school or period of European Philosophy.

Text books or syllabuses will be recommended from time to time as indicating the scope and standard of the examination in subjects (1), (2) and (3) above.

There shall be one paper of three hours each in Logic and Ethics, two papers of two hours each in Psychology and one paper of two and a half hours each, in European Philosophy and Indian Philosophy

*Note (1) From 1934 Examinations, it will read as follows:—

Group (ii-A) Philosophy.

(2) From 1934 Examinations, the following alternative scheme will come into force:—

GROUP (ii-B) PHILOSOPHY

(1) General Psychology, (2) Ethics (3) Any one of the following subjects at the option of the candidate:—

(a) Indian Philosophy, (b) European Philosophy (c) Experimental Psychology and (d) Educational Psychology,

(4) Economics and (5) Political Science or Sociology.

Syllabuses and text-books shall be the same as those prescribed in the corresponding subjects under Groups (ii-A), iii and iv. The scope and standard of examination in Experimental

GROUP (iii) HISTORY AND ECONOMICS (HISTORY MAIN)

(1) One of the following special periods of Indian History:—

(a) Early India to the death of Harsha.

(b) Mediaeval India from the death of Harsha to 1556.

(c) Moghul and Maharatta India from 1556 to 1761.

(d) India under the East India Company to 1858.

(e) Modern India from 1858 to the present day.

(2) Constitutional History of India during the British period.

(3) Outlines of European History, A. D. 476 to A. D. 1918.

(4) Economics—General.

(5) Political Science

There shall be set one paper of three hours' duration on each of the subjects mentioned above.

GROUP (iv) HISTORY AND ECONOMICS (ECONOMICS MAIN)

(1) Economics—General.

(2) Economics—Special I.

(3) Economics—Special II.

(4) Modern History, according to a syllabus.

(5) Sociology.

There shall be set one paper of three hours' duration on each of the subjects mentioned above.

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and Educational Psychology shall be indicated by the textbooks recommended from year to year.

There shall be two papers, each of two hours duration on (1) General Psychology, one paper of three hours duration on (2) Ethics, one paper of two hours and a half duration on the optional subject under (3) above, one paper of three hours duration on (4) Economics and a two hours and a half paper on (5) Political Science or Sociology.

GROUP (v) ONE OF THE LANGUAGES INCLUDED IN PARTS I AND II ABOVE

One of the following languages, which shall be taken in conjunction with the related subject or related languages, if any, specified for each language in the following lists:—

Selected Language	*Related Subject.*
Sanskrit	Early Indian History.
Pali	Early History of India.
Persian or Arabic	Early Muslim History
Urdu	Indian History—Muslim Period.
Telugu, Tamil or Kannada	Early South Indian History.
Oriya	Early History of Orissa.
Hindi.	Mediaeval History of Northern India.

Selected Language	*Related Language.*
Sanskrit, Arabic, Persian	None.
Telugu, Tamil, or Kannada	Sanskrit.
Oriya	Sanskrit.
Hindi or Pali.	Sanskrit. ..
Urdu.	Arabic or Persian.
English.	None.

The courses of study in the several languages shall be as follows:—

(1) SANSKRIT

(a) SANSKRIT (MAIN)

Sanskrit Language and Literature The course shall be.—

(a) Selections from the Early Period, including Vedic Mantras, Brahmanas, Aranyakas, Upanishads and the Sutra literature.

(b) Selections in prose and verse from the Later Period including the Dharmasastras and the Ithihasa. Kavya and Nataka literature.

A knowledge of Alamkarasastra will be required sufficient for the correct understanding of learned and recognised commentators.

(c) Sanskrit Grammar treated historically and comparatively in accordance with a syllabus

(d) Translation from and into Sanskrit

(e) General History of Sanskrit Literature

(f) Early Indian History

In the examination there shall be two papers, each of three hours' duration in subject (b) and one paper of three hours' duration in each of other subjects except Translation which will form part of the papers set on (a) and (b) above.

(b) SANSKRIT (SUBSIDIARY)

The course shall consist of the study of one drama of the classical period and portion of one Kavya In the examination there shall be one paper of three hours' duration which shall include pieces for translation from Sanskrit into the main language.

(2) PALI

The course shall consist of—

(1) The study of certain prescribed text-books in poetry and prose.

(2) Pali grammar treated comparatively in relation to Sanskrit and the middle and modern Indian languages.

(3) History of the literature of the language

(4) Translation from English into the selected language and *vice versa*.

(5) Early History of India or Sanskrit

There shall be two papers on the prescribed text-books under 1 and one paper in each of the other subjects, all of three hours' duration.

(3) (a) ARABIC OR PERSIAN (MAIN)

The course shall consist of—

(a) Prose books selected from different periods.

(b) Poetry books selected from different periods.

(c) Translation from prose books other than the set books; translation from the set poetry books and from English into Arabic or Persian Prose

(d) Grammar including Rhetoric and Prosody

(e) History of Language and Literature with special reference to the set books

(f) A selected period of early Muslim History

The periods of History for Persian or Arabic may be one or other of the following —

(1) The four first Khalifas and Umayyad Khalifate excluding Africa and Spain

(2) The Abbasid Khalifate, excluding Africa and Spain and the Wars of Crusades

(3) The Muslim Conquest of Egypt and Northern Africa until the fall of the Abbasid Khalifate and excluding the wars of the Crusades

(4) The Arab conquest of and rule in Spain

(5) The Wars of the Crusades

There shall be one paper of three hours' duration in each of the subjects above

(b) ARABIC OR PERSIAN (SUBSIDIARY)

The course shall consist of the study of selected pieces from one poet of the classical period and selected portions from the works of one standard prose writer There shall be one paper in the examination of three hours' duration which shall include pieces for translation from Arabic or Persian into the main language.

(4) URDU

The course shall consist of—

(a) Prose books from different periods, including at least one modern work.

(b) Poetry books from different periods, including at least one modern work.

(c) Translation from prose and poetry books other than the set books, translation from English into Urdu to be made in an approved modern style

(d) Grammar including Rhetoric and Prosody

(e) History of Language and History of Literature

(f) Indian History—Muslim, or Arabic or Persian

There shall be one paper of three hours' duration in each of the subjects above.

(5) TELUGU, TAMIL OR KANNADA

The course shall consist of—

(a) The study of selections representative of the several periods of the literature of the selected language including one or more inscriptions

In the case of Telugu the extent of the prescribed books shall be as follows:—

(1) Poetry About 1000 stanzas—400 from the Puranic Period, 400 from the Prabandhas and 200 from Modern poetry.

(2) Prose General Prose works including works bearing on literary criticism and the history of language and literature

(3) Drama Two dramas one of which shoud be a translation from Sanskrit

(4) Ancient Inscriptions

(b) The history of the literature with special reference to the set books

(c) Grammar, prosody and poetics according to prescribed syllabus and the history of the language as illustrated by set books.

(d) The elements of the Comparative Grammar of the Dravidian Languages.

(e) Composition

(f) Early South Indian History or Sanskrit

The examination will comprise one paper of three hours' duration in each of the above subjects.

(6) ORIYA

The course shall be the same as for the Dravidian languages with the substitution of Gaudian Grammar for Dravidian Grammar, and of the Early History of Orissa for Early South Indian History.

(7) HINDI

The course shall consist of—

(1) The study of certain prescribed text-books in poetry and prose.

(2) Elements of the comparative grammar of the Gaudian languages.

(3) History of literature with special reference to the set books.

(4) Composition.

(5) Mediaeval Hisory of Northern India or Sanskrit.

There shall be two papers on the prescribed text-books under 1 and one paper in each of the other subjects, all of three hours' duration.

(8) ENGLISH.

There shall be six papers, each of three hours' duration.—

(1) Drama: Two English plays and one Classical or Indian translated into English.

(2) English Poetry: 16th Century onwards Set-books, C.2,000 lines

(3) English Prose: 16th Century onwards. Set-books: four books.

(4) History of English Literature from Chaucer, and the analysis of literature forms.

(5) History of the English Language, and *either* (a) Select passages from Sweet's Primer of Anglo-Saxon or (b) A set book from Chaucer.

Not more than a third of the paper shall be on the History of the Language.

(6) General Essay.

Notes:—(1) The questions on subjects 1—4 will be on the contents and criticism of only the books prescribed

(ii) Set books shall be current for three years, at the end of which they shall be replaced to the extent of one half by new books under each paper.

Marks qualifying for a pass

6. A candidate shall be declared to have passed the examination in English if he obtains not less than thirty-five per cent of the total number of marks A candidate shall be declared to have passed the examination in a second language if he obtains not less than 35 per cent of the total number of marks. A candidate shall be declared to have passed in an optional subject if he obtains not less than thirty-five per cent of the total marks and not less than 30 per cent in each division of the examination as prescribed hereunder*. The divisions shall be as follows:—

Divisions

Group (i) (a) Pure Mathematics, (b) Applied Mathematics.

§Group (ii) All subjects to be treated as one division.

* From 1934 Examinations, the following proviso will be added:—
'Provided that a candidate offering Economics and Political Science or Sociology under Group (II-B), shall obtain a special minimum of 30 per cent of the total marks of the two papers on the two subjects taken together'.

§ From 1934 Exams, it will read as follows —
'Group II-A. All subjects to be treated as one division.
Group II-B. All subjects to be treated as one division subject to the proviso under the para 1 above."

Group (iii) (a) Indian, European, and Constitutional Histories, (b) Economics and Political Science.

Group (iv) (a) Economics, (b) History and Sociology.

"Group (v)—(i) Languages other than English.

(*a*) Selected Language, (*b*) Related Subject or Language.

(ii) English.

(*a*) Drama, Poetry and Prose, (*b*) History of English Literature and Analysis of Literary Forms, History of English Language and Essay."

All other candidates shall be deemed to have failed in the examination.

Classification of successful candidates

There shall be separate pass and failure lists for the English language part, for the second language part, and for each of the optional groups. Successful candidates obtaining not less than sixty per cent of the total marks in English or in a second language or in the optional group shall be placed in the first class and ranked in the order of proficiency as determined by the total marks obtained by each in the part concerned. Successful candidates obtaining less than sixty per cent and not less than fifty per cent shall be placed in the second class and ranked in the order of proficiency as determined by the total marks obtained by each Successful candidates obtaining less than fifty per cent shall be placed in the third class.

TRANSITORY REGULATIONS

I. For the benefit of candidates who have failed in the B.A. Degree examination of 1931 or earlier, the B. A. Degree examination under the Old Regulations (i. e., in force up to and inclusive of the examination of 1931) will be held in the months of April and September 1932 under the Old time-tables. Candidates for the B A. Degree examination who complete their courses of study and earned the prescribed certificates of attendance and progress for two years under the Old Regulations

shall be permitted to appear for the B. A. Degree examination of 1932 under the same Regulations. Candidates who have been exempted from the production of attendance certificates may, at their option, appear for the examination of 1932 under the Old Regulations. The text-books and syllabuses will be the same as those prescribed for the examination of 1931.

II. No examination for the B A. Degree under the Old Regulations (i e, in force up to and inclusive of the B.A. Degree examination of 1932) shall be held as from the B. A Degree examination of 1933

Candidates for the B. A Degree examination who completed their courses of study for that examination under the Old Regulations shall be permitted to complete the B A Degree examination under the New Regulations subject to the following conditions —

(1) A candidate who has passed Part I of the examination under the Old Regulations shall be deemed to have passed in Parts I and II under the New Regulations

(2) A candidate who has passed Part II under the Old Regulations shall be deemed to have passed in Part III of the examination under the New Regulations.

(3) A candidate who has failed to pass in Part I of the examination under the Old Regulations shall be exempted from the examination in a language under Part II of the examination under the New Regulations, but shall be required to take five papers in English, comprising the four papers under the New Regulations and one additional paper in the 17th and 18th Century Prose to be set on the text-books prescribed for the examination of 1931. This Regulation shall be in force till the September examination of 1933. Thereafter candidates will have to appear for the examination under the Regulations then in force.

(4) A candidate who fails to pass in Part II of the examination under the Old Regulations in a Group other than Group ii—Physical Science or Group iii—Natural Science, shall be required to take the paper set for the corresponding group under the New Regulations.

A candidate who fails to pass in Part II of the Examination under the Old Regulations in Science Groups (viz, II-A II-B and III) shall be examined separately up to and including the September Examinations of 1933, provided however that a candidate offering Chemistry either in Group II-A or II-B shall be required to take in corresponding papers set for the B.Sc Degree Examination in Subsidiary and Main subjects respectively.

On or after 1st June 1931, candidates for the B A. Degree examination, who had completed the first year's course of study in a non-science or Mathematics group prescribed for the examination under the Regulations in force prior to the academic year 1930—31 and had earned the certificates of attendance and progress prescribed for that year but are unable to complete the course under those Regulations, will be permitted to complete the second year course of study by attending classes under the New Regulations and to appear for the examinations under the New Regulations They shall be exempted from the production of the attendance certificates required for the first year of the course.

SYLLABUSES

GROUP (1) MATHEMATICS

In addition to the subjects prescribed under (a) Mathematics and (b) Physics for the Intermediate Examination, the course will comprise Algebra, Plane Trigonometry, Elements of the Calculus, Dynamics, Hydrostatics, Astronomy, and Properties of Matter. Mathematics.

PURE MATHEMATICS

Algebra—Inequalities, Limits, Elementary theorems in convergence and divergence of series. The binomial theorem

for a rational index. Exponential and Logarithmic series. Partial fractions, elementary methods for the summation of series. The elementary properties of continued fractions. Intermediate equations of the first degree.

Elementary properties of Determinants. Typical graphs·

$y = ax^n$, $y = a/x$, $y = ax+b+c/x$, $y = ax+b+c/x^2$

Graphical solution of cubic and biquadratic equations.

General properties of the equation of the *n*th degree and its roots and co-efficients. The derived functions *Simple* transformations of equations Reciprocal equations. Approximate solution of numerical equations.

Trigonometry.—Fuller treatment of the Intermediate course. Quadrilaterals inscribed in and circumscribed about *circles. Regular polygons —Limits of sin x|x and tan x|x as x tends to zero.—Inverse* Trigonometrical Functions. Complex numbers and their geometrical representation DeMoivre's theorem. Series of Cos x, Sin x Tan—x in terms of x (without proof). Hyperbolic Functions. Summation of elementary trigonometrical series.

Pure Geometry —Inversion. Orthogonal Projection·

Questions in Geometry may be allowed to be answered by methods either of pure geometry or analytical geometry.

Syllabus in Geometrical Conics.

Such leading properties of conic sections as are specially suitable for treatment by elementary geometry.

Detailed Syllabus.

Focus: Directrix, definition of the conic; shape, axes of symmetry, centre, foci, the ellipse as orthogonal projection of a circle.

Geometrical treatment of the following propositions and their immediate application:

(i) If a chord PQ of a conic, whose focus is S, meets the corresponding directrix in R, SR is a bisector of PSQ.

(ii) The tangents from any point to a conic subtend equal or supplementary angles at a focus.

(iii) The semi-latus rectum is a harmonic mean between the segments of a focal chord.

(iv) The locus of midpoints of parallel chords of a conic is a diameter.

(v) The sub-tangent of a parabola is bisected at the vertex and the subnormal is constant.

(vi) The foot of the perpendicular from the focus on any tangent of a parabola lies on the tangent at the vertex.

(vii) The focal-chord of a parabola parallel to the tangent at P is 4 SP.

(viii) $PV^2 = 4\ SK\ KV$ where PV is an ordinate to the diameter of a parabola through K

(ix) The sum or difference of the focal distances of any point on a central conic is constant

(x) The tangent and the normal at P bisectors of SPP in the case of a central conic and of SP and the parallel to the axis through P in the case of a parabola.

(xi) The feet of the perpendiculars from the foci on any tangent lie on the auxiliary circle and the rectangle under these perpendiculars is constant.

(xii) The sum of the squares of conjugate diameters of an ellipse is constant.

(xiii) The locus of meets of perpendicular tangents to a conic is a circle which reduces to a straight line when the conic is a parabola.

(xiv) Every plane section of a right circular cone or cylinder is a conic.

Analytical Geometry—Fuller treatment of the straight line and circle referred to rectangular axes. The parabola, ellipse and hyperbola referred to their principal axes, and the rectangular hyperbola referred to its asymptotes Tracing of conics from the general equation of the second degree. The polar equations of the straight line, circle and the conic. Simple problems on the above.

The Calculus.—Standard forms and fundamental processes of differentiation and integration. Simple applications of the derivative to geometry, algebra, mechanics and physics. Maxima and minima values of a function of one variable. Theorem of mean value (graphical proof) Taylor's and Maclaurin's Theorems (without proof) Approximations and small errors Curve tracing Curvature. Cartesian formula for the radius of curvature. Integration by substitution Integration by parts Integration regarded as summation, with simple applications to areas, volumes and surfaces and to mechanics Differential equations of the first order and first degree Linear differential equations of the second order with constant co-efficients.

APPLIED MATHEMATICS.

Dynamics.—Resolution and composition of displacements, velocities, and accelerations Curves of speed and velocity diagrams Motion of a particle in one plane under constant accelerations. Simple harmonic motion, composition of simple harmonic motions. Angular velocity and angular acceleration. moment of velocity.

Absolute units of force. Resolution and composition of forces. Angular momentum: moments of inertia in simple cases, the pendulum; determination of g. Work, energy, conservation of diagrams. Impact · the ballistic pendulum. Dimensions of dynamical units. Conditions of equilibrium of a body acted on by forces in one plane. Moments and couples. Centre of mass. The theory of simple machines. Laws of friction. Graphical methods of simple applications.

Hydrostatics.—Thrust of fluid on plane and curved surfaces Centre of pressure in simple cases. Floating bodies and conditions of stability. Properties of gases; determination of

heights by barometer. Pumps, pressure gauges and hydrostatic machines. Capillary phenomena and their explanation by surface tension, general theory of surface tension.

Astronomy.—The apparent motion of the heavens. Circumpolar stars The principle constellations and the most conspicuous stars.

The celestial sphere—Points and lines on it —Horizon, zenith, pole, meridian etc, equinoxial points etc

Celestial co-ordinates, right ascension, declination, etc, latitude and longitude.

The transit circle, the equatorial, the clock. The transit theodolite The sextant and chronometer

Phenomena depending on change of latitude and longitude of the observer Magnitude of the earth

The apparent annual motion of the Sun. The Constellations of the zodiac The ecliptic and its obliquity The equinoxes and the solstices The earth's motion round the Sun The seasons.

Sidereal time, apparent solar time, mean solar time Equation of time Standard time (India) Civil and astronomical reckoning Conversion of time

Explanation of astronomical refraction and parallar Twilight

Determination by observation of clock error and rate of right ascension and declination of a heavenly body, and of the latitude and longitude of a station.

The solar system, and the motion of the planets Kepler's law Comets and meteors.

The motion of the moon and her phases. The plane of her orbit The nodes and their motion The moon's sidereal and synodic periods Her diameter and distance.

Distances and magnitudes of the sun and moon and planets,

Causes of the eclipses of the sun and moon. Ecliptic limits. Number of Eclipses in a year. The Calendar. The use of the Nautical Almanac.

Formulæ for the solution of right angled spherical triangles Elementary problems on diurnal motion involving the use of right-angled spherical triangles. Determination of the first point of Aries and the obliquity of the ecliptic. Precession, Nutation, Aberration

Properties of matter.—Elasticity Hookes' Law Compressibility of gases (at high and low pressure) and liquids. Compressibility and rigidity of solids, the elastic limits Strains due to simple longitudinal pull, Young's modulus and its expression in terms of k and n Bending in one plane of bars of simple cross sectional area, flexual rigidity application to girders. Simple twisting of wires of circular cross sectional area by couple in plane at right angles to length, torsional rigidity, applications to torsion balance, and shafts

Diffusion of liquids and gases; analogy with conduction of heat. Osmosis, viscosity Pressure of a gas and its explanation on the kinetic theory; Avogodro's hypothesis, Vander Waal's equation

There shall be no Practical Examination in Physics for Group (i) Mathematics.

Practical Physics for Group (i)

The following scheme is intended to indicate the nature and extent of the course of instruction in Practical Physics for candidates in Group (i) B A Degree:—

(1) Application of the method of least squares to the treatment of a series of observations: probable error

(2) Observation of damped oscillations: logarithmic decrement.

(3) Composition of simple harmonic motions of different phases, amplitudes or periods, in the same or different directions.

(4) Calibration of a glass tube.

(5) Comparison of aneroid and standard barometers under different conditions of temperature and pressure.

(6) Surface tension

(7) Viscosity of a liquid by flow in a narrow tube.

(8) Stress-strain curves Young's modulus elastic limit

(9) Determination of moments of inertia.

(10) Determination of g compound pendulum.

(11) The balance Zero of unloaded balance curves of sensitiveness. ratio of arms calibration of a set of weights.

GROUP (II) PHILOSOPHY

Philosophy

No detailed syllabus has been prescribed

GROUP (III) HISTORY AND ECONOMICS (HISTORY MAIN)

History and Economics—(History Main)

1 Political Science

The State—Its characteristics and relation to kindred conceptions, e g, People, Nation, Society, Government, Constitution Its value.

The origin of the State—The family, patriarchal or matriarchal primitive headship, slavery or adoption, conquest or amalgamation.

The Ancient City State—Political evolution in Sparta, Athens, Rome—Monarchy, Aristocracy, Oligarchy, Tyranny, Democracy. The Federated City State The Imperial City State.

The Country State—Break up of the Roman Empire. Political forces of the Middle Ages—Feudalism, the Holy Roman Empire, the Papacy, premature Constitutionalism, the reappearance of the City State

The modern period, Political influences of the Renaissance, Reformation, Maritime Discoveries National monarchy in England and France—resemblance and contrast in sixteenth, seventeenth and eighteenth centuries.

The Social Contract.

Constitutional Monarchy. Republican Government, e. g., France and U S.A.

The Federated Country State. The Imperial Country State.

Analysis of the Modern State.—The Legislative, Executive and Judicial powers The principle of separation of powers (a) as between federal and part-state organs, e g, U S A (b) as between the Legislature, Executive and Judiciary, e.g, U S A., Great Britain, France

The Legislature —Two Chambers—their composition and powers The representative and the telephone theories Direct Legislation by Referendum and Initiative Sovereign and non-sovereign legislature Rigid and flexible Constitutions.

The Executive.—Parliamentary and non-Parliamentary Executives. The Cabinet.

The Judiciary —Its relation to the Executive and the Legislature. 'The rule of law'.

Party-Government —Its development in Great Britain and the U S A Its merits and defects

The Sphere of the State —The Greek and Roman view Teutonic individualism

Mercantile Policy. Laissez Faire Modern Individualism and Socialism.

2. Economics.

[Students will be required to show a clear understanding of economic principles by intelligent application of economic theory to Indian facts and problems]

General —The scope of Economics. Relation of Economics to their Sciences Methods of Economic enquiry, deductive and inductive (e g family budgets, village and city surveys, statistics.) History (in broad outline) of Economic thought.

Psychological Basis of Economics and Consumption— Classification of Wants Stability. Wants in relation to ac-

tivities. Elastic and Inelastic Demand Economic meaning and types of Consumption Conception of 'Utility' and 'Value' Economic motive, the 'Economic Man' influence of family system.

The Production of Wealth Definition—Production as (a) Creation of use value, (b) creation of exchange value Classification Production for producer's use (a) Individual (b) Social Production for the Market

Factors of Production—Natural forces and materials, soil, sun, rain, mineral, etc The Principle of Conservation Material capital (Classification of forms, social and individual capital) Human energies, (a) physical, (b) intellectual Theory of population Efficiency dependent on (a) individual physique, nutrition, knowledge, skill, moral quality, (b) social conditions, e g social order, co-operation and division of labour Methods of conserving past acquisitions of skill and knowledge (e g hereditary occupations, apprenticeship, industrial education) New acquisitions (e g research and invention)

Characteristics of Modern Production Basis—(a) Individual Property, (b) Contract Character (a) Mercantile (b) Capitalistic *Forms.* (a) Individual (peasant and craftsman) (b) patronal (individual employer and joint stock company), (c) Co-operative (d) Collectivist (state and municipal). *Specialization,* Concentration in agriculture, manufacture, transport, commerce Horizontal and Vertical combination. Competition and Monopoly

Extent to which Indian industry possesses these characteristics

Stages of Production—Extractive Industries, Agriculture.—Fishing, Forestry, Mining, etc *Manufacture* Laws of Diminishing Returns and Increasing Returns *Transport* and *Commerce,* local international *Money, credit,* and *insurance* as auxiliaries to production.

Mechanism of Exchnge—Origin and functions of money. Metallic Coinage Functions of Banks. Fiduciary money and money substitutes (Treasure notes, bank notes, cheques, bills of exchange.) The rupee, India Exchange

Exchange Value —Theory of Value, equilibrium between Demand and Supply Market value and normal value. 'Value of money meanings of phrase Variations in value of money.

Distribution of Wealth.—The Share of Land Rent. Supply and Demand in relation to Land The Ricardian Law of Rent. Economic Rent Customary Rent Rack-rent The sharing of Economic rent in India

The Share of labour —(i) Wages Supply and Demand in relation to Labour Theories of wages (a) Minimum subsistence, (b) Standard of life, (c) Marginal productivity Combinations of employers and employees in relation to wages

(ii) *Salaries* —Supply and Demand in relation to acquired knowledge and skill, and exceptional ability.

The Share of Capital Interest —Supply and Demand in relation to Capital The accumulation of capital. Conversion of capital from unspecialized forms Interest on loanable capital. Interest on investments Capitalization. Promotion

The Share of Capital Interest —Supply and Demand in relation to Business Organization Profits and the Entrepreneur.

The Share of the State Taxation —The community as worker and sharer in the product Duties and Expenses of Government Forms of Taxation Protection and Free Trade.

History and Economics—(Economics Main)

GROUP (iv) HISTORY AND ECONOMICS (ECONOMICS MAIN)

1 ECONOMICS.

A. *Economics General (A general survey of an elementary character), based on the Syllabus prescribed for Group (iii).*

B. *Economics Special*—Any two of the following subjects:—

1. ***Banking and Currency*** (includes money, credit, foreign exchanges and prices.

2 *Public Finance* (includes the economic functions of the State, the raising and spending of taxes and public loans and the regulations of tariffs.)

3 *Labour Problem* (includes trade unionism, socialism, labour legislation, welfare work).

4 *Indian Land Tenures* (includes the development and main features of the principal systems of land tenure in India).

5 *Rural Economics* (includes the organization and financing of agriculture with special reference to the co-operative movement in relation to agriculture)

2 MODERN HISTORY [1500-1918]

[In addition to a knowledge of the development of the European State System as set forth in the Syllabus, a knowledge of the origin and working of the constitution of the chief countries will be required, viz., of England, Switzerland and, after 1870, of France, Germany, Italy and the British Commonwealth]

(1) *Introduction*—

Features of Mediaeval Europe —Papacy—Empire—Feudalism—their decay Decline of Byzantine Empire

The New Age —Renaissance—Reformation—Maritime discoveries—Transfer of political power to Atlantic States—Spain —Portugal—France—Holland —England

(2) *Sixteenth century*—

Supremacy of Spain under the Hapsburgs

The development of the Hapsburg power and its extent under Charles V and Philip II Its challenge to Europe·—

(a) France, (b) Germany, (c) Netherlands, (d) England, (e) Turkey

The relation of the Reformation and Counter Reformation to the struggle.

(3) *Seventeenth Century*—

(A) Ascendency of France

(i) Henry IV—Richlieu—Mazarin Opportunity afforded by religious struggle in Germany

(ii) France under Louis XIV—His system of Alliances Sweden—Turkey—England The challenge to Europe· (a) Holland, (b) Spain, (c) The Empire, (d) England.

(B) Northern Europe

Ascendency of Sweden under House of Vasa Her challenge to North Europe: (a) Denmark, (b) The Empire, (c) Poland, (d) Russia

(C) South-Eastern Europe

Revival of Turkish Power—its relation to Western polities – its challenge to Austria and Poland Position of Turkey at close of century.

(4) *Eighteenth century*—

The rise of England—Prussia—Russia

(A) *England*—Her position in Europe and overseas after Treaty of Utrecht—Expansion and challenge to (a) France and Spain, (b) Holland

(B) *Prussia*—Her position under Frederick II His challenge to Austria and German Princes—Relation with France—Russia—England

(C) *Russia*—Her position in Baltic after Treaty of Nystadt Her challenge to (a) Germany, (b) Poland (c) Turkey

(5) *French Revolution*—

(A) Its causes, characteristics and course –Its challenge to Europe—(a) The Empire (Netherlands, Germany and Italy), (b) England

(B) The Nepoleonic Empire

Its rise and development—its challenge to Europe:—(a) The Empire, (b) England, (c) Russia, (d) Spain, (e) Portugal Its overthrow Congress of Vienna

(6) *Nineteenth Century and after*

The challenge of Vienna to Liberalisms and Nationality. Influence of Matternich

(A) *Liberal movements*—

(i) 1815—1825 Germany—Spain—Italy Suppression by Quadruple Alliance.

(ii) 1830 Revolution in France and its consequences in Austria—Hungary—Italy—Prussia—England—Collapse and reaction Fall of Metternich—establishment of the Second Empire in France.

(B) *National movements*—

(i) Union of Italy

(ii) Unification of Germany and the establishment of the German Empire—the French Republic.

(C) *The Eastern Question*—

Russia's challenge to Turkey—Anglo-French support to Turkey.

(i) War of Greek Independence

(ii) Turko-Egyptian War

(iii) Crimean War.

(iv) Balkan Risings and Russo-Turkish War Congress of Berlin.

D Growth of the Balkan State The "Young Turk" Revolution—The Balkan War—The Treaty of Bucharest'

E German attempt at World Supremacy—The Anglo-German rivalry—European Colonial ambitions—The Triple Alliance—The Triple Entete—The Great War—The Treaty of Versailles.

3. Sociology.

1. *Introduction* Nature and scope of the subject: its relation to Biology, psychology and other sciences Methods of investigation, evolution in social phenomena, progress and determination, social life as influenced by physical, geographical, biological, psychological, ethical, religious and historic factors.

2 *The family* Its organisation and forms, maternal and paternal descent; kinship, relations and usages; relation of sexes; sexual division of labour, segregation, adoption, education, systems.

C. Accidence

9 World-formation. Base Stem and suffix. Prefix-Infix.

10. *Sanskrit compounds, nominal and adverbal.*

11. *Sanskrit suffixes,* primary (krt) and secondary (taddhita).

12 *Nominal Declension* —P. I E· conditions· Number Grammatical Gender. Case and case-endings P. I. E. case endings Syncretism Contamination Classification of noun-declensions according to suffix Vowel and consonant-stems

13. *The noun declensions in Sanskrit* treated historically and comparatively with reference to P I E Greek Latin and Teutonic Philological explanation of all case-endings. Comparison of adjectives and formation of adverbs treated philologically.

14. *Numerals.*—Philological treatment of the Sanskrit numerals.

15. *Pronouns and pronominal adjectives.*—The Sanskrit numerals.

Pronominal adjectives treated philologically with reference to P I E, Greek, Latin, Teutonic.

16. *The Verb.*—The P. I. E verbal system generally treated. voice, mood, tense, augment, reduplication, personal endings. Thematic Athematic stems. Types of verbal action.

17. *The Sanskrit verb* in its relation to the P. I. E. verbal system, present, perfect, aorist and future system in Sanskrit Transfer from the athematic to the thematic class. Periphrastic formations Analogy in the Sanskrit verbal-system. Derivative verbs—causative, denominative, desiderative, intensive

18. *Voices, moods and tenses* in Sanskrit. Infinitive verbal formations.

2 TELUGU GRAMMAR, PROSODY AND POETICS

1. భాషా ప్రకరణము.

(1) భాషా ప్రయోజనము, దానిలక్షణము, నాగరక భాషల లేఖన పద్ధతి.

(2) తెలుఁగు తెనుఁగు శబ్దముల వ్యుత్పత్తి. ఆంధ్రశబ్ద వ్యుత్పత్తి. తెలుఁగు వాడుకలోనున్న మండలములు.

(3) తెలుగుఁ భాషలోఁ జేరిన భాషాంతరశబ్దములు. అందులకుఁ గారణములు.

(4) ఆంధ్రభాష యైదువిధములు :—"సంస్కృతసమము, వైకృతము, ఆంధ్రదేశ్యము, అన్యదేశ్యము, అనింద్య గ్రామ్యము"—వాని స్వరూపముల ప్రదర్శనము.

II. అక్షర ప్రకరణము.

(1) ఇంటర్మీడియటు సిలబసులోని యక్షర ప్రకరణమునందలి విషయము అనువాదము.

(2) సంస్కృతాచ్ఛాంధ్ర వర్ణసమామ్నాయములు. పదాది బు, ఌ వర్ణములు ర, ల తుల్యములు.

(3) వర్ణోత్పత్తి స్థానముల దిఙ్మాత్ర ప్రదర్శనము. వాడుకలోనికి నచ్చిన కొన్ని నూతనధ్వనులయు, కొన్ని సంయుక్తాక్షరములయు విలక్షణోచ్చారణము.

(4) ఇంటర్మీడియటు సిలబసులోని యక్షర ప్రకరణమునందలి విషయమునకు వాదము.

(5) అర్ధానుస్వారోత్పత్తి క్రమము. దిఙ్మాత్రము.

సిద్ధసాధ్యానుస్వారములు. అరసున్నయుండు స్థలములను గనిపెట్టు నుపాయములు. అరసున్నలుండు ముఖ్యపదములపట్టిక. అర్ధానుస్వార మంతరించు స్థలములు, అర్ధానుస్వారమునిత్యముగ పూర్ణమయ్యెడు స్థలములు.

(6) అంతస్థముల లఘ్వలఘూచ్చారణములు. శకటరేఫ ముంగు తావులను గుఱితించి నుపాయములు. శకటరేఫములుం డు ముఖ్యపదముల పట్టిక.

(7) పదాది నుండరాని వర్ణముల వివరణము. పదాదియ కారవిషయమున లాక్షణికాభిప్రాయభేదములు.

చ, జ, ల దంత్యతాలవ్యభేద విషయమునందలి విశేషములు.

III. పద ప్రకరణము.

(1) ప్రకృతి ప్రత్యయముల స్వరూపము. ఆగమాదేశా ను బంధాను ప్రయోగాదుల లక్షణము. ప్రకృతుల చాతుర్విధ్య ము. సంస్కృత సమప్రాతి పదికములు, ఆచ్చిక ప్రాతిపదికములు. సంస్కృత సమధాతువులు, ఆచ్చికధాతువులు. వీని దిజ్మాత్ర వివ రములు.

(2) చతుర్విధ ప్రకృతుల వ్యుత్పన్నా వ్యుత్పన్నతా భేద ముల వివరములు.

సాంస్కృతి వాచ్చిక వ్యుత్పన్నప్రాతిపదికములు - కృత్ప్ర త్యయాంతములు - తద్ధిత ప్రత్యయాంతములు - సాంస్కృతికా చ్చిక ప్రకృతులందుఁ గల్గు వర్ణముల మార్పులు.

(3) (a) ఇంటరుమీడియటు సిలబసులోని పదపరికరణము నందలి 1 విషయము అనువాదము.

(b) నానువాచకముల యవాంతరభేదములు:—సంజ్ఞానా మవాచకములు, జాతినామవాచకములు, గుణనామవాచకములు, క్రియానామవాచకములు, నామము, నామవాచకము - వీనికిఁ గలభేదము - వాచ్యవాచకవిభేదము.

(4) (a) ఇంటరుమీడియటు సిలబసులోని పదప్రకరణము నందలి 2 విషయము అనువాదము.

(b) కొన్నియెడల మహత్త్వాదులు వైవక్షికములు. స్త్రీ పున్నపుంసకలింగములు, మిత్రాదుల రూపద్వైవిధ్యము. విశేషణవిశేష్యముల లింగసామ్యను. అందలి విశేషవిధులు.

(5) తెనుగున ద్వివచనము లేదు. నిత్యైక వచనాంతములు, నిత్యబహువచనాంతములు; పూజ్యత, అజ్ఞాతప్రశ్నము మున్నగు స్థలములలోని బహునచన ప్రయోగము - వచనవిషయమున సంఖ్యావాచకము లందలి విశేషవిధులు, విశేషవిశేషణముల వచనసామ్యము - ఆవిషయమునందలి విశేషవిధులు.

(6) విభక్తిలక్షణము. కొన్నింటికి ప్రథమైకవచన లోపము. ఇంటరుమీడియటు సిలబసులోని పదప్రకరణమునందలి 3 విషయము అనువాదము - సామాన్యములగు నామ వాచకములయొక్కయు, సర్వనామములయొక్కయు, ఔపవిభక్తికముల యొక్కయు, విభక్త్యంతముల రూపసాధన ప్రక్రియ - కొన్నియెడల ఔపవిభక్తిగ్వము నియతముకాదు. విభక్తివ్యత్యాసమునందలి విశేష విధులు - విశేషణ విశేష్యముల విభక్తిసామ్యము. ఆ విషయము నందలి విశేష విధులు. నామవాచకముల లోను, సర్వ నామములలోను, ఔప విభక్తికములలోను గల విశేషశబ్దముల విభక్త్యంతసిద్ధరూపముల పట్టిక. సర్వనామ మహతీ వాచకములు, సర్వనామముల విషయమున నితర విశేష విధులు.

(7) విశేషణములు:—ఇంటరు మీడియటు సిలబసులోని పదప్రకరణమందలి 4 విషయము అనువాదము.

"విధేయ విశేషణములు, క్రియావిశేషణములు" అను వాని విషయమున విపులమగు వివరణము-ఉద్దేశ్యవిధేయముల వివరణము. విశేష్యవిశేషణముల విపరీతవ్యనహారము. క్రియాజన్యవిశేషణములకు విశేష్యములతో గల అన్వయాభాసము-తచ్ఛబ్దాకార వకారలోపాదులు-విధేయ విశేషణముల కాలపురుష వచనాదులందలి రూపభేదములు. క్రియావిశేషణము లవ్యయము

లనుట లెన్న. వీనికిని విధేయవిశేషణములకును నుజ్యంకాగుధాత్వ ను ప్రయోగము.

(8) క్రియలు: —

(a) ఇంటరుమీడియటు సిలబసులోని పదప్రకరణమందలి 5 విషయము అనువాదము. తద్విపులీకరణము.

(b) స్వార్థేచుగాగమము చేరునపుడు సంస్కృత సమాది ధాతువులందుఁ గల్గెడి కార్యవిశేషములు. కర్మార్థకధాతువుల స్వరూపము. ఆత్మనేపదార్థక ధాతువుల స్వరూపముఁ ప్రేరణార్థక ధాతువుల స్వరూపము. ప్రేరణార్థకధాతువిశేషరూపముల పట్టిక. శబ్దవల్లవధాతువుల స్వరూపము. చేయు, పోవు, పాటు నున్నగువాని తోగూడిన నుజ్యంత ధాతువుల విశేషార్థములు.

(c) "సకర్మకములు, అకర్మకములు, ద్వికర్మకములు". అను మూఁడువిధములను గుఱించి విపులముగ వివరించుట. సమాపకములు, అసమాపకములు, కర్తృబహుత్వమున నుత్త మాది పురుషనిర్ణయములోని విశేషవిధులు.

కర్తృబహుత్వాది విషయములలో వచనవిషయమునం దలి విశేషవిధులు.

వ్యతిరేక ప్రార్థనక్రియల స్వరూపము.

ఆశిశ్శాప సంప్రార్థన విధ్యర్థక స్వరూప విశేషములు. సామర్థ్యార్థక క్రియల స్వరూపము. న్యూనక్రియల విశేషవిధులు. (నల మ్వాదులు) తద్ధర్మాద్యర్థకములు. ధాత్యర్థమాత్ర బోధక ములు. వ్యతిరేక క్రియలు గాలత్రయబోధకములు.

సామాన్యములగు ధాతువుల సమాపకక్రియా రూపముల యొక్కయు అసమాపక క్రియారూపములయొక్కయు రూపసా ధనప్రక్రియ.

విశేషధాతువుల సనూపక క్రియారూపముల యొక్కయు ఎసమాపక క్రియారూపములయొక్కయు పట్టిక.

క్రియల విషయమునందలి యితరవిషయములు.

(9) అన్వయములు:—

(a) ఇంటరుమీడియటు సిలబసులోని పదప్రకరణమందలి 3 విషయము అనువాదము. తద్విపులీకరణము.

(b) లాక్షణిక ప్రతిపదోక్తావ్యయముల స్వభావములు. వాని విపులీకరణము. ముఖ్యములగు కొన్ని సాంస్కృతి కావ్యయములు ఎచ్చిక ప్రతిపదోక్తావ్యయముల పట్టిక.

అవ్యయములు లింగవిభక్తివచన శూన్యములను విషయము యొక్క విమర్శనము.

ఇంటరుమీడియటు సిలబసులోని పదప్రకరణమునందలి 7 విషయము అనువాదము. తద్విపులీకరణము.

IV. వాక్యప్రకరణము.

1. ఇంటరుమీడియటు సిలబసులోని వాక్యప్రకరణమందలి 1-2 విషయముల యనువాదము.

2. (a) వాక్యలక్షణము "యోగ్యత, ఆకాంక్ష-ఆసత్తి" అనువీని వివరణము. వివిధవాక్యవిశేషములు.

(b) "కారకషట్కము, శేషషష్టి, సంబోధనము" అనువీని వివరణము, ఆంధ్రనాజ్మయమునగల కారకవిశేషములు.

వలయ్యాది క్రియలతోనుండు వాక్యములు విశేషములు, కర్తలలో ఆత్మార్థకమున్నప్పటి విశేషములు.

విజాతీయ కర్తృబహుత్వమున గల్గు వాక్యములందలి వచనాది విశేషములు. మహత్సమూహార్థక కర్తృక వాక్యములు.

నాక్యాంతర వ్యంజక వాక్యవిశేషములు, అధ్యాహార్య పదములు.

వాక్యవిషయము నందలి యితర విషయములు.

3 సంధులు :—

(a) సంధిశబ్దార్థము, సంహితా లక్షణము. సంధికాని స్థలములు వైవక్షిక సంధిస్థలములు.

(b) ద్రుతశబ్దార్థము. ద్రుతస్వరూపము. ఇంటరుమీడియటు సిలబసులోని వాక్యప్రకరణ మందలి 4 విషయము అనువాదము.

కళాద్రుత ప్రకృతికస్వ విషయమునందలి విశేషవిధులు.

(c) యింటరు మీడియటు సిలబసులోని వాక్యప్రకరణ మందలి 5 విషయము అనువాదము. స్వరసంధులలోని విశేషవిధుల వైపుల్యము.

ద్రుతపరక స్వరసంధులు

(d) యడాగమము శ్రుతిమాత్రములోనిదిగాదు. "అనడద వాదేశసంధి, సరళస్థిరపరకద్రుతసంధి, సరళాదేశసంధి, అను కృతి సంధి" అనువాని యందలి విశేషవిధులు.

(e) ప్రార్థనాదర్శకము డుజ్జులసంధి విశేషములు. సంధివిషయమునందలి యితర విశేషములు.

4. సమాసములు:—

(a) సమాసశబ్దార్థము, సమాసలక్షణము విగ్రహవాక్యల క్షణము. సమాసమున విభక్త్యాదుల లోపము అలుక్సమాసములు. ఇంటరుమీడియటు సిలబసులోని వాక్యప్రకరణమందలి 8 విషయము అనువాదము.

(b) సాంస్కృతాచ్చిక మిశ్ర సమాసముల వివరణము. వాని నియమములు. మిశ్ర సమాస నియమముల వైపుల్యము. బిరుదాద్యుత్తరపద సమాసములు.

(c) శబ్దపల్లవములు ముక్కగు జంటపదములు. అంటి కార్య విశేషములు.

(d) భానవ్వంద్వము, క్త్వార్థద్వంద్వము, ముక్కగు సమాస విశేషములు.

(e) సిద్ధసమాసములలో నాంధ్ర వ్యాకరణ కార్యములు వచ్చుట

(f) వివిధములగు సమాసాశ్రయవిధులు,

సంఖ్యావాచకముల లోని సంధికార్యములు. ఏ గాగమము. ను గాగమము. ని గాగమము. టు గాగమము. ర్లా గమము. పుంపులు. ద్విరుక్తటకారము. ర్రు గాగమము. త్రిక సమాసకార్యములు ప్రాంతాది సమాసకార్యవిశేషములు. ఆచ్చికసమాసములలోవచ్చు నర్థాగమ వర్ణలోప వర్ణ వ్యత్యయాది కార్యవిశేషములు.

(g) సమాసాంతవిధులు.

5. సంస్కృతసంధులు.

(a) సిద్ధసమాస సంధినిత్యము.

(b) స్వరసంధులు. సవర్ణదీర్ఘశంధి, గుణసంధి, వృద్ధిసంధి, యణాదేశసంధి, అయాద్యాదేశసంధి, ద్విత్వసంధి, యితర విశేషములు.

(c) హల్‌సంధులు, శ్చుత్వసంధి, ష్టుత్వసంధి, జశ్త్వసంధి, చర్త్వసంధి, లకారపరక తకారసంధి, మకార నకార సంధులు, పరసవర్ణాదేశసంధి, చకారద్విత్వము, ఢ్రలోపాదిసంధి, యితర విశేషములు.

(d) విసర్గసంధులు. విసర్గమునకు శ, ష, స, శేషలు వచ్చుట. శ,ష,స, శేషలకు విసర్గమువచ్చుట. జింహ్వామూలీ యోపధ్మానీయములు, ఇతరవిశేషములు.

(e) సిద్ధసమాసాశ్రయవిధులు.

(f) సిద్ధసమాసాంతవిధులు.

V. ఛందఃప్రకరణము.

ఇంటరు మొదియటు సిలబసులోని ఛందఃప్రకరణము అనువాదము.

(a) గురులఘు మాత్రాదిలక్షణముల విశేషములు.

(b) ఇనేంద్రచంద్రగణములను బ్రస్తారవశమునఁజూపుట.

(c) యతిప్రాస స్వరూప స్వభావముల వైపుల్యము. స్వరయతి, ప్లుతయతి, ప్రాణయతి, వర్జయతి, బిందుయతి, సరసయతి, యెక్కటయతి, అఖండయతి, ముకారయతి, అభేదయతి, అనుపీనిస్వరూపములు.

(d) జాతులు; ద్విపద, అక్కర, ఉత్సాహము ఉపజాతులలోని సీసభేదాది విశేషములు.

(e) వృత్తములు:— పంచచామరము, స్రగ్ధర, మాలిని, తరలము, దండకము. పఠనీయ గ్రంథస్థ పద్యలక్షణములు.

(f) కృత్యాది నియమములు.

VI అలంకార శాస్త్రప్రకరణము.

1. ఇంటరు మొదియటు సిలబసులోని అలంకార శాస్త్ర ప్రకరణము అనువాదము.

2. (a) కావ్యప్రయోజనములు. కావ్యలక్షణము. కావ్యభేదములు. దృశ్యకావ్యములు. శ్రవ్యకావ్యములు. సుఖపర్యవ

సాయ కావ్యములు. దుఃఖపర్యవసాయకావ్యములు. మహాకావ్యము. ఖండకావ్యము. క్షుద్రకావ్యము.

(b) నాయకలక్షణము. చతుర్విధనాయకులు. శృంగారనాయకులు త్రివిధనాయకులు. అష్టవిధశృంగార నాయికలు. ప్రతినాయకుడు. పీఠమర్ద నాయకుడు. విదూషకాదులు.

(c) కావ్యగుణములు. శ్లేష. ప్రసాదము, మాధుర్యము, అర్థవ్యక్తి, సమాధి, కాంతి.

(d) కావ్యదోషములు. శబ్ద దోషములు.— వ్యర్థము, పునరుక్తి, అపుష్టార్థము, వివిధగ్రామ్యములు, పరుషము, అర్థదోషములు. అశ్లీలము, పునరుక్తి, వ్యర్థము, విరుద్ధము, అనౌచిత్యము.

(e) వాక్యదోషములు.

(f) అలంకారములు —

శబ్దాలంకారములు.— అనుప్రాస విశేషములు, యమకము, ముక్తపదగ్రస్తము.

అర్థాలంకారములు —ఉపమాభేదములు, అనన్వయము, రూపకభేదములు, ఉత్ప్రేక్షాభేదములు, అతిశయోక్తిభేదములు, సందేహము, భ్రాంతిమంతము, మీలితము, విరోధాభాసము, విభావన, విశేషోక్తి. విషమము, తుల్యయోగిత, దృష్టాంతము, వ్యతిరేకము, శ్లేష, పరికరము, వ్యాజస్తుతి, సమాసోక్తి, అప్రస్తుత, ప్రశంసకావ్యలింగము, యథాంతరన్యాసభేదములు. స్వభావోక్తిలంకారత్వనిర్ణయము, అర్థాపత్తి, యథాసంఖ్యము, సారము, సంసృష్టి, సంకరము.

(g) రసస్వరూపము, రసదశకము, విభావానుభావసంచారిభావసాత్త్వికభావములు. స్థాయిభావదశకము.

(h) పాత్రౌచిత్యము.

(i) కావ్యకథావస్తు సందర్భ కౌశలము.

3 THE COMPARATIVE GRAMMAR OF THE DRAVIDIAN LANGUAGES

I *Introductory.*—The origin of language. Classification of languages. Dialectal separation and growth of literary standard languages. Dialects and Cognate languages.

II *Introductory (continued)*—The Dravidian group of languages and their chief characteristics Reasons for choosing the word Dravidian as name of this group Enumeration of Dravidian languages Meaning of the names 'Tamil', 'Telugu' 'Kanarese', and 'Malayalam Where they are spoken.

III *Introductory (continued)*—Relation between Dravidian languages and Sanskrit Dravidian element in North Indian vernaculars Affiliation of Dravidian language to the Scythian Group Tamil, the most primitive of Dravidian languages.

IV *Phonetics*—Production and classification of speech sounds Sound changes and their causes Sounds and symbols. Conditions of a good orthography

V. Dravidian alphabets—Their history Differences among existing alphabets Their adequacy and inadequacy. Comparison of Dravidian sounds with Sanskrit and English sounds

VI *Dravidian phonology.*—The primitive Dravidian parent language.

(1) Vowel system—Changes. Accent. Harmonic sequence of vowels.

(2) System of consonants—Origin of cerebrals. Dialectic interchange of consonants. Euphonic permutation of consonants. Sandhi Nasalization. Anusvara and Ardhanusvara. Prevention of hiatus.

(3) Dravidian syllabation.

VII. Roots—Dravidian roots arranged into two classes. Verbal root. Nouns Lengthening of roots. Formative addition to roots.

VIII. *Accidence*: (1) *The Noun*—

(a) Gender—Dravidian nouns divided into two classes denoting rational beings and irrational things except in Telugu in which they are classified as Mahat and Amahat, the latter including words denoting women. Comparison between Dravidian languages on the one hand and Sanskrit and English on the other.

(b) Number—Singular and plural No dual. Singular. Masculine, feminine and neutral. Plural-principles of pluralization.

(c) Case—Principles of case-formation Dravidian cases.

(2) The Adjectives.—Their agreement with substantives like those in Sanskrit Formation of adjectives from substantives, relative participles of verbs and past verbal participles. Comparison of adjectives

(3) *The numerals*—Different views about their origin. The cardinals and ordinals. The neuter noun of number and the numerical adjective

(4) *The Pronouns*—Light thrown by pronouns on relationship of languages Persistence of personal pronouns Pronouns of the first person singular. Comparsion of dialects. Analogies Pronouns of the second person singular. Comparison of dialects The reflexive pronoun Pluralization of the personal and reflexive pronoun Demonstrative and interrogative pronouns Demonstrative cases Interrogative cases Demonstrative and interrogative adjectives. Demonstrative and interrogative adverbs. Honorific demonstrative pronouns.

(5) *The Verbs*—Structure of the Dravidian verb. Roots used either as verbs or nouns Formative particles often added to roots. Classification of verbs into transitive and intransitive. Ways in which intransitive verbs change into transitive Sanskrit analogies.

(a) Causal verb—Causals from transitives Origin of Dravidian causal particle

(b) Frequentative verbs.

(c) Conjugational system.—Formation of the tenses. Verbal participles. Their signification and forces.The present tense and its formation The preterite tense and its formation. The future tense The future formation in Dravidian languages. The relative participle

(d) Formation of Moods—Method of forming the conditional, the imperative and the infinitive, origin of the infinitive suffix.

(e) The Voice—Active and Passive—The negative voice Combination of negative particles with verbal themes. The Dravidian negative particle

(f) Formation of verbal nouns, derivative nouns and abstract nouns

(6) *Adverbs.*

IX. Vocabulary—(1) Borrowing and its causes Social, commercial, political and religious Borrowings from Sanskrit, borrowings from other languages

(2) Structure and form—The essentials for the individuality of a language Vocabulary cannot change the character of a language Hybrids Gain and loss from mixed character of a language

X *Comparative Syntax*—The Syntax of the several languages compared Differences and similarities The extent of Sanskrit influence over the syntax of the several languages

4 The History of the Telugu Language and Grammar

1. *General.*—The origin and meaning of the word 'Telugu'. The place of Telugu in the Dravidian family of languages. Its antiquity and its geographical distribution Period of its early cultivation as inferred from the inscriptions The extent of Sanskrit influence over Telugu Grammar.

II. *Periods of Telugu Language.*—The pre-Nannayya period, the Nannayya period, and the post-Nannayya period. Illustrative literature of each period Grammar of each period. Difference between languages of different periods in point of vocabulary and grammar

III. *Language and Dialect* —The standard of literature language and spoken language Their relation and mutual influence. Dialects How formed. Different localities and different classes of people in the same locality have different dialects Are dialects discernible in ancient literary works?

IV *Telugu Alphabet*—

(a) The Script -- Its gradual development The Telugu-Kanarese form and its relation to Brahmi, Vengi and Chalukya script.

(b) The sound-values —How far the alphabet is phonetic Its pronunciation The spoken sounds and the written symbols

V *Phonology* —Vowels and their relation to the primitive Dravidian vowel-system Classification of vowels according to the place of production Diphthongs Accent and emphasis. Accent determining change Mutation of vowels Vowel harmony, vowel sandhi.

VI *Phonology* (continued) —Consonants and their relation to the primitive Dravidian consonants Classification of Telugu consonants according to the place of production Consonantal dipthongs Mutation of consonants Assimilation of consonants and consonantal sandhi Other changes in consonants. Palatalization, Dentalization, Voicing, Unvoicing, Compensatory length, etc The theory of ardhanusvara and the cacumunal. Dialectic interchange of consonants Telugu syllabation

VII *Accidence* —Nouns Gender Nouns denoting *mahat* and *amahat* Number No dual Principles of pluralization Different treatment of *tatsama* and *accika* words with regard to the formation of number and gender Case and case-endings. Principles of case-formation Aupavibhaktikas

VIII *Accidence* (continued) —Adjectives Classification of adjective Their agreement with substantives Formation of adjectives from substantives Comparison of adjectives.

IX. *Accidence* (continued) —Numerals Ordinals and cardinals Declension of numerals.

X. *Accidence* (continued)—Pronouns Classification of pronouns. Declension of pronouns History of the Telugu pronouns Demonstrative and interrogative adjectives. Demonstrative and interrogative adverbs Honorific demonstrative pronouns.

XI *Accidence* (continued)—The verb Structure of the verb Causal verbs Atmanepada verbs Voice Active and passive Tenses: present, past and future Moods: conditional, imperative, infinitive and negative Formation of verbal participles, verbal nouns, derivative nouns and abstract nouns.

XII *Accidence* (continued)—Adverbs No real adverbs in Telugu.

XIII *Vocabulary*—General character of the Telugu vocabulary The native element The so-called acha-Telugu Borrowing and its causes Formation of compounds Coming doublets Dravidian basic element Tamil and Kanarese element. Causes of admixture Various periods of entry of Tamil and Kanarese words into Telugu

XIV *Vocabulary* (continued)—*Tatsama* words *Samskritasama* and *Prakritasama* Laws of formation Period of extensive Prakrit borrowing Tadbhava words Samskritabhava and Prakritabhava Laws of formation Other borrowings. Hindustani, Marathi, Oriya, English, French, etc

XV. *Word-Building*—(1) By composition (2) by derivation The various suffixes used to form nouns, verbs, adjectives and adverbs, etc (3) Root-creation

XVI *Semantics*—Changes in meaning and usage Elevation and degradation Specialization and generalization of native and foreign words Obsolete words

XVII *Syntax*—Order of words in a sentence The difference between Prose and Poetry as regards syntax Deviations from the normal order of words in a sentence and their causes Sanskritic construction in Telugu

5. **The History of the Kanarese Language and Grammar**

1. *General.*—The origin and meaning of the word 'Kanarese.' The place of 'Kanarese' in the Dravidian family of languages Its antiquity and its geographical distribution. Period of its early cultivation as inferred from the inscriptions. The extent of influence of Tamil, Telugu, Malayalam and Marathi, etc, if any, and of Sanskrit over Kanarese grammar.

II. *The Periods of Kanarese Language*—

(1) The period of the written ancient dialect.

(2) The period of the mediaeval dialect.

(3) The period of the modern dialect

Illustrative literature of each period Grammar of each period Difference between the languages of different periods in point of vocabulary and grammar

III *Language and Dialect*—The standard of literary language and the spoken language Their relation and mutual influence Dialects How formed? Different localities and different dialects Badaga, how an ancient Kanarese dialect Are dialects discernible in ancient literary works?

IV. *Kanarese Alphabet*—

(a) The Script—The Kanarese alphabet a variety of the so-called Cave-character Its gradual development. The Telugu-Kanarese form and its relation to Brahmi, Vengi and Chalukya scripts, and the script of the *sasanas* of Cochin

(b) The sound-values—Unlike the Tamil and Malayalam alphabet, the alphabet is perfectly phonetic The spoken sounds and the written symbols.

V. *Phonology.*—Vowel system.—Vowels in Achagannada and those borrowed from Sanskrit. Vowels and their relation to primitive Dravidian vowel system. Classification of vowels according to the place of production Diphthongs, History of the vowel sounds. Accent and emphasis. Accent determining change. Mutation of vowels. Vowel harmony Vowel-sandhi glides.

VI. *Phonology* (continued)— Consonant system.—Consonants in Achagannada and those borrowed from Sanskrit Consonants and their relation to the primitive Dravidian consonants

Classification of consonants according to the place of production. Consonantal diphthongs Mutation of consonants. Assimilation of consonants Assimilation of consonants and consonantal sandhi History of consonantal sounds, doubling of consonants, palatalization, dentalization, voicing, unvoicing, compensatory lengthening, nasalization, dentalization, etc. Dialectic change of consonants Theory of Kula and Kshala L's and the history of ṛ and ḷ Kanarese syllabation

VII *Accidence*—Nouns (1) Gender Are Dravidian nouns naturally neuter? Nine genders according to the grammarian Kesiraja, reducible however to three, masculine, feminine and neuter Gender prefixes and suffixes Gender in metaphorical diction, etc

(2) Number Words plural in form, but with a dual signification. Principles of pluralization. The epicene plural, the neuter plural, double plurals Gender and noun treatment, how they differ in old, mediaeval and modern Kanarese

(3) Cases and case-endings in old, mediaeval and modern Kanarese. Principles of case-formation

VIII *Accidence* (continued)—Adjective or attributive nouns (gunavachakas) Classification of adjectives Formation of adjectives Their gender and agreement with substantives. Ordinary nouns and pronominal nouns used as adjectives. Adjectives used as adverbs Comparison of adjectives

IX *Accidence* (continued)—Numerals The cardinals and the ordinals, the multiplicatives, appellative nouns of number in Kanarese and the history and principles of their formation.

X *Accidence* (continued)—Pronouns Classification of pronouns. Their forms in the dialects of Kanarese Declension of pronouns History of pronouns Reflexive pronouns, demonstrative and interrogative pronouns

XI. *Accidence* (continued)—Verb 1 Structure of the verb. The base, the tense suffixes. Classification of verbs into

transitive and intransitive though felt but not mentioned by Kesiraja and Nagavarma, but introduced by Bhattakalanka about 400 years later The modes of forming the causals and the transitive.

2 The passive voice The different modes of expressing the passive significance.

3 The various modes of expressing the negative significance.

4. The imperative form of the verb, the infinitive

5 No moods in Kanarese—the conditional or the subjunctive how expressed.

6 The primary tenses the present, the preterite and the future, the history of their formation and their uses

7 Other compound tenses, such as continuative perfect, imperfect future, perfective, etc , though not specified in ancient grammars, how expressed.

8 Formation of the verbal participles, verbal nouns, derivative nouns and abstract nouns.

9 The various modes of expressing the English auxiliaries in Kanarese

10 The frequentative or iterative verbs in Kanarese, but a kind of such verbs formed by simple (yugalocheharana) or triple repetition (triprayoga)

XII *Accidence* (continued)—Adverbs, the different modes of their formation and their history

Conjunctives and their history

XIII *Vocabulary*—General character of the Kanarese vocabulary The so called Achagannada Borrowings and its causes Periods of borrowing, character and comparative extent of borrowing at each period Hindustani, Marathi, English and Portuguese element Loss of old words Nature and extent

XIV *Vocabulary* (continued)—Samasamskrita words, tatsama words, tadbhavas, or apabhramsas, laws of formation.

XV *Word-Building*—(1) By composition. (2) By derivation. The various suffixes used to form nouns, verbs, adjectives, and adverbs, etc (3) Root-creation.

XVI. *Semantics*—Changes in meaning and usage. Elevation, degradation, specialization and generalization to native and foreign words.

XVII *Syntax*—1 Order of words in a sentence The difference between Prose and Poetry as regards Syntax Deviation from the normal order of words in a sentence and their causes.

2 The different kinds of karaka or the relation of the noun to the verb.

3 The uses of the cases

4. The uses of the singular for the plural and *vice versa* of nouns, pronouns and verbs in a sentence.

5 Use of the singular and plural of Sanskrit adjectives and their agreement with nouns.

6 Early South Indian History
(as a related Subject to Telugu, Tamil or Kannada)

1 *The limits of the Andhra country*—Early inhabitants and their civilisation—The Aryan expansion southwards The Mauryan rule and its influence.

2 *The Andhras*, their original home, their early history, Andhras in the Puranas, the latter Andhras, the extent of the empire and its division, religion, literature, etc, under the Andhras, break up of the Andhra Empire. Contact with the outside world—commerce and colonisation

3. *The Andhra country after the break up of the Andhra Satavahana Empire*—The Pallavas—The Chutus—The Abhiras—The Vishnukundins—The Salankayanas—The Vakatakas—Samudragupta's invasion—The Gangas of Kalinga.

4 *The Chalukyas*—Their conquest of Vengi—The Eastern Chalukyan kingdom——Rajaraja—Relation with the Cholas.

The Cholas in the Andhra country—Kulottunga and his successors—The Chola feudatories—The Velanate Chodas—The Telugu Chodas

5 *The Kakatiyas*—Foundation of the Kakatiya Power, Prola-Prataparudra, transfer of capital to Warangal—Mahadeva—Ganapati—Rudrama—Prataparudra II—Muhammadan invasions in his reign—Krishna, his son, the last ruler of the dynasty

The Reddies of Kondavidu—The Reddies of Rajahmundry

6 *The Muhammadan invasions and the foundation of Vijayanagar*—Muhammadan invasions of South India, their character, extent, and result, the empire of Muhammad Tughlak, Muhammadan possessions south of the Vindhyas, Hindu-struggle—Vijayanagar and the Bahamani kingdoms

7 *Vijayanagar under the first dynasty*—The first dynasty, Harihara and Bukka the wars of the latter, Harihara II, assumption of imperial titles and responsibility; relations with the Bahamani kingdom under Harihara and his successors, the Bahamani wars and their character, Devaraya II the greatest ruler of the first dynasty, the city and the empire under him; rise of Orissa, alliance between Orissa and Bahamani kingdom; Devaraya's successors condition of the empire

8 *Vijayanagar under the Saluvas and the Tuluvas*—The rise of the Saluvas, their position in the empire, the Bahamani and Orissa invasions, Saluva Narasinga, his services to the empire, Narasa *de facto* ruler, his son Narasimha II and general rebellion in the empire, accession of Krishna Devaraya; the condition of the Bahamani kingdom during this period, wars against the Bahamani kingdom and the Raichur; the condition of his later administration, rise of Achyuta's brothers-in-law, the elder empire, rebellions in the empire and last years of Krishna Achyuta's restoration of order in the empire, character of his and the younger Tirumala, Sadasiva the rule of the brothers Rama, Tirumala and Venkata.

9 *Vijayanagar under the de facto rule of the brothers*—Sadasiva, the nominal ruler, relations with the Bahamani king

dom; condition of the distant south, "fishery coast" and Travancore; foundation of the Nayakaship of Madura, the Portuguese; Talikota and its results, condition of the empire.

10 *The later empire at Penukonda*—The new empire at Penukonda, Tirumala, the successors of Tirumala; division of the empire, Sriranga empire, his struggle against the advance of Muhammadans, the empire reunited under Venkata, disaffection in the southern provinces, wars against the Muhammadans, end of the Viceroyalty of Seringapatam, foundation of Mysore, death of Venkata

11 *The decline and fall of the Vijayanagar Empire*—War of succession, the weakened condition of Vijayanagar, the provinces of the empire Gingi, Tanjore, Madura, Mysore, and Ikkeri, the advance of the Mughal in the Dakkhan, precarious condition of the Vijayanagar empire, the last emperor, Sriranga, his struggle for a united empire, end of the empire

7 Early Indian History

(as a related subject to Sanskrit or Pali)

1 Physical configuration of India Natural divisions—Mountains—Rivers—The Sea—Deserts—Production—Position in relation to the rest of the world—Historical influence of these factors

2 People of India—the aborigines The civilization of the Indus Valley—The Dravidians—The Aryans—Persians—Greeks—Sakas—Yuechi—Huns—Muslim Invaders

Unity in diversity

3 Age of the Rig Veda—geographical data and their significance—Tribes and Tribal warfare—Political organization—Social customs and distinctions—occupations and groups—Vedic gods—Pantheism—Beginnings of Monotheism

4 The Later Vedic Age—The later Vedas—The Brahmanas—The Aranyakas—The Upanishads—Extension of Aryan civilization—changes in social conditions—The system of Caste—Government and administration—Industry, Arts and Science—Religion and Philosophy—chronology of the Vedic Literature.

5. The Sutras—Epics—Puranas—Social and Political

conditions as reflected in them—The rise of new religions—Jainism and Mahavira Buddhism and Gautama Buddha

6 Political conditions in the Buddhist age—the rise of Magadha—The Saisunagas The Nandas—Invasion of Darius—Invasion of Alexander the Great—Effects of these invasions.

7 The Mauryan Empire—Sources—Chandragupta—Kautilya—Bindusara—Asoka—His service to Buddhism—The Mauryan system of administration—Downfall of the Mauryan Empire

8 The period of many Kingdoms—The Saugas—The Kanvas—The Andhras—Indo-Greek and Indo-Parthian Kingdoms—The Kushans and Kanishka—His empire—religion—Art Alleged influence of Hellenism on Ancient Indian Culture

9 The Gupta Empire—Samudragupta and his conquests—Chandragupta II, Vikramaditya—The Western Satraps—The later Guptas—The Huns—The decline of the Empire—The glories of the Gupta Age Literature—Kalidasa—Art and Science—Trade—The Beginnings of Modern Hinduism—The Travels of Fahien

10 The Empire of Harsha—His conquests—His religious Policy—The travels of Hiuen Tsang—Buddhism in its decline

11 The History of the Deccan—The Andhras—The Chalukyas—Pulikesin II The Rashtrakutas—The later Chalukyas—Jainism and Buddhism Their decay—The Yadavas—The Kakatiyas—Hemadri

12 The History of South India—Early Tamil Civilization—The Three kingdoms—the period of Pallava Supremacy—The Cholas and their Empire—The Pandyas—The Cheras The Hoysalas—Intercourse with the West and the Far East

13 Mediaeval Kingdoms of the North—The Rajputs—their origin—Kashmir and its history—Rajatarangini—The Gurjara Pratihara kingdom—Bhavabhuti and Rajasekhara—Delhi and Ajmere Paramaras and Bhoja—The Palas and the Senas.

14 Religious and cultural movements—Decay of Buddhism—Bhagavatism—Puranic Hinduism—Siva and Vishnu Cults—Sankara and Ramanuja

provided they undergo one year's course in French or German or, in the case of those taking Branch VI—Telugu Language and Early South Indian History

Period during which Degree should be obtained

5 A candidate for the B A (Honours) Degree shall appear for the Final Examination in Honours (i) not later than the end of the fourth year after he has passed the Intermediate Examination or not later than the month of March following the end of the fourth year in the case of candidates declared to have passed in September *or* (ii) in the case of Bachelors of Arts preceding to the Honours examination not later than three years after commencing the Honours Course in the University College

6 No candidate shall be permitted to undergo the complete Final Examination in Honours more than once

When B A Degree is awarded

7 In the event of a candidate for the B A (Honours) Degree failing to satisfy the examiners he may be recommended by them for the B A Degree provided that he obtains not less than 33 1/3 per cent of the total marks and not less than 25 per cent in each division of the examination

Failed candidates permitted to sit for B A pass Degree Examination.

8 A candidate not already eligible for the B A Degree, who having failed completely in the B A (Honours) Degree examination desires to appear for the B A Degree examination shall be allowed to do so without the production of a further certificate of attendance in the University College

Subjects for Examination and duration of papers

9 The course in each branch of knowledge shall be as follows —

BRANCH I—MATHEMATICS

A candidate shall offer for the Honours examination in Mathematics the following —

A—*Pure Mathematics*

(i) Pure Geometry including Projective Geometry
(ii) Co-ordinate Geometry of two and three dimensions
(iii) Algebra, Theory of Equations and Trigonometry
(iv) Differential and Integral Calculus, including Fourier's series
(v) Elementary Differential Equations
(vi) Theory of Functions

B.—Applied Mathematics

(i) Dynamics.

(ii) Statics.

(iii) Elements of Vector Analysis

C —One subject from each of the following two Groups.

Group I—(a) Gravitation and Electrostatics or (b) Statistics, or (c) Astronomy, or (d) Relativity

Group II- (a) Hydrostatics and Hydrodynamics, or (b) Theory of vibrations and sound, or (c) Thermodynamics or (d) Kinetic Theory of Gases,

or such other subjects as the Board of Studies may add from time to time.

There shall be eight papers for the Honours Degree examination each of three hours' duration Each paper shall carry 150 marks The first two papers shall be on (i) Pure Geometry, (ii) Co-ordinate Geometry, and (iii) Algebra, Theory of Equations and Trigonometry, the third and fourth papers on (iv) Differential and Integral Calculus, (v) Differential Equations, and (vi) Theory of Functions under A above, the fifth paper on (i) Dynamics, the sixth paper on (ii) Statics and (iii) Vector Analysis under B above, and the seventh and eighth papers on the subjects selected from Groups I and II respectively under C above

The scope of the subjects shall be indicated by the syllabuses prepared for the purpose.

BRANCH II—PHILOSOPHY

A candidate shall offer for the Honours examination in Philosophy the following groups.

I General Group and

II. Special Group

I The General group shall consist of the following subjects:—

(i) Logic and Theory of Knowledge.

(ii) Outlines of Indian Philosophy.

(iii) Outlines of European Philosophy.

(iv) General Psychology.

II. The special group shall consist of any one of the following sub-groups. A, B or C.—

A —(i) Experimental Psychology—Theory and Practical;
(ii) Child and Educational Psychology; and
(iii) Social and Abnormal Psychology,

or

Mental and Educational Measurements.

B.—(i) Ethics;
(ii) Political Philosophy;
(iii) Social Philosophy, and
(iv) Philosophy of Religion

C —(i) A prescribed school of Indian Philosophy, historically and critically studied, and
(ii) Contemporary Philosophy with special reference to a prescribed work

There shall be eight papers including one practical test in the case of Experimental Psychology for the Honours examination, each of three hours' duration There shall be four papers one on each of the subjects in the General Group and four papers on the subjects in the Special Sub-groups, A,B or C, as described hereunder —

There shall be two papers—one theory and one practical on Experimental Psychology and two papers one on each of the remaining two subjects under Special Sub-group A The practical test on Experimental Psychology shall comprise (i) practical examination and (ii) *viva voce* examination. At the practical examination candidates must submit to the examiners their class records duly certified by their Professors or Lecturers as a *bona fide* record of work done by the candidates The marks for the practical test shall be distributed as follows.—

Class records	40
Practical examination	40
Viva Voce	20
	100

There shall be one paper on each of the subjects under Special Sub-group B and two papers on each of the subjects under Special Sub-group C.

The scope of the subjects in the General and Special Sub-groups shall be indicated by the books recommended for study or by syllabuses where prescribed.

BRANCH III—HISTORY, ECONOMICS AND POLITICS.

(1) A candidate shall offer for the Honours Examination in History, Economics and Politics the following Groups:—

(i) A General Group, and
(ii) A Special Group.

(i) The General group shall consist of the following subjects—

(*a*) History of India (an advanced course),
(*b*) History of Europe from 1450 A.D.,
(*c*) Economics, and
(*d*) Politics.

(ii) The Special group shall consist of the following sub-groups—

(*a*) History sub-group.
(*b*) Economics sub-group
(*c*) Politics sub-group.

(*a*) The History sub-group shall consist of—
(a) A special period or subject of Indian History
(b) A special period or subject of History of Europe.
(c) A special period or subject of Oriental History (other than Indian History.)

(To be selected from time to time.)

(*b*) The Economics sub-group shall consist of—
(a) Modern Economics History with special reference to England and India.
(b) Two subjects relating to different branches of Economics to be selected from time to time.

(*c*) The Politics sub-group shall consist of—
(a) History of English Constitution from 1603 and of British India.

(b) Modern Political Thought (from the French Revolution).

(c) A special subject to be selected from time to time.

(2) A candidate for the B.A Honours Degree shall undergo a course and be examined in—

(*a*) The subjects constituting the general group, and

(*b*) The subjects constituting any one of three special sub-groups.

(3) There shall be eight papers for the B A (Honours) Examination, one paper on each of the subjects comprised in the general and the special sub-groups and an 'Essay' Each paper shall carry 100 marks

(4) The scope of the subjects in the general and special groups shall be indicated by the books recommended for study or by syllabuses prepared for the purpose

BRANCH VI—TELUGU LANGUAGE AND LITERATURE

(1) A candidate shall offer for the Honours Examination in Telugu Language and Literature the following —

(*a*) A General part, and

(b) A Special part

(*a*) The general part shall consis of (i) prescribed textbooks bearing on the different periods of Telugu literature, (ii) the history of Telugu literature or the history of the Telugu language both of a less advanced character than those under the special part—candidates taking the literary course under the special part shall take the history of the Telugu language and those taking the linguistic course shall take the history of Telugu literature under this head, (iii) Telugu grammar, prosody and poetics, (iv) Elementary Sanskrit and Elementary Prakrit grammar; and (v) Essay.

(b) The special part shall consist of either a distinctly literary course or a distinctly linguistic course.

The course under the literary group shall consist of the following subjects:—

i. History of Telugu literature.

ii. Principles of literary and textual criticism.

iii. Intensive study of the literature of a prescribed period.

The course under the linguistic group shall consist of the following subjects:—

i. History of the Telugu language.

ii. Dravidian grammar and principles of Comparative Philology.

iii Phonetics and Dialectal study of a prescribed period or portion of the Telugu country.

(2.) There shall be eight papers for the Honours Examination—five papers under the general part and three under the special part Each paper shall be of three hours duration and shall carry 100 marks each The subjects for the several papers shall be arranged as follows:—

General Part.

i. Poetry and Drama.

ii Prose and History of Language or the History of Literature.

iii. Telugu grammar, prosody and poetics.

iv. Elementary Sanskrit and Elementary Prakrit grammar.

v Essay.

Special Part—*Literary group.*

i. History of Telugu literature.

ii. Principles of literary and textual criticism.

iii. Special period of Telugu literature.

Special Part—*Linguistic group.*

i History of the Telugu language.

ii. Dravidian grammar and Principles of Comparative Philology.

iii. Phonetics and Dialectal study.

Marks qualifying for a pass

10 A candidate shall be declared to have taken Honours in one of the Branches of Knowledge for the B A Honours Degree if he obtains not less than 40 per cent of the total marks and not less than 30 per cent in each division of the examination, provided candidates taking Honours in Branch VI—Telugu Language and Literature shall obtain not less than 35 per cent in each division and also a special minimum of 30 per cent for the two papers on Telugu Grammar, Prosody and Poetics and Elementary Sanskrit and Elementary Prakrit Grammar taken together under the General Part The divisions in the several branches shall be as follows

BRANCH I—MATHEMATICS

(i) Pure Mathematics, and (ii) Applied Mathematics and the subjects under Groups I and II

BRANCH II —PHILOSOPHY.

(i) The general group of subjects, and (ii) the special sub-groups of subjects

BRANCH III—HISTORY, ECONOMICS AND POLITICS.

(i) The general group of subjects,

(ii) The special sub-group of subjects, and

(iii) Essay

BRANCH VI—TELUGU LANGUAGE AND LITERATURE

(i) The general part, and

(ii) The special part.

Classification of successful candidates

11 Candidates obtaining Honours shall be ranked in the order of proficiency as determined by the total marks obtained by each and shall be arranged in three classes

The *first*, consisting of those who obtain not less than 60 per cent; the *second*, of those who obtain not less than 50 per cent, and the *third*, of those who obtain not less than 40 per cent of the total marks.

SYLLABUSES

MATHEMATICS

A—PURE MATHEMATICS.

1 & 2 *Pure and Analytical Geometry.*

(*a*) *Plane Geometry*:

The Metrical properties of the point, the straight line, the circle, the parabola, the ellipse and hyperbola treated by pure geometric methods, by means of Cartesian coordinates, polar co-ordinates and trilinear and areal coordinates

Cross ratios, Harmonic ranges and pencils, Involution ranges and pencils Perspective Principle of duality. Reciprocation with respect to conics Line coordinates, application of tangential equations to conics Projection. Imaginary points and lines Circular points and lines Projective properties of conics Invariants of conics and the corresponding geometric relations.

(*b*) *Solid Geometry*—Fuller treatment of the Intermediate course.

The line, plane and the regular solids treated by pure geometric methods.

Analytic Geometry of three dimensions with cartesian co-ordinates.

The straight line, the plane, the sphere, the cone, the quadrics, their plane sections and generating lines Confocal quadrics The reduction of the general equation of the second degree Elementary differential geometry (Standard as in Bell's Coordinate Geometry of three Dimensions).

3. *Algebra and Theory of Equations .including Trigonometry.*

Inequalities and limits. Convergence and divergence of series and of infinite products Binomial and Exponential Theorems. Logarithmic series Summation of series. Theory of numbers. Elementary propositions in Probability. (Standard as in C. Smith's Algebra).

Theory of Equations:—Relations between the roots and coefficients. Symmetric functions of the roots, transformation of equations, binomial and reciprocal equations, properties of derived functions, Rolle's theorem Location of the roots. Sturm's theorem Solution of numerical equations by Horner's method Graphical solution of equations Determinants and Elimination (Standard as in Burnside and Panton's Theory of Equations).

Plane Trigonometry:—Fuller treatment of the B.A. (pass) course.

Properties of triangles and quadrilaterals Complex numbers. De Moivre's Theorem and applications Factorisation. Infinite series, convergence of complex series The power series. Trigonometrical expansions Determination of π Summation of series Elementary properties of hyperbolic functions Convergency of infinite products. Expressions for the Sine and Cosine as infinite products (Standard as in Loney's Trigonometry and treatment as in Hobson's Trigonometry).

4. *Differential and Integral Calculus and Infinite Series and Integrals.*

Functions of one real variable Derivatives, general theorems and rules for differentiation, repeated differentiation, Leibnitz's theorem. General theorems concerning derivatives. Rolle's theorem, mean value theorem Geometrical applications of derivatives Integration as the operation inverse to differentiation, standard forms and processes of integration The general mean value theorem of the differential calculus, applications to maxima and minima, to evaluation of limits, and to contact of plane curves Envelopes, Taylor's series, convergence of the standard Taylor series Integration of bounded functions according to Riemann, integrability of continuous functions and monotonic functions, the fundamental theorem of the integral calculus. The first and second mean value theorems of the integral calculus Functions defined by definite integrals, their continuity, differentiation and integration. Applications of definite integrals.

Functions of several real variables, continuity. Implicit functions, idea of their existence (without proof), Partial derivatives, differentiation of implicit functions and composite functions, Euler's theorem on homogeneous functions, Taylor's theorem for functions of several variables, simple applications to maxima and minima, and to the finding of singular points and asymptotes of algebraic curves Double integrals, line integrals, surface integrals, and triple integrals—evaluation in simple cases. Green's theorem Geometric applications of multiple integrals.

Infinite Series and Infinite Integrals:

Series of positive terms.

Simpler tests of convergence Series of positive and negative terms, Abel's and Dirichtet's tests Absolute convergence, effect of change of order of terms on sum. Absolutely convergent double series Multiplication of absolutely convergent series

Series of variable terms—Uniform convergence, Weierstrass's M-test, chief properties of uniformly convergent series as regards continuity, differentiation and integration Fundamental properties of power series, standard power series. Fourier series of bounded functions with a finite number of maxima and minima and a finite number of discontinuities. Infinite products, the standard infinite products.

Infinite integrals—Functions defined by infinite integrals. Uniformly convergent integrals, their continuity, sufficient conditions for differentiating and integrating under the sign of integration, simple applications to the evaluation of infinite integrals.

5. *Differential Equations.*

(*a*) *Ordinary Differential Equations involving two variables*:—

Formation of differential equations, character of solutions, geometrical meaning of differential equations.

Equations of first order.—Variables separable, linear equation, Bernoulli's equation, homogeneous equation, one variable absent, $Mdx + Ndy = 0$, integrating factors and their discovery in simple cases Equations of n th degree that can be resolved into component equations of 1st degree, equations solvable for x or for y, Clairaut's form. Singular solutions, the t—and C—discriminants, geometric interpretation.

Linear equations with constant coefficients; Euler's linear equations Exact equations.

The equation $y^{(n)} = f(x)$ $y^{(n)} = f(y)$, $y^{(n)} = f\{y^{(n-1)}\}$, $y^{(n)} = f\{y^{(n-2)}\}$. Depression of order when one variable is absent.

Equations of second order—The complete solution in terms of known integral relation between integrals Geometric applications, fining of curves with given properties, trajectories

(*b*) *Ordinary Differential Equations involving more than two Variables.*—

Simultaneous linear differential equations, the equation $dx|P = dy|Q = dz|R$ and its geometrical interpretation. Total differential equations (with three variables), the condition of integrability, geometric interpretation of the equation and its solution.

(*c*) *Partial Differential Equations.*

Their derivation, classification of integrals of a partial differential equation, geometric interpretation Lagrange's equation $Pp + Qq = R$, Charpit's method. The standard forms

$\psi(p, q) = 0$, $\psi(z, p, q) = 0$, $\phi(x, p) = \psi(y, q)$ and $z = px + qy + \phi(p, q)$

6. *Theory of Functions.*

Preliminary.—Irrational numbers, simple notions as to their genesis obtained from the intuitional properties of the

straight line. The linear continuum, Infinite sequences, limiting points, upper and lower limits General principle of convergence. General idea of a function of a real variable, the elementary functions and their graphical treatment Limits of functions of a continuous variable, continuity of functions, properties of continuous functions. Inverse functions, proof of existence when original function is steadily increasing or decreasing

Uniform Functions of a complex variable.—

Complex numbers, their geometric representation. De Moivre's Theorem Definition of a function of a complex variable, uniformity and multiformity of functions Analytic functions, the Cauchy-Riemann definition, the differential equations satisfied by the real and imaginary parts of an analytic function Conformal representation of one plane on another, complete discussion of transformations.

$\omega = \frac{a z + b}{c z + d}$, $\omega = z^n$ (*n* a positive integer),

$\omega = e^z$ (with simple variations).

Cauchy's Theorem for simple contours and functions which are analytic inside and on the contour. The fundamental formula $f(x) = \frac{1}{2\pi i} \int \frac{f(z)}{z-x} dx$. Taylor's series, Liouville's rem Laurent's expansion. Point at infinity, development in its domain. Weierstrass's theorem on the asymptotic behaviour in the domain of an isolated essential singularity. Weierstrass's theorem on a series of analytic functions Fundamental theorem on residues with simple applications, including evaluation of simple definite integrals.

Weierstrass' theorem on the infinite product expression for an integral function Mittag Leffler's theorem on the expression of a function with isolated singularities as a series of rational functions.

Simple periodic functions, expansion of an integral simply periodic function The impossibility of a uniform analytic function having three independent periods. Elliptic functions, their general properties about the sum of the residues, the number of zeros and the number of poles, the difference between the sum of the zeros and the sum of the poles in a parallelogram of periods, algebraic relation between elliptic functions of the same periods The Weierstrassian function $P(\omega)$ and its fundamental properties.

The fundamental properties of power series of a complex variable, element of an analytic function, the process of analytic continuation, Weierstrass' conception of an analytic function. Singular points, their place in the Weierstrassian Theory Functions with natural boundaries, simple examples.

B.—Applied Mathematics.

(*i*) *Statics.*

Forces at a point.—Parallelogram of forces Parallelopiped of forces Geometric and analytic reduction of forces acting at a point Conditions of equilibrium of such forces Friction Equilibrium of a particle on smooth and rough curves and surfaces.

Forces in one plane.—Parallel forces Theory of moments of forces and of couples, reduction of coplanar forces and conditions of equilibrium of such forces. Action at smooth and rough hinges and joints Principle of virtual work as applied to coplanar forces. Astatic equilibrium.

Graphical Statics.—Centres of gravity of arc, plane area, surface and solid Stable and unstable equilibrium Machines with and without friction.

Forces in three dimensions acting on a rigid body.—Reduction of such forces to a force and a couple; general conditions of equilibrium, principle of work applied to any system of forces. Work or potential function. Stable and unstable equi-

librium. Poinsot's central axis, wrench, screw, resultant wrench of two given wrenches The cylindroid. Reciprocal screws. Reduction of any system to the forces. Conjugate lines. Nul lines and nul planes.

Equilibrium of strings.—General conditions of equilibrium of an inextensible string The common catenary, the parabola of suspension bridge, the catenary of uniform strength, strings on smooth surfaces and curves, strings on rough curves, strings under central forces, extensible string

(*n*) *Dynamics.*

(*A*) *Dynamics of a Particle.*

Preliminary.

Velocity and acceleration, relative motion, angular velocity, laws of motion, impulsive forces Units.

Rectilinear motion.

Equations of motion, simple harmonic motion, constant disturbing forces, periodic disturbing forces, damped and forced oscillations, various laws of resistance.

Motion in two dimensions.

(1) *Cartesian Co-ordinates*.—Composition of simple harmonic motions, motion of a projectile in vacuum, in a resisting medium, different laws of resistance. Equation of energy. Rotation of axes.

(2) *Polar-Co-ordinates*.—Velocity and acceleration in polar co-ordinates. Central forces, differential equation of orbit, orbit for various laws of force Disturbed circular orbit; apses. Law of the inverse square; construction of orbit, hodograph, time of describing an arc; Kepler's law, correction to 3rd law; perturbations.

(3) *Constrained Motion*.—Tangential and normal accelerations. Motion on a fixed smooth or rough curve. Motion in a

smooth or rough cycloid, motion in a circle, time of describing an arc, series for time of oscillation, small oscillations of simple pendulum under resistance proportional to square of velocity. Motion on a revolving curve; motion of a particle in a revolving tube.

(4) *Motion of two or more particles.*—Principles of conservation of energy and of angular momentum. Two particles connected by a string passing over a pully. Impulses, motion of a chain, motion of varying mass.

(*B*) *Dynamics of a Rigid Body.*

Moments and products of inertia, momental ellipsoid, momental ellipse, equimomental systems Principal axes D'Alembert's principle, general equations of motion Independence of translation and rotation Impulsive forces

Motion about a fixed axis—Fundamental theorem The compound pendulum, centre of oscillation. Torsional oscillations, bifilar suspension. Pressures on the fixed axis, bodies symmetrical and not symmetrical The ballistic pendulum Impulsive forces, centre of percussion.

Motion in two dimensions—Finite forces. General principles of conservation of energy and of linear and angular momentum. System with one degree of freedom, oscillations about equilibrium Impulsive forces, impact of a rotating sphere on the ground Systems of two degrees of freedom, double pendulum oscillations about equilibrium.

Generalised coordinates.—Lagrange's equations with applications Hamilton's principle and the principle of least action. Hamiltonian equations Contact transformations Solution of the canonical equations by means of the Hamilton-Jacobi partial differential equation.

(*iii*) *Elementary Vector Analysis.*

Vectors, addition, scalar and vector multiplication. Laws of commutation and distribution. Expression of vectors as sums

of three vectors and products of such expressions. Differentiation of vectors. Gradient of a scalar field Transformation of vector components. Tensors of second order. Vector fields. Divergence and curl Gauss' and Stokes' Theorems. Tensor fields and vector divergence (Standard as in Haas' Introduction to theoretical Physics).

C.—Group I

(*a*) *Gravitation and Electrostatics.*

Gravitation. Law of inverse square Attraction and potential of simple bodies—spheres, rods, discs, cylinders etc Potential at a distant point.

Electrostatics—Coulomb's law Fundamental physical conceptions, conductors, insulators, induction Intensity of electric force at a point, lines and tubes of force Potential Gauss' Theorem Laplace's and Poission's equations Spherical harmonics Equipotentials and lines of force—general properties Fields of force due to special distributions of point-charges Doublets Potential and capacity of simple conductors and condensers Conductors in given fields Electric screening System of conductors—energy and mechanical force Dielectrics and inductive capacity Applications of the method of images and inversion Conjugate functions

(*b*) *Statistics—(including Probabilities and Errors of observation).*

Probabilities a priori—

Mathematical definition, elementary theorems and examples Addition and multiplication of probabilities, with examples. Binomial distribution and the most probable event Mathematical expectation.

Aposteriori or inverse—Bayes's Rule and its criticisms. *Theory of variables.*

(*i*) *Symmetrical Frequency distribution.*

Errors, different kinds, nature of accidental errors, Gauss's Law of Error, its proof based on the nature of accidental error. Error curve.

The law of least squares and deduction of the principle of arithmetical mean Proof of law of error based on the principle of arithmetical mean The median and the law of error based on the median Application to one unknown, measure of precision, mean square error, probable error Observations of different weights Adjustment of indirect observations involving one unknown and more than one unknown Normal equations, their formation and solution Probable error of an observation of unit weight Probable errors of unknown and determination of their weights Adjustment of conditioned observations Rejection of observations

(*ii*) *Asymmetrical Frequency—distribution*

The median, mode, standard deviation Method of moments to derive a formula to fit a particular statistical experience Curve fitting (Pearson's curves) Skewness. Theory of Dispersion.

(*iii*) *Frequency—Distribution of two variables.*

Correlation and contingency tables and their representation by surfaces Correlation, regression, correlation coefficient and correlation ratio

(*iv*) *Frequency distribution of several variables—Partial correlation*

Theory of Sampling —Normal correlation.

Theory of attributes —Classification, consistency, association, partial association.

General statistical methods with illustrations.

The Principles of Index—Number making and using.

(c) *Astronomy—General and Elementary Spherical.*

The celestial sphere, astronomical co-ordinates. The diurnal motion of the heavenly bodies and its explanation by rotation of the Earth Arguments and proofs for the earth's rotation Change of phenomena due to a change of the observer's place on the Earth Form and size of the Earth. Simple problems connected with the diurnal motion solved by using spherical trigonometry

The apparent motion of the Sun among the stars Variation in the length of the day at various places Twilight Explanation of the phenomena on the supposition of the annual motion of the Earth round the Sun and proofs for this hypothesis The determination of the first point of Aries and the obliquity of the Ecliptic The signs of the Zodiac Effects of Precession and Nutation

The Earth's orbit round the Sun Kepler's laws and Newton's deductions therefrom True anomaly, mean anomaly and the lengths of the different seasons

Finding by observation the latitude and longitude of a place and the error of the clock. Different units of time and the conversion of one into another Sun dial, Equation of time Different kinds of years The Calendar

Corrections of observations for astronomical refraction, parallax and aberration and the fundamental formulae embodying these corrections Determination of parallax of heavenly bodies and their distances

The Moon—Its orbit round the Earth and the Sun Its rotation and Librations Synodic and Sidereal months Eclipses and their causes Ecliptic limits Number of Eclipses in a year The Saros.

Members of the solar system. Elements of a planet's orbit. Direct and retrograde motions of the planets. Phases

of the planets Transits of planets across the Sun. Comets and Meteors.

Principal constellation and stars Double and multiple stars Binary Stars Nebulae.

The observatory The principal instruments. The astronomical clock, Transit instrument The transit Theodolite. Equatorial Sextant The principal errors of the Transit Instrument and their corrections

C — Group II.

(a) *Hydrostatics and Hydrodynamics*

Hydrostatics - Definitions of 'perfect fluid' and 'Pressure' at a point ' Equality of pressure at a point in all directions, general conditions of equilibrium of a fluid and of a liquid in particular Fluid at rest under the action of (1) gravity (2) central forces Rotating liquid. Resulting thrusts of fluid on plane areas Centre of pressure Thrusts of liquid on curved surfaces General condition of equilibrium of a floating body Surfaces of buoyancy and flotation Positions of equilibrium Potential energy stored up by the immersion of a solid

Stable and unstable equilibrium of a floating body Metacentre, expression for metacentric height Experimental determination of metacentric height, stability of equilibrium (1) of a hollow vessel containing a liquid floating in another liquid (2) of bodies floating under constraint (3) of bodies floating in heterogenous liquid (simple cases only) Theory of stability based on the principle of energy

Hydrodynamics.

General theory and Equations of Motion —Motion of a fluid element Operator D and expansion Θ Eulerian equations of motion, equation of continuity Boundary conditions. Equations of impulsive motion Integration of the equations of motion Steady motion, rotating liquid, irrotational motion,

velocity potential, pressure—equation, efflux of liquids. Lagrangian form of the equations of motion.

Theory of irrotational motion of a liquid—Flow and circulation Stokes' theorem Constancy of circulation in a moving circuit, permanence of irrotational motion Velocity potential, physical meaning, and general properties Green's theorem, expression for the Kinetic energy, case of infinite boundary Cyclic and acyclic motion.

Problems in irrotational motion of a liquid—Sources and sinks Stream function. Conjugate functions Method of images Moving spheres and cylinders in liquid Rotating cylinders Initial motion of liquid contained between concentric spheres or coaxial cylinders Stokes' stream function

Waves—Wave motion, progressive and stationary waves Simple cases of irrotational wave motion in liquid under gravity, long waves, surface waves.

PHILOSOPHY

I.—General Group.

(*i*) *Theory of Knowledge*

The following are prescribed as Text-books

Bosanquet. Logic 2 volumes
Joachim: The Nature of Truth
Dewey: Studies in Logical Theory.
Russell: Our Knowledge of the External World.

(*ii*) *Outlines of Indian Philosophy.*

Philosophical and Religious Thought in the Rigveda. The Upanishad views of the World, Soul, God, Karma, Samsara and Moksha. Theism in the later Upanishads. The main currents of thought in the Gita. The schools. Charvaka. Buddhism, its main doctrines, relation to the Upanishads and the Sankhya, the four schools. Jainism, Logic, Metaphysics and Ethics.

Nyaya, pramana, causality, God and Soul. Vaiseshika scheme of categories, atomism Sankhya doctrine of purusha, prakriti and cosmic evolution, alleged atheism Yoga view of God, Relation to the Sankhya The Purva—Mimamsa doctrine of Apurva, Svatahpramanya—Vada Vedanta, relation of Karma to Jnana, and Brahman to Jiva, according to Sankara and Ramanuja—the Advaita Doctrine of Adhyasa, Maya and Avidya, Visishtadvaita view of Reality, the pluralism of Madhva The notion of release in the various schools

Books recommended for Study—

Radhakrishnan Indian Philosophy—2 volumes.
Deussen. Philosophy of Upanishads.

Books recommended for Consultation—

Das Gupta History of Indian Philosophy
Keith Indian Logic and Atomism.
„ The Sankhya System.
„ Buddhist Philosophy.
„ Karma Mimamsa
Maxmuller Six Systems of Indian Philosophy.

(*iii*) *Outlines of European Philosophy*

Pre-Socratic Philosophy The Sophists Socrates Plato and Aristotle Stoics Epicureans and Sceptics Neoplatonism. Scholasticism Modern Philosophy as found in Bacon, Descartes, Spinoza, Lebinitz, Locke, Berkeley, Hume, Kant, Fitchte, Schelling and Hegel

Books recommended for Study—

Stace: Greek Philosophy.
Dewulf: History of Mediaeval Philosophy.
Joad: Introduction to Modern Philosophy
Weber and Perry. History of Philosophy.

Books recommended for Consultation—

Bakewell: Source-books in Ancient Philosophy.

Whitaker: The Neoplatonists.

Rand: Modern Classical Philosophers.

The relevant volumes of Blackwood's Philosophical classics

Candidates will be further expected to have a detailed knowledge of Plato's Republic or Kant's Prologomena; either of these being prescribed in alternate years.

(iv) *General Psychology*

Mc Dougall An Outline of Psychology

Watson Psychology from the stand-point of a Behaviourist especially Ch I, II, V, VI, VII and IX.

Clarke University Press Psychologies of 1930

Helson & others Symposium on Gostalspsychology (Psychological review 1928)

Robinson and Robinson: Reading in General Psychology

Stout Manual of Psychology

James. Principles of Psychology (to be consulted). Greater knowledge will be expected of systems of Psychology than of the Psychology of particular processes

II—SPECIAL GROUP

SPECIAL—SUB-GROUP A

(i) (a) *Experimental Psychology* (*Theory*).

Text-books—

Collins and Drever Experimental Psychology

Pieron Principles of Experimental Psychology

To be consulted.—

Clarke: University Press—Foundation of Experimental Psychology

Myers· Text-books for Experimental Psychology

Ballard. Group-tests of Intelligence.

(*i*) (*b*) *Experimental Psychology* (*Practical*).

Text-books.—

Seashore. Elementary Experiments in Psychology.

Foster & Tinker Experiments in Psychology.

To be consulted—

Whipple Manual of Mental and Physical Tests
Valentine Experimental Psychology of Beauty

(*ii*) *Child and Educational Psychology*

The scope is indicated by the following books recommended for Study—

Waddle Introductions to Child Psychology
Ward Psychology applied to Education
Sandiford Educational Psychology

Books recommended for Consultation—

Gassel Infancy and Human Growth.

Gast, Skinner and Skinner Readings in Educational Psychology

(*iii*) (*a*) *Social and Abnormal Psychology*

The scope is indicated by the following —

Books recommended for Study—

Thouless Social Psychology
Mukarji & Sen Gupta Social Psychology
McDougall Outlines of Abnormal Psychology

Books recommended for Consultation—

McDougall The Group Mind

Brill Fundamental conceptions of Psycho-Analysis.

Freud · Lectures on Psycho-Analysis

Interpretation of Dreams

Costa Psycho-Analysis for Normal People.

(*iii*) (*b*) *Mental and Educational Measurements.*

Books recommended:—

Symonds Measurements in Secondary Education.
Pintner: Intelligence testing.
Thorndike. Measurement of intelligence.
Spearman Abilities of man
Ballard Group test of intelligence.
The New Examiner
Watson Tests of Character

SPECIAL SUB-GROUP B

(*i*) *Ethics.*

Scope. Relation to other Sciences, especially Economics, Politics, Sociology, Logic, Psychology and Aesthetics.

Genetic study Custom, Conscience Systematic Reflection.

Moral development of the individual, childhood, adolescence, Fixation of character, temptation and conversion. The moral and the religious life.

Analysis of Moral Conduct Situation, motive, intention, character, standards of the good. Hedonism, Rationalism, Eudaemonism, Evolutionary Ethics, Value of moral criteria in practice, Casuistry.

(Classification of virtues, Discussion of principal virtues).

Rights and duties, Moral significance of institutions, Family, State, Property.

Theories of punishment.

Distinctive features of the Indian view of moral life, Karma, Nishkama Karma.

Metaphysical implications of the moral life.

Books recommended for Study—

Dewey and Tufts: Ethics.

Kant. Metaphysics of morals.

Green: Prolegomena of Ethics.
Sidgwick History of Ethics

Books recommended for Consultation--
Seth Ethical Principles
Moore Principia Ethica
Hadfield Psychology and Morals
Westermarck Origin and Development of Moral Ideas.
Hobhouse Morals in Evolution

(*ii*) *Political Philosophy*

The scope is indicated by the following books prescribed for study.—

Green Principles of Political Obligation
Bosanquet The Philosophical Theory of the State
Barker Political Thought from Spencer to To-day
Laski The Grammar of Politics

(*iii*) *Social Philosophy*

(*a*) *Sociology.*

The scope is indicated by the following books recommended for Study—

Mackenzie Introduction to Social Philosophy
Mac Iver Community
George Relations of History and Geography.
Westermarck History of Human Marriage
Giddings Principles of Sociology
Westermarck Origin and Development of Moral Ideas.

(*b*) *Social Psychology*

The scope is indicated by the following books recommended for Study—

Thouless Social Psychology.
Mukerji & Sen Gupta Social Psychology.
Rivers Psychology and Politics.

Books recommended for Consultation:—

McDougall. The Group Mind.

Deudy Social Biology.

Graham Wellase. Human Nature in Politics. The great society.

Trotter Instincts of the Herd in Peace and War

(*iv*) *Philosophy of Religion*

Relation to Science Art Psychology Anthropology Ethics and Metaphysics The History of Religion Animism. Totemism Fetichism Magic and Taboo Tribal, National and Universal Religion, Analysis of the Religious consciousness Origin and development of religious experience in the individual The feeling of the Numinous. Faith and Reason Mysticism The place of tradition and authority in religion

Proofs of the existence of God Nature Attributes and personality of God God and the absolute Time and eternity. Immanence and transcendence The problem of creation Theism and Pantheism Relation of the Finite Service to God Freedom of the Soul, and Divine sovereignty. Evil and suffering. The problem of pre-existence and immortality.

Books recommended for Study—

D M. Edwards. Philosophy of Religion.
Galloway. Philosophy of Religion
Wright A student s Philosophy of Religion.
Needham: Science, Religion and Reality.

Books recommended for Consultation—

Coe: The Philosophy of Religion.
Pratt The Religious Consciousness.
Leuba. A Psychological Study of Religion.
Woodbourne. The Religious Attitude.
Pringle Pattison. The Idea of God.
Tylor: Primitive Culture
Frazer: The Golden Bough (abridged).

SPECIAL SUB-GROUP—C.

(i) *Contemporary Philosophy with special reference to prescribed work*

One of the following books to be prescribed from year to year.

Bradley Appearance and Reality

Ward Realm of Ends

Bergson. Creative Evolution

Bosanquet Individuality and Value

Lloyd Morgan Life of Matter and Spirit.

Candidates will be expected to possess a knowledge of contemporary Philosophy in general.

Books recommended for Consultation—

Perry Philosophy of the Recent Past.

Hocking. Types of Philosophy.

Radhakrishnan Reign of Religion in Contemporary Philosophy

Halder Neohegelianism.

Muirhead Contemporary British Philosophy—2 Volumes

(ii) *Prescribed Schools of Indian Philosophy*

The Sankya Yoga, the Advaita Vedanta and the Visishtadvaita—Vedanta schools, to be prescribed in rotation, each of the three being prescribed for two years in succession The texts to be studied for each school are:

Samkhya Yoga The Samkhya-tatva-kaumudi of Vachaspati Misra, the Yoga Sutras with the Bhoja Vritti.

Advaita Vedanta, Sankara's commentary on the Vedanta Sutras, Chapters 1 and 2, the Vedanta Paribhasha.

Visishtadvaita: Ramanuja's commentary on the Vedanta Sutras, Chapters 1 and 2; the Yatindra-Matadipika.

CHAPTER XLII

DEGREE OF BACHELOR OF SCIENCE

Conditions of admission.

1. Candidates for the Degree of Bachelor of Science shall be required

(1) to have passed the Intermediate examination in Arts and Science of this University or an examination of some other University accepted as equivalent thereto*,

(2) to have undergone subsequently a further course of study in an affiliated college as prescribed hereunder, extending over a period of two years, each consisting of three terms ordinarily consecutive, and

(3) to have passed thereafter the examination for the Degree hereinafter prescribed

Courses of study

2 The courses for the B Sc Degree shall comprise instruction in—

Part I—English

Part II —*Three* of the following branches of knowledge, of which one shall be the main subject (Part II-A) and the other two subsidiary (Part II-B)—

i Mathematics
ii Physics
iii Chemistry
iv Botany
v Zoology
vi Geology
vii Physiology

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* Note.—The following examinations have been recognised by the Academic Council, in accordance with Section 33 (1) of the Act as equivalent to the Intermediate Examination of the Andhra University —

Intermediate Examinations of all other Statutory Indian Universities.

3. The course of study shall be as defined in the syllabuses appended to this Chapter

Eligibility for the Degree.

4. No candidate shall be eligible for the Degree of Bachelor of Science until he has passed the examination in Part I—English and in Part II viz, three of the optional branches of knowledge contained in the courses of study

5 A candidate for the B Sc Degree Examination may present himself for Part I at the end of the first year of the course and thereafter at his option present himself for the whole of the examination (that is, Parts I and II), or for either part, or for Part II-A or Part II-B, or for Part I together with either Part II-A or Part II-B, provided that candidates who obtain qualifying marks for a pass in either Part II-A or Part II-B need appear again only for the subdivision (A or B) in which they failed

Provided also that candidates presenting themselves for any part of the examination at the end of the first year of the course shall take the examination with the text-books and syllabuses prescribed for that year no matter when they would be completing their course in the main subject

Notwithstanding anything contained in the first para of this section, candidates who have passed in one subsidiary subject under Part II-B at the examinations of 1931 shall be given credit for the pass in that subject and they need appear for and pass in the other subsidiary subject only to complete that part. It shall also be permissible for candidates who commenced their B Sc Degree course of instruction in July 1931 to appear at the examination of April 1932 for one subsidiary subject under Part II-B and candidates who pass in that subsidiary subject in that year shall be given credit for the pass in that subject and they need appear for and pass the other subject only to complete that part.

Subjects for Examination

6. Candidates for the B Sc Degree examination shall be examined in.

Part I—English.

There shall be one paper in English Composition of three hours' duration based on set books.

Part II—Any three of the subjects mentioned under Part II in Section 2 above, of which one shall be main and the other two subsidiary.

The scope of the papers in the several subjects whether main or subsidiary shall be as stated below Each paper shall carry 100 marks and shall be of three hours' duration except where otherwise stated

MATHEMATICS (MAIN)

Six papers

i Algebra and Trigonometry
ii Pure Geometry.
iii Analytical Geometry
iv Calculus
v Statics and Dynamics
vi Hydrostatics and Astronomy

MATHEMATICS (SUBSIDIARY)

Two papers—

i Algebra, Trignometry and Analytical Geometry.
ii Calculus and Differential Equations.

PHYSICS (MAIN)

Four papers in theory and two practical examinations.

i Dynamics and Hydrostatics.
ii. Properties of Matter and Heat
iii Light and Sound
iv. Electricity and Magnetism

PHYSICS (SUBSIDIARY)

One paper in theory and one practical examination.

CHEMISTRY (MAIN)

Four papers in theory, and two practical examinations as hereunder—

i General Chemistry including History of Chemistry.
ii. Inorganic Chemistry
iii. Physical Chemistry.
iv. Organic Chemistry
v. Practical examination.
vi. Do Do

The practical examinations shall be of six hours' duration each.

CHEMISTRY (SUBSIDIARY)

One paper in theory and one practical examination

BOTANY, ZOOLOGY, OR GEOLOGY (MAIN)

Three papers in theory and three practical examinations as follows:—

BOTANY.

i Cryptogams
ii External Morphology Gymnosperms, and Angiosperms
iii. Physiology and Histology

Zoology

i. Invertebrata
ii Invertebrata
iii. Vertebrata and general principles.

Geology

1 Physical Geology and Economic Geology
ii Crystallography, Mineralogy, and Petrology.
iii. Stratigraphy, Indian Geology and Palaeontology.

Practical under Geology.

i. Crystallography and Mineralogy
ii. Petrology and Blow-Pipe analysis.
iii. Structural Geology and Palaeontology.
Laboratory and Field Note Books specimens

BOTANY, ZOOLOGY, OR GEOLOGY (SUBSIDIARY)

Botany No division of Papers

Zoology i Invertebrata
ii Vertebrata

Geology:

i Physical, Structural and Stratigraphical Geology and Palaeontology
ii Crystallography, Mineralogy and Petrology

Practical under Geology i One on the above subjects

Two papers in theory each of 2½ hours' duration and one practical examination of three hours

PHYSIOLOGY (MAIN)

Two papers in theory and three practical examinations.

PHYSIOLOGY (SUBSIDIARY)

One paper in theory and two practical examinations

M. B. B. S. to appear in Physiology

6-A A candidate who has passed the First M B. B. S. Degree Examination of this University will be permitted to appear for the B. Sc. Degree Examination in Physiology as a main subject after he puts in a regular course of study in that subject for a period of one year in a college affiliated to the University for the purpose The Syndicate shall have power to exempt him from taking any subsidiary subjects He shall be required to appear for and pass Part I—English of the B Sc. Degree Examination but the Syndicate shall have power to exempt him from the production of the required certificate of attendance in that subject at an affiliated college. The result

of the candidate at the examination shall be determined by the marks he obtains in Part I—English and Part II—Physiology as a main subject without reference to the subsidiary subjects

Marks qualifying for a pass.

7. A candidate shall be declared to have passed Part I of the examination if he obtains not less than 35 per cent of the marks in that part.

A candidate shall be declared to have passed Part II of the examination if he obtains not less than 35 per cent of the total marks in each of the three selected optional branches of knowledge, and not less than 30 per cent in each division of the examination. All other candidates shall be deemed to have failed in the examination The divisions in the fllowing subjects when *main* shall be—

(i) *Mathematics.*

(a) Pure Mathematics (b) Applied Mathematics

(ii) *Physics,* (iii) *Chemistry,* (iv) *Botany,* (v) *Zoology* (vi) *Geology, or* (vii) *Physiology*

(a) The written examination in the main subject

(b) The practical examination in the main subject.

There shall be no divisions in the above subjects taken as subsidiary.

List of successful Candidates.

8 There shall be separate lists of successful candidates in each part Candidates obtaining not less than 60 per cent of the marks in Part I shall be declared to have passed with distinction in English

Classification of successful candidates.

Successful candidates in Part II shall be arranged in three classes—The *first,* consisting of those who obtain not less than 60 per cent ranked in the order of proficiency as determined by the total marks obtained by each, the *second,* of those who obtain not less than 50 per cent ranked in the order of proficiency as determined by the total marks obtained by each, and the *third,* of the remainder, provided that first class and second class shall be given only to those candidates who pass Part II-A and Part II-B at one and the same examination.

SYLLABUSES

Mathematics (Main)

Mathematics (Main)

In addition to the subjects prescribed under (a) Mathematics, (b) Physics, in Group (1) for the Intermediate Examination, the course will comprise Algebra, Plane Trigonometry, Geometry, Elements of the Calculus, Dynamics, Hydrostatics, and Astronomy

PURE MATHEMATICS

Algebra.—Inequalities, Limits, Elementary theorems in convergence and divergence of series (Rigorous proofs are required) The binomial theorem for a rational index Exponential and Logarithmic series Partial fractions, elementary methods for the summation of series The elementary properties of continued fractions Intermediate equations of the first degree Elementary properties of Determinants Elements of the theory of numbers

Typical graphs.

$$y = ax_n,\ y = a/x,\ y = ax + b + c/x,\ y = ax + b + c/x^2$$

General properties of the equation of the nth degree and its roots and co-efficients The derived function Simple transformations of equations Reciprocal equations. Approximate solution of numerical equations Graphical solution of cubic and biquadratic equations.

Trigonometry.— Fuller treatment of the Intermediate course. Quadrilaterals inscribed in and circumscribed about circles. Regular polygons Limits of $\frac{\sin x}{x}$ and $\frac{\tan x}{x}$ as x tends to zero. Inverse trigonometrical functions' Complex numbers and their geometrical representation. DeMoivre's theorem. Series of Cos x, Sin x, Tan-x1 in terms of x (without proof.). Hyperbolic Functions Summation of elementary trigonometrical series. Elementary transcendental functions of a variable when the variable is complex.

Pure Geometry—Inversion. Orthogonal Projection Cross-ratios, coaxal circles, Reciprocation

The fundamental geometrical properties of the conic sections.

Analytical Geometry—Fuller treatment of the straight line and the circle referred to rectangular axes. The parabola, ellipse and hyperbola referred to their principal axes, and the rectangular hyperbola referred to its asymptotes. Tracing of conics from the general equation of the second degree. The polar equations of the straight line, the circle and the conic. Simple problems on the above

The plane, line, sphere, the Ellipsoid referred to its principal axes

The Calculus—Standard forms and fundamental processes of differentiation and integration Simple applications of the derivative to geometry, algebra, mechanics and physics. Maxima and minima values of a function of one variable Theorem of mean value (graphical proofs) Taylor's and Maclaurin's Theorems (without proof). Approximations and small errors. Evaluation of undetermined forms Curve tracing Curvature, Cartesian formula for the radius of curvature Partial differentiation. Integration by substitution Integration by parts Integration regarded as summation, with simple applications to areas, volumes and surfaces and to mechanics Differential equations of the first order and first degree. Linear differential equations of the second order with constant co-efficients.

APPLIED MATHEMATICS.

Dynamics.—

Resolution and composition of displacements, velocities, and acceleration. Curves of speed and velocity diagrams. Motion of a particle in one plane under constant accelerations. Simple harmonic motion, composition of simple harmonic motions. Angular velocity and angular acceleration: moment of velocity.

Absolute units of force Resolution and composition of forces Angular momentum moments of inertia in simple cases, the pendulum; determination of g. Work, energy, conservation of diagrams Impact, the ballistic pendulum. Dimensions of dynamical units

Conditions of equilibrium of a body acted on by forces in one plane. Moments and couples Centre of mass The theory of simple machines Laws of friction Graphical statics, The common catenary

Rectilinear motion in a resisting medium. Central forces (elementary course)

Simple applications of the principles of energy, and linear and angular momentum

Hydrostatics—Thrust of fluid on plane and curve surfaces Centre of pressure in simple cases Floating bodies and conditions of stability Properties of gases, determination of heights by barometer Pumps, pressure gauges and hydrostatic machines.

Astronomy—The apparent motion of the heavens Circumpolar stars The principal constellations and the most conspicuous stars

The celestial sphere—Points and lines on it—Horizon, zenith, pole, meridian, etc, the equinoxial points etc

Celestial co-ordinates right ascension, declination, etc, latitude and longitude

The transit circle, the equatorial, the clock The transit theodolite The sextant and chronometer.

Phenomena depending on change of latitude and longitude of the observer Magnitude of the earth.

The apparent annual motion of the Sun The constellation of the zodiac The ecliptic and its obliquity The equinoxes and the solstices The earth's motion round the Sun. Seasons.

Sideral time, apparent solar time, mean solar time. Equation of time Standard time (India) Civil and astronomical reckoning Conversion of time.

Explanation of astronomical refraction and parallax. Twilight

Determination, by observation, of clock error and rate of right ascension and declination of a heavenly body, and of the latitude and longitude of a station

The solar system, and the motion of the planets. Pepler's laws Comets and meteors

The motion of the moon and her phases The plane of her orbit The nodes and their motion The moon's sidereal and synodic periods Her diameter and distance

Distances and magnitudes of the sun and moon and planets.

Causes of the eclipse of the sun and moon Ecliptic limits. Number of Eclipses in a year The Calendar The use of the Nautical Almanac

Formulæ for the solution of right angled spherical triangles. Elementary problems on diurnal motion involving the use of right-angled spherical triangles Determination of the first point of Aries and the obliquity of the ecliptic Precession, Nutation, Aberration

Mathematics (Subsidiary)

Mathematics (Subsidiary).

An elementary treatment of the following Syllabus is required —

Algebra and Trigonometry—Determinants (fundamental properties and use in the solutions of linear equations); Exponential and logarithmic series Convergency and divergency of infinite series (ratio and comparison tests and discussion of the series $(\frac{1}{1^n}+\frac{1}{2^n}+\frac{1}{3^n}+\ldots)$ complex variable and its geometrical representation (interpretation as a Vector.) De Moivre's theorem.

Plane Analytical Geometry—The parabola, ellipse and hyperbola referred to their principal axes Rectangular Hyperbola referred to its asymtotes

Calculus.—Differentiation of rational integral functions; differentiation of sums, products, quotients and functions of a function, second and higher differentiation, partial differentiation, gradient of a curve, errors, maxima and minima of function of a single variable, differentiation of exponential and logarithmic series, direct and inverse trigonometrical functions; Taylor's and Maclaurin's theorems without proof and expansion in series of the above functions, hyperbolic functions

Definite integral regarded as a limit of a sum, standard integrals integration by substitution and by parts, integrals of simple functions, applications of simple integrals. (1) Geometrical areas, volumes, length of curves (2) Dynamical Moments of Inertia, centres of gravity and centres of pressure

Differential Equations.—Solution of differential equations of the first order and first degree excluding singular solutions. solution of equations of the form.

$$a\frac{d^2y}{dx^2} + b\frac{dy}{dx} + cy = d \sin (kx + \angle)$$

where *a, b, c,* and *d* are constants

Physics (Main)

The course includes a more extended study of matter included in the Intermediate Course with special emphasis on the experimental, modern and applied aspects of the subject, on the lines indicated below:— Ph sics (main.)

Dynamics as in Branch (1)—*Mathematics*

Properties of matter—Kinetic theory of matter, Brownian motion, Atomic structure, Balance, Circular motion, Centrifugal force and its practical applications Contrifugal machines. The Compound pendulum determination of 'g' and its variation, the elastic oscillations of springs Time, mean, solar and siderial; Sun-dial, clocks, watches and chronometers,

simple transit instrument, Time signals Elasticity. Hooke's Law, Compressibility and rigidity of solids The elastic limits. Strains due to simple longitudinal pull and bending. Young's modulus and its expression in terms of k and n. I—form girders. Twisting of wires, torsional rigidity, Torsion balance and shafts.

Gravitation.

Gases—Boyle's Law Variations, Vander Waal's equation, elementary kinetic theory, pressure, viscosity, effusion, transpiration and diffusion Atmospheric pressure variation with altitude, Isobars and meteorological elements, The Monsoons Cyclones and Anti-cyclones,—Western disturbances. Production and measurements of high and low pressures Vacuum pumps and gauges.

Hydrostatics.—Thrust of fluids on plane and curved surfaces Centre of pressure in simple cases Floating bodies and conditions of stability Hydrostatic machines Capillary phenomena, surface tention and viscous flow of liquids. Vapour pressure over curved surfaces and formation of liquids Diffusion, Analogy with conduction of heat, Fick's Law, Osmosis

Heat.—Thermometry Expansion of solids Applications to temperature compensation Expansion of liquids, apparent and absolute. Expansion of gases and gas thermometry. Calorimetry. Sp hts of solids, liquids and gases. Determination of γ (gama) Isothermals and Adiabatics

Change of state, refrigeration Continunity of state, critical constants, and liquefaction of gases.

Vapour pressure.

Thermo-dynamics, the two laws and their applications

Practical heat engines of the steam, gas and oil type. Variations of freezing and boiling points, with pressure Thermodynamic scale of temperature.

Joule—Thomson effect. Conception of Entropy.

Conduction, convection and radiation.

Laws of cooling, theory of exchanges, Searle's Lees and Forbe's methods of determining K, solar constant and the effective temperature of the Sun.

Light —Velocity of light Illumination, Photometry.

Elements of geometrical optics

Achromatism, dispersion

Thick lenses and revolving table, eye pieces, optical instruments, intermittent illumination The wave theory, Huygens' principle reflection and refraction, action of mirrors, lenses and prisms Simple interference phenomena, Rayleigh's interferometer, simple diffraction phenomena, Plane gratings, wavelength determination, spectrum analysis, Doppler's principle, Double refraction and polarisation of light, polarimetry and interference of polarised light, Rings and brushes in uniaxial crystals

Magnetism —Forces on a magnet in a magnetic field Determination of axis and moment of a magnet Magnetic potential and equi-potential surfaces Interaction of two short magnets, determination of field strength Magnetic shell and its potential energy in a magnetic field Total normal induction and Gauss's theorem Number of lines of force Magnetic induction Molecular theory of Magnetism The magnetic field of the earth, the terrestrial magnetic elements and their variations The mariner's compass and its corrections

Electricity.—Electrostatic potential and Capacity; Dielectric constant, Gauss's theorem, electrical forces, Mechanical forces on charged conductors Energy of electrified systems, The dielectric and displacement currents, Electrometers Determination of electrostatic capacity, electrostatic machines

Wheatstone's bridge, specific resistance, resistance thermometry Conductivity of electrolytes, electrolytic dissociation; Electro-plating, accumulators, standard cells, the potentiometer; Thermo-electricity and pyrometry, application of thermodynamics and thermo-electric diagrams.

Electro-magnetic induction Lenz's Law. Coefficients of induction, induction coils Energy of circuit carrying current

when placed in magnetic field, Mechanical forces on conductors carrying current Moving coil instruments; Ballistic Galvanometer, Volt-meters and Ammeters.

D. C. Dynamos and Motors

Technical applications of electricity to lighting, power transmission, telegraphy, telephony etc The discharge of a condenser, Electric waves, The crystal detector, The thermionic valve Simple wireless telegraphy, Elementary X-rays and radioactive phenomena.

Sound—The transmission of energy through material media by wave motion Speed of propagation of waves Nature of musical sound Pitch, musical scales Reflexion and refraction of sound, Influence of wave length, The vibration of strings and gas columns Resonance, Interference and diffraction phenomena, Analysis of sound, Measurement of wave length, Velocity and pitch The Microphone, telephone, loud speaker and gramophone, Musical Instruments

Practical Examination—The practical examination will be held in two parts and extends over three hours each, not on the same day

Candidates must submit to the examiners before the hour of the first examination their laboratory note-books duly certified by their professors as a bona-fide record of work done by them

Physics (Subsidiary)

Physics (Subsidiary)

Properties of Matter—As for candidates taking Physics as the main subject with the exception of the following:—

The Compound Pendulum, variation of 'g', the elastic oscillations of springs, the expression of Young's modulus in terms of K and n; I—form girders, torsional balance and shafts. Isobars and meteorological elements, The Monsoons, Cyclones and Anti-Cyclones, Western disturbances

Hydrostatics—Hydrostatic Machines, Capillary Phenomena, Surface tension and viscous flow of liquids Diffusion: analogy with conduction of heat; osmosis.

Heat —As for candidates taking Physics as the main subject with the exception of the following —

Conception of Entropy, Lees and Forbes' methods of determining K, solar constant and effective temperature of the Sun

Light —As for candidates taking Physics as the main subject with the following exceptions —

Elements of geometrical optics, Thick lenses and revolving table, eye-pieces, intermittent illumination, Rayleigh's interferometer, Doppler's principle, interference of Polarised light, rings and brushes in uniaxial crystals

Magnetism —Magnetic Induction Weber's theory of magnetism The magnetic field of the earth, the terrestrial magnetic elements and their variations, the Mariner's Compass

Electricity —As for candidates taking Physics as the main subject with the exception of the following —

Static Electricity

Applications of thermodynamics to thermo-electricity and thermo-electric diagrams

Coefficients of induction, Energy of a circuit carrying current when placed in magnetic field, Ballistic galvanometers

The discharge of a Condenser, etc to the end of the syllabus in Electricity

Candidates shall submit to the Examiners before the hour of the practical examination their laboratory note-books duly certified by their Professors as a *bona fide* record of work done by them

Chemistry (Main)

Physical Chemistry

Only elementary treatment is expected

Chemistry (Main).

The atomic concept of matter —Laws of chemical combination, the law of conservation of matter, Avogadro's hypothesis; Dulong and Petit's law, isomorphism; Prout's hypothesis; the periodic classification and its defects; atomic number, isotopes, electron; valance and electron arrangement.

Energy in chemical system —The definition of energy; force; the unit of energy, dyne and atmospheric pressure; the law of conservation of energy, the heat content of a system, the heat capacity of a system, heat of chemical reaction; heat of reaction at constant pressure and constant volume; Hess's law of constant heat summation, heat of formation, heat of combustion, heat of solution, heat of dilution, heat of neutralisation, heat of ionisation, calorimetric methods, variation of heat of reaction with temperature.

The state of aggregation —The fundamental gas law, kinetic theory of gases; Dalton's law of gas mixtures, specific heats of gases, heat capacity of gases at constant pressure, thermal conductivity of gases, expansion of gases, Joule-Thomson effect, deviation from the ideal gas law, Vanderwaal's equation; energy changes accompanying expansion and compression of gases, critical temperature, critical pressure, critical volume; isothermal P V curves, Vanderwaal's equation and P V isothermals the law of corresponding state, vapour pressure, Ramsay and Young's rule vapour pressure and external pressure, surface tension, molecular association, viscosity of liquids, crystal form, classification of crystals, crystal structure elementary notation regarding X-rays and crystal structure liquid crystals; melting point of a solid

Relation between chemical constitution and physical properties —Relation of chemical constitution with atomic and molecular volume, specific refraction, rotation of the plane of polarisation, emission and absorption spectra

Velocity and mechanism of gaseous reactions —Homogeneous and heterogeneous reactions, the mass law, monomolecular and bi-molecular reactions, the time of half change, the influence of temperature on the velocity of reaction, opposing reactions, consecutive reactions, concurrent reactions, the order of a reaction, heterogeneous reactions involving gases; catalysis

The direction of chemical change —The state of equilibrium; the ideal chemical equilibrium, spontaneous process; reversibility and irreversibility, maximum work; cyclic processes and Gibbs Helmholtz equation, the nature of the free energy

change, the sign of the free energy change; free energy and equilibrium.

Solution:—Gaseous solution, composition of solutions; ideal solutions, vapour pressure lowering, the raising of the boiling point, the lowering of the freezing point, steam distillation, osmotic pressure and its experimental determination, the determination of molecular weight in solution, thermo-dynamic consideration of the laws of dilute solution, relation between osmotic pressure and vapour pressure lowering of solution, Raoult's equation for vapour pressure lowering, relation between osmotic pressure and boiling point elevation, osmotic pressure and freezing point lowering, mechanism of osmotic pressure.

Homogeneous and heterogeneous equilibria—Chemical equilibrium from the stand-point of kinetics, chemical equilibrium from the stand-point of thermo-dynamics, relationship between Kp and Kc, the formation of equilibrium conditions with temperature, pressure and concentration, Le-chatelier-Braun principle, effect of pressure upon chemical equilibrium, reactions without change in the number of molecules, the water gas equilibrium, reactions in which the number of molecules changes, dissociation of carbon-dioxide and water vapour, dissociation of nitrogen tetroxide, phase rule, phases, components, degrees of freedom, system of one and two components

Electric conductance and ionisation.—Classes of conductors; uni-polar conduction, theory of metallic conduction, effect of temperature on resistance of metals, laws of electrolysis, electrolysis of fused salts, theory of electrolytic dissociation, specific, equivalent and molecular conductance, experimental determination of electric conductivity, equivalent conductance at infinite dilution, migration of ions and transport number; determination of transport number. indicators, hydrogen ion concentration (PH value.)

Ionic Equilibria:—Law of mass action and ionic equilibrium; range of applicability of mass action law, ionisation and chemical constitution; isohydric solution, ionisation of water;

inversion of cane-sugar, hydrolysis of esters, solubility product; amphoteric electrolytes.

Photo-Chemistry.—Photo-chemical absorption law, Beer's law; actinometry, law of photo-chemical equivalence

Colloid state.—Formation of colloid particles, method of obtaining colloidal solutions, sols and gels, kinetic theory and colloid particle, osmotic pressure of colloidal solution, diffusion of colloid particles, properties of the colloid system, absorption, absorption of gases by solids, absorption from solution, absorption and surface tension, electro-endosmosis and cataphoresis, coagulation

General and Inorganic Chemistry

Historical development.—The prehistoric period, the period of alchemy, period of iatro chemistry, period of sceptical chemistry, phlogiston period, quantitative period

Hydrogen.—Laboratory and industrial methods of preparation, technical application of hydrogen, properties, hydrides; place of hydrogen in the periodic classification

Oxygen.—Laboratory and industrial methods of preparation; properties, theory of rusting of iron, oxides, oxidation; reduction, oxidising and reducing agents, autoxidation

Ozone:—Preparation, properties and constitution

Water.—Hydrates, phase rule composition of water (volumetric and gravimetric), hard and soft water

Hydrogen peroxide.—Preparation, properties and characteristic reactions, composition and constitution, thermo-chemical consideration; peroxides, per acids, per-salts.

Halogens.—A comparative study—preparation and properties of fluorine, hydrofluoric acid and fluorides; laboratory and technical methods of preparing chlorine and hydrochloric acid; period of induction; chlorides, Werner's co-ordination theory, oxides, oxyacids and oxysalts of chlorine, preparation and properties of bromine, hydrobromic and bromic acids; iodine, hydroiodic, iodic and periodic acids, iodate and periodates

Sulphur:—Extraction and properties; allotropy of sulphur; triplepoint; consideration of phases; transition point; hydrides of sulphur; sulphides and per sulphides; halogen compounds of sulphur; oxides and oxyacids of sulphur; sulphurous, sulphuric per and thio sulphuric acids and their salts; constitution of sulphuric and sulphurous acids, thionyl chloride; sulphuryl chloride; thionic acids and their salts.

The gases of the atmosphere

Nitrogen:—Allotropy; preparation and properties; hydrides—ammonia, hydrazine and hydrazoic acid, oxides and oxyacids; fixation of nitrogen, hydroxylamine and hyponitrous acid.

Phosphorus:—Preparation and properties, allotropy; phosphine and phosphonium compounds, halides; oxides and oxyacids of phosphorus.

Arsenic, Antimony and Bismuth:—Their more important compounds and reactions; a comparative study of elements of the fifth group.

Carbon.—Allotropic forms, oxides and oxyacids; water gas reactions; photo-synthesis.

Silicon.—Hydrides, halides; oxides, silicic acid and silicates; ceramic and glass industries.

Boron:—Boric acid and borates, borax and its industrial uses.

The following metals studied in detail with particular reference to their metallurgy and their more important compounds and with special reference to their industrial modes of preparation and technical applications Alloys.

Sodium, potassium, ammonium, copper, silver, gold, magnesium, barium, strontium, calcium, zinc, cadmium, mercury, radium, aluminium, tin, lead, chromium, manganese, iron, nickel, cobalt and platinum.

ORGANIC CHEMISTRY

Purification and analysis of organic compounds, empirical, molecular and constitutional formulæ, isomerism.

Hydro carbons of Methane, Ethylene and Acetylene series and their derivatives; Alcohols, Ethers, Aldehydes and ketones; Alkyl esters of inorganic acids, fatty acids and their derivatives, esters; Glycerol, nitroglycerine, Allylacohol; Acrolein; fats; soaps.

Aliphatic amines, cyanogen compounds, organo-metallic compounds of zinc and magnesium; urea, urethanes; glycols; dibasic acids and their derivatives

The hydroxy mono and poly basic acids and their derivatives; stereo-isomerism, unsaturated acids, ketonic acids and esters; B-diketone, amino acids, mono-saccharides and dissaccharides, starch, cellulose; nitro-cellulose, Glucosides.

Phenols, aromatic Alcohols, Aldehydes, Ketones, Acids and their derivatives, constitution of Benzene, aromatic halogen, nitro and sulpho derivatives, reduction products of nitro bodies, Diazo compounds and their transformations, Azo compounds and Azo-dyes, Hydrazines.

Phenols, aromatic Alcohols, Aldehydes, Ketones, Acids and their derivatives, Quinones, aromatic hydroxy Aldehydes and Acids

Diphenyl, Diphenyl methane, Triphenyl methane, malachite green; Rosanilines, Aurines, Phthaleins and Indigo.

Naphthalene, Anthracene and their important derivatives and reactions; Alizarine.

Pyridine; Quinoline; Isoquinoline; Nicotine and Quinine.

Simple proteins.—

Practical Examination in Chemistry shall include the following:—

11. Qualitative analysis of inorganic mixtures containing not more than two basic and two acidic radicles.

2. Volumetric analysis—Preparations of standard solutions; Acidimetry; Alkalimetry; Oxidation and Reduction methods involving the use of potassium permanganate, potassium dichromate and iodine, precipitation methods

3. Gravimetric analysis of aluminium, calcium, magnesium, copper, silver, lead, sulphuric, hydrochloric, phosphoric and carbonic acids, silica, brass, common solder.

4. Preparation of some common inorganic substances so as to ensure the candidates' acquaintance with ordinary chemical operations.

5 Physico chemical determinations of boiling point, melting point, molecular weight by vapour density, cryoscopic and ebullioscopic methods, transition point, hydrolysis of an ester and partition co-efficient.

6 Identification by physical and chemical tests of the following organic compounds given singly.—

Ethyl alcohol, acetone; chloroform; formic, acetic, oxalic, tartaric, citric acids, glycerine, urea, glucose, cane-sugar, starch, benzene; aniline; phenol; resorcinol; pyrogallol; benzaldehyde, benzoic, salicylic acids; alpha-naphthol

7. Preparation of the specimens of any six of the following organic compounds:—

Ethyl acetate, chloroform, ether, acetic anhydride, nitrobenzene, aniline, phenol.

Benzoic acid from toluene, chloro-benzene (by Sandmeyer's reaction).

At the practical examination candidates must submit to the examiner or examiners their laboratory note-books duly certified by their professors or lecturers as a *bona fide* record of work done by the candidates.

Chemistry (Subsidiary)

General Theoretical Chemistry and Physical Chemistry—Methods of determining Equivalent, Atomic and Molecular weights; Theory of Electrolytic Dissociation; Law of Mass Ac- Chemistry (Subsidiary)

tion; Valency, Kinetic Theory; Osmotic pressure; Colloids; mono-molecular reactions; elements of thermo-Chemistry.

The elements (excluding the rare metals) and their important compounds studied in detail.

Chemistry of carbon compounds from an elementary standpoint.

Purification and analysis of organic compounds. Constitutional formulæ. Isomerism. Preparation and properties of the following substances:—

Methane, Ethane, Ethylene, Acetylene, Methyl and Ethyl Alcohols, Acetaldehyde, Ether, Acetone, Formic and Acetic acids, Ethyl Acetate. Oxalic and Tartaric acids, Urea, Glucose, Coal-tar and its fractionation products, Benzene, Aniline, Phenol, Benzoic acid.

Practical examination in Chemistry (subsidiary) shall include the following:—

(i) Qualitative analysis of inorganic substances containing not more than one basic and one acidic radicles.

(ii) Volumetric analysis—Preparation of standard solutions; Acidimetry; Alkalimetry; Oxidation and Reduction methods involving the use of potassium permanganate, potassium dichromate, Iodine and Sodium Thiosulphate.

At the practical examination candidates must, if required, submit to the examiner or examiners their laboratory note-books duly certified by their professors or lecturers as a *bona fide* record of work done by the candidates.

Botany (Main)

Botany (Main)

1 The main points of structure, life-history, development and taxanomic relationship of the following groups in general and the Genera in particular.

Myxomycetes.

Bacteria.

Cyanophyceæ: Oscillaria, Nostoc, Rivularia and Scytonema.

Diatomaceæ.

Chlorophyceæ: Chalmydomonas, Pandorina, Eudorina, Volvox, Ulothrix, Oedogonium, Ulva, Enteromorpha, Coleochsaete, Protococcus, Scenedesmus, Hydrodictyon, Cladophora, Vaucheria, Bryopsis, Caulerpa, Botrydium, Spirogyra, Zygnema, and Desmids.

Characeae. Chara, Nitella.

Phaeophyceae: Ectocarpus, Fucus, Sargassum, Dictyota.

Rhodophyceae. Liagora (Nemalionaceae), Batrachospermum, Polysiphonia, Gracillaria, Corallina.

Fungi:

Phycomycetes: Pythium, Phytophthera, Mucor or Rhizopus, Pilobulus, Saprolegnia, Cystopus.

Ascomycetes: Saccharomyces, Eurotium, Penicillium, Erysiphe, Peziza, Xylaria.

Basidiomycetes Ustilago, Puccinia, Agaricus, Lycoperdon, Polyporus, Phallus.

Lichens.

Bryophytes Riccia, March Anthoceros, Funaria, Polytrichum.

Pteridophytes: Lycopodium, Selaginella, Isoetes, Equistum, Ophioglosum, Gleichenia, Osmunda, Angiopteria, Trichomanes, Pleopeltis, Adiantum, Marsilia.

Gymnosperms: Pinus, Cycas.

2. The morphology and development of the reproductive organs of Angiosperms.

3 The external morphology of Angiosperms, the general principles of classification and the distinguishing characteristics of the following families as used in the Flora, of British India—

Magnoliaceae, Anonaceae, Nymphaeaceae, Cruciferae, Capparidae, Malvaceae, Sterculiaceae, Tiliaceae, Gerani-

aceae, Rutaceae, Meliaceae, Rhamnae, Sapindaceae, Anacardiaceae, Leguminoseae, Rosaceae, Combretaceae, Myrtaceae, Lythraceae, Cucurbitaceae, Umbelliferae, Rubiaceae, Compositae, Satotaceae, Oleaceae, Apocynaceae, Asclipiaceae, Boraginae, Convolvulaceae, Solanaceae, Scrophulariae, Acanthaceae, Verbinaceae, Labiate, Amaranthaceeae, Loranthaceae, Euphoribiaceae, Urticaceae, Hydrocharidae, Orchidae, Scitaminae, Amaryllidae, Liliaceae, Commelinacae, Palmae-Aroidae, Cyperaceae, Graminae

4 Physiology

The chemical composition of the plant, materials of plant food and their sources, the nature of soil and importance of its constituents and micro-organisms, movements of water and gases, assimilation of carbon and nitrogen, transpiration and translocation of the assimilated products, parasitism and other modes of nutrition, metabolism, respiration, the influence of light, heat and gravity, growth movements and irritability in plants, sexual reproduction and its significance, vegetative reproduction the phenomena of cross-fertilisation, variation, heredity and Mendelism, theories of evolution and origin of species

5 Histology

The structure and modes of division of the cell, the nature of cell-contents, the nature and mode of origin of plastids, cell-sap and other cell contents, the physical and chemical properties of protoplasm and cell wall, the origin, nature and development of plant tissues, primary and secondary tissues and their distribution in the plant body

6 Ecology.

Structural adaptations to environment, plant communities.

7 Practical work

Candidates are expected to be able to make preparations illustrating the form and structure of any plant of the groups mentioned in the syllabus and describe them with sketches sufficient for their identification; to make dissections with the simple

microscope of the floral parts of Phanerogams, to make drawings to construct floral diagrams and refer them to their families; to describe in technical language plants belonging to any of the groups in the syllabus and to set up and explain simple experiments in plant physiology.

At the practical examination, each candidate must submit his laboratory note-book, a collection of named plants collected and preserved by himself and a record of field work showing a thorough acquaintance with the local flora.

Botany (Subsidiary)

Botany (Subsidiary.)

1 Structure and life-history of the following —

Bacteria, Oscillaria, Chlamydamonas, Pandorina, Eudorina, Volvox, Ulothrix, Oedogonium, Spirogyra, Ectolarpus, Polysiphonia, Chara or Nitella, Rhizopus or Mucor, Peziza, Puccinia, Agaricus, Marchantia, Mosses, Selaginella, Pteopeltis or Adiantum, Marsilia, Cycas, Pine.

2 External Morphology of Flowering plants.

3. The general principles of classification and the characteristics of the following families.—

Anonaceae, Nyhpheaceae, Cruciferae, Malvaceae, Rutaceae, Rhamnae, Leguminoseae, Myrtaceae, Cucurbitaceae, Umbeliferae, Rubiaceae, Compositae, Apocynaceae, Asclipiadaceae, Convolvulaceae, Solanaceae, Acanthaceae, Verbenaceae, Labiatae, Amaranthaceae, Euphorbiaceae, Urticaceae, Hydrocharidae, Orchidae, Scitamineae, Amaryllidae, Palmae and Graminae

4. Plant Physiology.—

Chemical composition of the plant, soil and its properties; photo-synthesis, transpiration, respiration; metabolism; heterotropic plants, growth, movements; irritability, reaction to external stimuli, adaptions, reproduction, sexual and asexual cross and self-pollination and fertilisation, variation, heredity and Mendelism, theories of evolution and origin of species.

5. Histology.—

Cell structure and cell division; plastids, cell sap and other cell contents; the origin, nature and development of plant tis-

sues; primary and secondary tissues and their distribution in the plant body, the relation of structure of function

6. *Practical work.*—

Candidates are expected to be able to make preparations illustrating the form and sturucture of any plant belonging to the groups mentioned in the syllabus and to describe with sketches sufficient for their identification, to make dissections with the simple microscope of the floral parts of Phenarogams; to make drawings, construct floral diagrams and refer them to their families, to describe in technical language plants belonging to any of the groups specified in the syllabus.

Zoology (Main)

Zoology (Main)

The scope of Zoology The leading features in the structure, the important points concerning the development, and affinities and general classification of the forms included in the following groups:—

Protozoa, Porifera, Coelentarata, Plathelmia, Nemertini, Nematoda, Acanthocephela, Chactognatha, Rotifera, Brachiopoda, Annelida, Phoronidea, Polyzoa, Arthropoda, Mollusca, Echinodermata and Chordata.

A comparative study of the Physiological activities of the animals such as locomotion, feeding, respiration, excretion and reproduction of the groups mentioned above.

A general acquaintance with the Vertebrate Fauna of South India.

The geographical and geological distribution of the Chordata treated in an elementary manner.

Outlines of the theories of Organic evolution, Heredity and Adaptation.

An elementary knowledge of the Cell and Cell-phenomena.

Practical work.—Candidates will be required to examine, describe, identify or otherwise deal with specimens and preparations illustrating points of zoological interest in connection

with any of the preceding groups. They will, in addition, be expected to have a full practical knowledge of the structure and will be required to make dissections and simple microscopical preparations of any of the following types :—

Amoeba, Vorticella, Hydra, Obelia, Jelly-fish (Chrysora Rhizostoma) Sea-annemone, Nereis, or Eunice, Earth-worm, Leech, Prawn and Crab (external characters), Scorpion, Centipede, (external characters), Cock-roach, Fresh-water Mussel, Ampullaria, Sepia, Amphi-xus, (preparations and sections) Dog-fish, Frog, Pigeon and Rabbit

Candidates may also be examined by *viva voce* questions.

Zoology (Subsidiary)

Zoology (Subsidiary.)

The scope of zoology The leading features in the structure the most important points concerning the development and affinities of the forms included in the following Phyla in general, and of the following types in particular (Students will not be expected to be familiar with characters of orders or other sub-groups not mentioned in the following scheme The animals are to be studied with special reference to their habits and environment)

Protozoa —Rhizopoda—(Lobosa, Formanifera, Heliozoa, and Radioloria).

Mastigiphra, (Flagellate).

Infusoria (Ciliata)

Sporozoa.

Types.—Amoeba, Euglena, Volvox, Paramoecium, Vorticella, Monocystis and Malarial Parasite

Coelenterata —Hydromedusae (and all its orders).

Scyphomedusae (and all its orders)

Anthozoa (Zoantharia and Aclyonaria)

Ctenophara.

Types —Hydra, Obelia, Aurelia, Sea-Annemone and Hormiphora.

Platyhelminthes —Types Taenia and Liver-Fluke.

Namathelminthes —Types Ascaris

Annelida —Archiannelida,

Chaetopoda (Polychaeta and Oligochaeta),

Hirudinea,

Echiuroidea

Types —Nereis Earth-worm and Leech

Anthropoda —Crustacea (Entomastract and Malacostraca)

Types —Streptophalus, Lepas, Sacculina, Prawn and Crab.

Onycophora —Peripatus.

Myriopoda —(Centipede and Millipede)

Insecta (Aptera Orhoptera, Coleptera, Neuropteia, Hymenoptera, Hemiptera, Diptera & Lepidoptera) Types Cockroach

Arachnida —scorpions, spider & Limulus)

Type. Scorpion.

Mollusca —Pelycypoda

Gastropoda

Cephalopoda

Types Mussel, Chiton, Pila, (Ahpullaria) & Sepia

Echinodermata —Asteriodea,

Ophiuroidea,

Echinoidea,

Holothuroidea,

Crinoidea.

Types —Starfish, Brittlestar, Seaurchin, Sea Cucumber, and Feather-star

Chordata:—

Prochordates.—Balanoglossus, Asridia & Amphioxus

Vertebrata:

Pisces Elasmobranchii,

Teleostei,

Dipnoi

Amphibia. Anura,

Urodedla,

Gymnophiona

Reptilia Lacertilia,

Ophidia,

Chelonia and Crocodilia,

Aves Archaeornithes,

Neornithes (Ratitae & Carinatae)

Mammalia Prototheria,

Metatheria (Diprotodontia and Poly-protodontia),

Eutheria (Edentata, Sirenia, Proboscidea, Ungulata,

Cetacea, Carnivora, Rodentia, Insectivora, Chiroptera,

Prosimiae and Primates)

Types —Balanoglossus, Ascidia, Amphioxus, Dog-fish, Bony Fish, Frog, Calotes, Pigeon and Rabbit.

A general knowledge of the theories of Evolution, Heredity and Adaptation.

Practical Work:—Candidates will be expected to have a practical knowledge of the structure and shall be required to make dissections and simple microscopical preparations of any of the following types:—Earthworm, Nereis (external features), Leech, Prawn, (external features), Scorpion, Cockroach, Fresh-water Mussel, Ampullaria, Sepia (external characters), Frog, Pigeon (nerves excepted) and Rabbit (nerves excepted).

Geology (Main)

Geology (Main.)

A course of lectures on the following :—

1. Physical and Dynamical Geology.
2. Crystallography and Mineralogy.
3. Petrology.
4. Structural and Field Geology.
5. Economic Geology.
6. Stratigraphy, Indian Geology and Palaeontology

1. *Physical and Dynamical Geology*

The aims, methods and applications of Geology as a Science; its sub-divisions.

The Earth its relations to the members of the solar system, its evolution, its movements and their effects, its shape, size, density, main principles of determination of the age of the earth.

The atmosphere its nature, extent and movements, climate, weather seasons, elements of meteorology.

The Hydrosphere, extent, composition and movements; effects on climate.

The lithosphere. constituents of the crust; probable nature of the interior, rate of downward increment of internal heat, main divisions of rocks and their mode of occurrence.

Geological agents. Hypogene—igneous activity; volcanoes, their form and structure, their action, cause, results and products.

Earthquakes, nature, origin and effects, relationship to volcanoes. Epigene. Heat, cold, water, wind, ice and organic agents.

Erosion, transportation and deposition considered with each of the agents Characters of deposits—terrestrial, fluviatile, marine, lacustrine, glacial and organic. Earth sculpture.

2. *Crystallography and Mineralogy.*

Distinction between amorphous substance, crystal, mineral and rock Crystals lines, planes, axes and centre of symmetry. Laws of crystallography Crystal systems, crystal notation important holohedral and hemihedral forms and their combinations, contact goniometer, principles of reflecting goniometer the important types of twinning and twinned crystals.

Elements of crystal drawing.

Physical characters of crystals, isomorphism, dimorphism, isodimorphism, paramorphism, pseudomorphism

Simple dry and wet tests for identifying minerals.

Main principles of optics leading to the recognition of minerals.

Pleochroism and absorption, extinction angles, inference Phenomena, positive and negative crystals

Study of the more important rock-forming and economic minerals.

3. ***Petrology.***

Aqueous, igneous and metamorphic rocks, their origin, mode of occurrence, composition, structure and texture, alteration and metamorphism (including contact and regional) of rocks.

Construction and use of the petrological microscope, its use in the identification of minerals and rocks by means of ordinary and plane—polarized light.

4. *Structural and Field Geology.*

Structural features of the different classes of rocks, lamination, bedding, joints, overlap, unconformity, concretions and secretions, strike, dip, faults, folds—their effect on topography.

Construction and interpretation of geological maps and sections. Simple problems in structural geology.

5. *Economic Geology.*

Forms and origin of Ore deposits, important characters of the main types—magmatic, pneumatolytic, hydatogenmetic, metasomatic, metamorphic and detrital

Elementary knowledge of the chief economic ores and minerals of India, and their main uses —Coal, petroleum, water and building stones, salt, magnesite, gold, silver, tungsten, chromite, manganese and iron ore

Elementary principles of prospecting

6 *Palaeontology and Stratigraphy.*

Fossils their natures and preservations, their value as indices of age and climate, distribution of the main groups in time, recognition and drawing of the more important types

Correlation of strata and homotaxis

Elementary knowledge of evolution in the organic world.

Geological sequence, standard European Geological formations, their lithological and palaeontological characters, Indian geology studied likewise, physiographic and climatic conditions of the different epochs and systems, glacial epochs.

Practical Work.

Physical properties of minerals—density, hardness, fusibility.

Drawing of crystals of the more important minerals.

Examination of important rock-forming minerals and rocks in hand specimens and under the microscope

Dry and wet tests for the identification of important minerals.

Reading of geological maps and construction of sections.

General acquaintance with field work, including the maintenance of field notes and specimens collection in excursions.

Study and drawing of a representative collection of fossils.

Laboratory note-books

Viva voce questions may be asked.

Geology (Subsidiary)

Physical Geology.

The aims, methods, and applications of Geology. The earth. The nature and character of atmosphere, hydrosphere, lithosphere.

Work of the geological agents, character of deposits. Earthquakes and Volcanoes, their nature, origin and effects. Water supply-permeable and impermeable strata.

Structural Geology

Evolution of surface features Dip and strike, folds and faults, outcrops of simple structures in relation to topography Study of simple geological maps and construction of sections

Stratigraphy.

The geological record, subdivision into groups, systems and series, leading features and fossils their Elementary knowledge of the geology of India

Crystallography and Mineralogy

Six systems of crystals Symmetry Weiss and Miller symbols Contact goniometer The most important holohedral and hemihedral forms Simple twins Density, hardness and other physical properties of minerals Study of the most important rock-forming minerals-chemical composition, crystallography and physical characters

Petrology

Classification of rocks Study of the chief types of igneous, metamorphic and aqueous rocks in handspecimens

Palaeontology

Fossils, their mode of preservation, value of fossils Study and drawing of type specimens from the various phyla

Practical Work.

Determination of density and hardness of minerals Identification of crystal habits and of some important combinations of habits Megascopic examination of the chief minerals and rocks. Study and drawing of a set of fossils Easy exercises on geological maps and sections.

Physiology (Main)

Physiology (Main).

(A) *Physiology.*

General:—

History and scope of Physiology Characteristic features of living substance Conditions of life Structure and Chemistry of Protoplasm Surface tension, Osmosis, Hydrogenion concentration Colloids and their behaviour Cell Protoplasm Nucleus Reproduction of cells

Circulatory System:—

Origin, composition and properties of blood General character and formation of Lymph Blood and Lymph as protective machanisms Circulation of blood Physiological characteristics of the heart Work of the heart Cardiac cycle. Nature of cardiac contraction Sounds of the heart Nervous control of the heart Circulation through various organs Physiology of capillary circulation treated in an elementary manner. Blood pressure, methods of measurement of blood pressure Effect of the heart beat on blood pressure Pressures in capillaries, veins and lymphatic vessels Features of blood flow Influence of posture and gravity on circulation Shock and its general causes

Respiratory system —

Organs of respiration Internal and External respirations. Mechanism of external respiration Movements of respiration. Amount of air respired Interchange of air by diffusion. Respiratory sounds Respiratory Rhythm Nervous regulation of respiration Interaction of circulation and respiration Influence of the heart on respiration Internal respiration Effects of respiration on the air breathed Effects of respiration on the blood Causes of respiratory exchange. Bloods as carrier of oxygen and carbondioxide Ventilation Asyphyxia.

Digestive system —

Nature of food Proximate principles of food Sources of the proximate principles Dietetics Digestion of the food

stuffs. Secretion and properties of the digestive juices and bile. Movements of the stomach and intestine. Mode and channels of absorption of food Storage of surplus food. Functions of the Liver and Pancreas.

Metabolism:—

Factors influencing metabolism, age, climate, nature of work, etc Basal metabolism during starvation. Metabolism of proteins Carbohydrates and fats treated in an elementary manner. Insulin and carbohydrate metabolism. Regulation of temperature.

Muscle nerve physiology:—

Functions of the muscular tissue. Muscular movement. The graphic registration of muscular contractions Methods of stimulation of muscle and nerve Character of contraction of muscles Chemistry of muscle Heat production in muscle. The neuron and its conducting paths Phenomenon of conduction in nerve Reaction of nerve and muscle and constant and interrupted electrical currents.

Excretory system:—

The secretion of urine Expulsion of urine Micturition. Composition of urine Functions of the skin and its appendages.

Nervous system:—

Significance of the nervous system Functional arrangement of the nervous system Reflex action Functions of the spinal cord Functions of the autonomic system Sympathetic and parasympathetic nervous system. Functions of the medulla oblongata, and associated nerves General functions of the cerebrum Cerebral localization. Functions of the cerebellum Formation and properties of conditioned reflexes. Cerebrospinal, fluid, its formation, composition and functions.

Sense Organs.—

Classification of sense organs General features of Receptors Physiology of the ear and eye and other sensations treated in an elementary manner.

Endocrinology:—

The thyroid Parathyroid, thymus, adrenal bodies, Hypophysis, pineal body. Tests and ovaries. Haemolymph glands.

Reproductive system:—

Growth, regeneration and reproduction Physiology the male and female reproductive organs treated in an elementary manner Functions of the foetal membranes Nutrition of the embryo. Foetal circulation.

(B) *Histology*:—

Lectures are to be correlated with practical work and students will be expected to be familiar with the staining methods

Cell:—

Structure of the cell Cell-division Connective tissues. Pigment cells Adipose tissue Wharton's Jelly Elastic, fibrous and hyaline cartilage Ossification and bone Contractile tissues. Skeletal muscle, smooth muscle and heart muscle. Nerve cell. Structure of the spinal cord at various levels, cortex and cerebellum Nerve fibres Nerve endings. Ganglion cells.

Blood vessels:—

Aorta, smaller artery, bronchial artery and vein. Lymphatic vessels and tissues, Lymphoid tissue, lymph gland, Spleen and tonsil.

Alimentary tract:—

Tongue, œsophagus, stomach, intestine, salivary gland, pancreas and liver.

Respiratory system:—

Larynx, trachea, bronch, and lung Urinary tract—Kidney, ureter.

Ductless glands—Thyroid, parathyroid, thymus, pineal body, pituitary body, pancreas, adrenal body. Reproductive system—Tests, ovaries, vas defences, uterus etc.

(C) *Experimental Physiology*:—

The working knowledge of the electrical apparatus in common use in physiological experiments. Cells, electrodes, key, Commutator, Rheochord and Induction coil.

Certain simple experiments illustrating the use of the above apparatus.

The muscle-nerve preparation The recording of muscular contractions. Superposition Tetanus.

Action of Veratrine and Curari Effect of fatigue on masole.

Polar excitation of nerve, electrotonus, Galvanism and Faradism.

The Frog's heart Stannius' experiments Peculiarities of Cardiac contraction. Cardiac nerves of frog.

The capillary circulation in the frog's web and mesentery.

Sheep's heart, action of valves, the use of the Dudgeon Sphygmograph.

Arterial pressure in man. Sphygmomanometer

The respiratory movement in man. Stethography

Vital capacity Artificial respiration.

Reflex action in frog. De-cerebrated frog.

The enumeration of blood corpuscles. Estimation of Haemoglobin.

(D) *Bio-Chemistry*:—

Students will be expected to have a fuller knowledge of the portions specified in the syllabus as a subsidiary subject in addition to the following:—

Theory:—

Vitamins Chemistry of bile Vanden Bergh's reaction. Bacterial decomposition in the intestines. Physiological detoxications, glycol and ornithin derivatives. Glycourates. Ethe-

real sulphates. Methylation. Oxidation and reduction and acetylation. Chemistry of internal secretions.

Practical:—

The preparation and estimation of amino-acids Hydrolysis of fats. Quantitative estimation of carbohydrates Indirect calorimetry Basal metabolism Estimation of PH Quantitative estimation of important constituents Alkali reserve Blood gases. Analysis of air. Quantitative analysis of urine Liver and Kidney efficiency tests. Analysis of gastric contents

Physiology (Subsidiary)

Physiology (Subsidiary.)

(A) *Physiology*:—

Chemical composition of the animal body Physiology of the cell. Histology of animal tissues General Physiology of muscle and nerve Food and dietetics Digestion, absorption and nutrition. Blood, lymph and tissue fluids Physiology of the heart and blood vessels. Respiration. Excretion Metabolism and regulation of temperature Skin and its appendages. Central nervous system Autonomic system Special sense organs. Endocrinology. Reproduction Elementary facts of general physiology as indicated below:—

Protoplasm, its structure and properties Surface action, surface tension, absorption etc Properties of colloids Permeability of membranes. Osmotic pressure Electrolytes. Functions of water. Catalysis. Enzymes.

(B) *Bio-Chemistry*:—

The Chemistry and metabolism of food stuffs. Enzyme action. The chemical constituents of blood, their origin and physiological conduct. Acidosis and alkalosis The Chemistry of urine and faeces. Urinary pigments, reactions of proteins, fats and carbohydrates. Quantitative estimation of sugar Digestive enzymes and bile. Qualitative analysis of some common food stuffs Derivatives of Haemoglobin Spectroscopic examination of Haemoglobin and its derivatives Coagulation of blood. Haemolysis chemical tests for blood. Preparation of Haemin and Haemoglobin crystals.

Quantitative estimation of sugar and urea in blood Use of the calorimeter Estimation of PH of urine Testing for the various constituents Urinary sediments Quantitative estimation of Chlorides, phosphates and urea Identification of substances of Physiological importance

(C) Candidates will be expected to have undergone a course of practical instruction in Practical Physiology, Histology and Elementary Bio--Chemistry, and certificates of such attendance should be produced from the Professors concerned.

CHAPTER XLII-A

B Sc (HONOURS) DEGREE EXAMINATION

A Courses of Study.

Condition of admission

1 Candidates for the Degree of Bachelor of Science (Honours) shall be required—

(i) to have passed the Intermediate Examination in Arts and Science of this University as prescribed in Section 6 of Chapter XXXIX of the Code or the Intermediate examination of any other Statutory Indian University accepted as equivalent thereto

(ii) to have undergone subsequently a further course of study in the University College as prescribed hereunder, extending over a period of three years, each consisting of three consecutive terms, and

(iii) to have passed the examination for the degree hereinafter prescribed.

Courses of study

2. The course for the B Sc. (Hons) Degree shall comprise instruction in—

Part I—(a) English and (b) Scientific French or German.

Part II—Any one of the following branches of knowledge:—

(i) Physics as the main subject with Chemistry and Mathematics as subsidiary subjects.

(ii) Chemistry as the main subject with Physics and Mathematics as subsidiary subjects.

The following examinations have been recognised by the Academic Council in accordance with Section 33 (1) of the Act as equivalent to the Intermediate Examination of the Andhra University:

Intermediate examinations of all other Statutory Indian Universities.

3. The course of study in Part I-(a) English shall be Composition based on set books of modern publication and in Part I-(b) a course in Scientific French or German to test the candidate's ability to translate into English passages from the Scientific French or German literature in the main subject. Part I(a)English Part I(b) French or German

4. The courses of study in the main and the subsidiary subjects under Part II shall be as detailed below —- Part II

Physics (Main)

A candidate shall be required to have a sound knowledge, experimental and theoretical, of·— Physics (Main)

(i) Properties of Matter and Dynamic Theory of Sound.

(ii) Sound and Heat.

(iii) Light.

(iv) Electricity and Magnetism and

(v) Modern Physics.

Each candidate shall submit his laboratory note books containing the record of all his practical work performed during the period of study for the examination The record shall be counter-signed by the Professor or Professors under whom the candidate has worked and shall be certified as a *bona fide* record of work performed by the candidate It shall be submitted on the first day of the practical examination to the Examiners engaged in conducting the examination

There shall be five papers in theory, each of three hours duration one on each of the above subjects The first four papers shall carry 100 marks each, and the fifth 150 marks There shall be four papers in practical carrying 400 marks in all and the practical records submitted shall carry 100 marks.

The scope of the several subjects shall be as defined in the syllabus.

Physics (Subsidiary)

Physics (Subsidiary)

There shall be one paper in theory and one in practical Each paper shall be of three hours duration and shall carry 100 marks each

The scope of the subject shall be as defined in the syllabus

Chemistry (Main)

Chemistry (Main)

A candidate shall be required to have a sound knowledge, experimental and theoretical, of —

(1) General and Historical Chemistry

(2) Physical Chemistry

(3) Inorganic Chemistry

(4) Organic Chemistry and

(5) Any one of the following special subjects —

(i) Electro-Chemistry

(ii) Technical Gas Reactions

(iii) Analytical Chemistry

(iv) Chemistry of rarer elements and their industrial uses

(v) Tinctorial Chemistry and

(vi) Bio-Chemistry

There shall be five papers in theory, each of three hours duration on each of the above five subjects Each paper shall carry 100 marks There shall be four papers in practical, one on the special subject and the rest on the general subjects Each paper in practical shall be of 6½ hours duration and each shall carry 100 marks and the practical record submitted shall carry 100 marks.

Each candidate shall submit his laboratory note books containing the record of all his practical work performed during the period of study for the examination. The record shall be countersigned by the Professor or Professors under whom the candidate has worked and shall be certified as a *bona fide* record of work performed by the candidate. It shall be submitted on the first day of the practical examination to the Examiners engaged in conducting the examination.

The scope of the several subjects shall be as defined in the syllabus.

Chemistry (Subsidiary)

Chemistry subsidiary

There shall be one paper in theory and one in practical, each of three hours duration. Each paper shall carry 100 marks.

The course in subsidiary Chemistry shall be the same as the syllabus prescribed for the candidates taking the course in Chemistry as a subsidiary subject for the B Sc. (Pass) Degree Examination.

Mathematics (Subsidiary)

Mathematics subsidiary

There shall be one written examination of three hours duration carrying 100 marks.

The scope of the subject shall be as defined in the syllabus.

B. Examinations.

Eligibility for the Degree

5. No candidate shall be eligible for the B.Sc. (Honours) Degree until he has passed the examination in Part I and in one of the branches of knowledge in Part II detailed in the courses of study.

Examination in Part I

6. A candidate shall be permitted, at the end of the first year, to appear for the examination in Part I-(a) English Composition and (b) Scientific French or German and at the end of the second year in the subsidiary subjects.

Marks qualifying for a pass in part I.

7. The Preliminary examination in Part I shall be (a) a three hour paper on English Composition and (b) a two hour paper on Translation. A candidate shall be declared to have passed Part I if he obtains not less than 40 per cent of the total marks for the two papers taken together; candidates obtaining not less than 60 per cent shall be declared to have passed with distinction All other candidates shall be deemed to have failed in the examination.

Qualification for admission to the Examination

8. No candidate shall be admitted to the examination in Part I unless he has passed the Intermediate examination in Arts and Science of this University or an examination of any other Statutory Indian University accepted as equivalent thereto and has undergone the prescribed course

Admission to the final examination.

9. No candidate, other than those hereinafter exempted, shall be permitted to appear for the final examination in the Main subject unless he has passed the Preliminary examination in Part I.

B.Sc. Pass candidates to appear for Honours Examination.

10. A candidate for the B Sc (Honours) Degree who has passed the B Sc (Pass) Degree examination shall be permitted to appear for the B Sc (Hons.) Degree Examination after a further two years course in the University College, provided he has passed the B Sc Degree examination in the subjects in which he desires to appear for the Honours examination He shall be exempted from passing the examination in Part I and from the examination in the subsidiary subjects, provided he undergoes one year's course in Scientific French or German.

Permitted to appear only twice

11. A candidate for the B Sc (Honours) Degree shall be allowed to appear for the final examination in the main subject for two consecutive years, not later than the end of the fourth year after he was admitted to the course, provided however that Bachelors of Science proceeding to the Honours examination, (Vide Section 10 supra) should pass the B. Sc Honours examination not later than the end of the third year after they were admitted to the course.

Candidates for Honours recommended for B.Sc. pass degree

12 In the event of a candidate for the B.Sc (Hons.) degree failing to satisfy the Examiners in Part II of the examination, he may be recommended by them for the B. Sc. (Pass) Degree provided he has passed the examination in Part I and has obtained not less than 30 per cent of the marks in each subject, both Main and Subsidiary, in Part II

Candidates failing in Honours may appear for B.Sc. privately

13 A candidate who is not already eligible for the B.Sc. (Pass) Degree, and has failed completely in the B.Sc (Hons.) Degree examination, shall be permitted to appear for the B Sc. Degree examination in the subjects in which he has already appeared without the production of a further certificate of attendance in an affiliated College.

Marks qualifying for a pass

14 A candidate shall be declared to have passed the B.Sc. (Hons.) Degree Examination if he has obtained not less than 40 per cent of the total marks in Part I and 40 per cent of the total marks in Part II and 33 per cent of the marks in each division of Part II, provided that he gets a minimum of 33 per cent of marks in each of the two subsidiary subjects under Part II.

Divisions under Part II

The divisions shall be as follows:—

i. Theory of the Main subject.

ii. Practical of the Main subject including the practical records submitted and

iii. Subsidiary subjects.

Classification of successful candidates

15. Candidates obtaining Honours shall be ranked in the order of proficiency as determined by the total marks obtained by each in the Main subject and shall be arranged in three classes:—

The *first* consisting of those who obtain not less than 60 per cent; the *second* of those who obtain not less than 50 per cent; and the *third*, of those who obtain not less than 40 per cent of the total marks.

SYLLABUSES

Physics (Main)

Properties of Matter.—

Units and dimensions, dimensional formulæ, homogeneity of dimensions in a physical equation, dynamical similarity, simple applications.

The balance, sensibility, stability, faults, Hydrometers—graduation.

Uniform circular motion, centrifugal force, conical pendulum

Rotational motion moments of inertia, torque Energy of rotation, angular momentum

Simple harmonic motion, superposition of two S H Ms. in the same direction and in directions at right angles to each other. The simple pendulum, the compound pendulum. Kater's pendulum, corrections due to (a) finite arc of swing, (b) air effect (c) curvature of knife edges, (d) yielding of support. Determination of 'g'; variation of 'g' on the surface of the earth—gravity survey.

Vertical oscillations of a loaded spring; bifilar pendulum; Milne's horizonal pendulum; the ballistic pendulum.

Gravitation —Two-dimensional motion, radial and transverse velocities and accelerations; central orbits, areal velocity. Kepler's Laws of Planetary motion Newton's Law of gravitation, gravitational attraction and potential—calculation of simple cases. Methods of measuring constant of gravitation; qualities of gravitation; Newton's Law of gravitation and Einstein's Law.

Elasticity.—Solids—Hooke's Law; behaviour of a loaded wire under different conditions; effect of loading on structure. Moduli of elasticity Y, k, n, expression of Y and σ (sigma) in terms of k, and n; torsion of a cylinder; application to shafts;

torsion of bars of non-circular cross-section, St. Venant's results and their application to galvanometer suspensions; torsional pendulum Bending of beams I—section of beams; vibration of loaded bars, stability of a loaded pillar, flat spiral spring; determination of n and Y Experimental methods of determining elastic moduli—optical methods—Searle—Ferguson and Andrews Testing of materials—elements.

Liquids—measurement of k

Surface Tension —Surface tension and surface energy. Liquid drop in contact with air and resting on a solid or on another liquid, angle of contact, pressure and curvature of a surface, general case of a curved soap bubble; stability of cylindrical films Methods of measuring surface tension (a) capillary elevation (b) Quincke's method, (c) ripple method, (d) Joeger's method (e) Rayleigh's jet method (f) Method of drops—Rayleigh, Worthington, Iredale, Horkins and Brown, (g) Soap film method Interfacial surface tension beween two liquids The capillary curve. Force to pull a plate from liquid surface Surface tension of solutions Vapour pressure over curved surfaces and the formation of clouds. Theories of capillarity. Films of insoluble liquids on the surface of water and other liquids, gaseous, liquid and solid films; work of Rayleigh, DeVaux, Langmuir, Adams

Viscosity.—Flow of liquid through a narrow tube; corrections to Poiseuille's formula Dynamical similarity, Reynold's number, Turbulence. Methods of measuring viscosity of liquids (a) oscillating disc method (b) rotating cylinder method, (c) Stoke's method, Variation of viscosity with temperature and pressure Lubrication and viscosity—general principles.

Flow of gas through a narrow tube and measurement of viscosity of a gas—Rankine's method —Variation of viscosity of a gas with temperature and pressure.

Osmosis.—Osmotic pressure, laws of osmosis, vapour pressure, boiling point, freezing point, osmotic pressure of electrolytes. Methods of determining osmotic pressure—work of Morse, Berkley and Hartley, Frazer and Myrick.

Diffusion.—Fick's law of diffusion, co-efficient of diffusion; diffusion and osmotic pressure, diffusion of electrolytes. Diffusion in gases. Production and measurement of high vacua.

Hydro-Dynamics.—Equation of continuity; Euler's equations of motion, velocity potential, Bernoulli's theorem, Torricelli's theorem, equation of continuity applied to wave motion; long waves, ripples and surface waves, wave-velocity and group velocity.

Books recommended for Study:—

i. Poynting and Thomson. Properties of Matter.

ii. Newman F H and Searle V H. L. The General Properties of Matter—Ernest Benn, Ltd.

iii. The Mechanical Properties of Fluids A collective work—Blackie & Son.

iv. The Physics of Solids and Fluids—by Ewald, Poschl and Prandtl—Blackie & Son.

SOUND.

A. Dynamical—Harmonic waves, longitudinal progressive waves, plane waves in a gas Speed of sound in a gas and along a solid rod. Speed of transverse waves along a cord. Reflection in a fixed and open end. Energy of progressive waves.

Damped S. H. M., forced S H. M, energy of forced vibrations and sharpness of resonance; coupled oscillations—without damping, multiple resonance. Large vibrations—symmetric and assymmetric; symmetric and assymmetric vibrations under single forcing; asymmetric system under double forcing. Theory of combinational tones.

d' Alembert's equation and its solution; vibration of strings—plucked string, struck string and bowed string; torsional vibrations of rods; transverse vibrations of bars, application to tuning fork; vibrations of stretched membranes—rectangular; Chladni's figures.

Vortex formation and Aeolian tones; vibrations of air in wide tubes; open-end corrections, conical tube, edge tones; organ pipe, flute and its theory.

B. Physical.

Resonators—Helmholtz's resonator, theory and application; resonator with variable neck and multiple openings. Rayleigh's disc and phonometer, hot-wire microphone, striae in Kundt's Tube, pressure of sound waves, sound radiometers, piezo-electric quartz resonator Electrical analogy, acoustic impedance, inertance, and capacitance, acoustic filters, double resonators, applications to sound intensity measurements and measurement of absorption co-efficients by stationary wave method, absolute pressure measurements.

Heat-maintained and electrically maintained sounds; Trevelyan's rocker, singing flames thermo-phones, singing arc; valve maintained forks, phonic motors

Velocity of sound in solids, liquids and gases and its determination, Frequency of sound and its determination, reflection and refraction of sound, Doppler's principle. Sound-wave photography, acoustics of buildings, spark and ripple-tank methods, reverberation.

The ear, limits of audition, minimum amplitude audible and its measurement, theories of audition, mechanism of nerve conduction Consonance and dissonance, the musical scales, temperament.

Quality of sound, its analysis in various musical instruments, acoustic spectra, Miller's Phonodeik, oscillographs, the voice, analysis of speech sounds, harmonic and inharmonic theories, Paget's experiments, Miller and Crandall's work. Speech power, sensation unit-decibel, noise and its measurement.

Echo sounding; sound ranging, gramaphones and loud speakers, the photophone and phonofilms.

Books recommended for Study.

(i) Barton—A Text book of Sound—Macmillan & Co.

(ii) Lamb H—The Dynamical Theory of Sound—Edward Arnold & Sons.

(iii) Richardson E G—Sound. (Edward Arnold & Sons).

(iv). Wood. A. B—A Text book of Sound (G. Bell. & Sons.)

HEAT.

Thermometry – Mercury—in—glass thermometry; special types of liquid thermometers, compensated air—thermometer; standard gas-thermometers, constant pressure and constant volume types, reduction of actual observation on real gas-scales to the perfect gas scale Platinum thermometry, themo-electric thermometry.

Calorimetry —Specific heat of solids—method of mixtures; Nernst Calorimeter, E H and E Griffith's experiments, liquid air and liquid hydrogen calorimeters Experiments at high temperatures.

Specific heat of liquids—method of mixtures, Callendar's continuous mixture method, method of cooling. Specific heat of water—experiments of Joule, Rowland, Griffiths, Callendar and Barnes, Laby and Hercus. First Law of Thermodynamics.

Specific heat of gases (i) at—constant volume—Joly's steam calorimeter, Pier's explosion method, Eucken's experiments on hydrogen at low temperatures; (ii) at constant pressure—experiments of Regnault, Holborn and Henning, Swann, Scheel and Heuse Ratio of specific heats—experiments of Clement and Desormes, Lummer and Pringsheim, Kundt, Partington, and Shilling, Dixon.

Fusion —Latent heat of fusion; Bunsne's Ice Calorimeter; Measurement of latent heat of fusion of metals.

Evaporation :—Latent heat of vaporisation—experiments of Henning, Simon and Lange, Berthelot, Awbery and Griffiths; Trouton's rule.

Bomb—calorimeter.

Thermal Expansion —Linear expansion of solids, of crystals Fizeau's interference method, Rober's optical lever method; Grunaisen's law

Expansion of liquids—hydrostatic method, Callendar and Moss' apparatus

Kinetic Theory of Gases :—Calculation of pressure, gaseous laws; mean free path, probability of path of given length, collisions with a solid boundary, the co-efficient of viscosity, thermal conductivity, calculation of molecular diameter and mean free path; flow of gases at low pressures, Dushman's molecular gauge.

Virial theorem, Van der Waal's equation, size of molecules. Brownian motion in liquids, Einstein's equation—Langevin—Perrin's determination of Avagadro's number. Brownian motion in gases.

Continuity of State —Compressibility of gases at high pressures, Andrew's experiments, properties of Van der Waal's equation, comparison with experiments, law of corresponding states; other equations of state—Berthelot Critical phenomena, properties of a substance near the critical point Liquefaction of gases, principle of cascades, Joule-Thompson effect, the porus-plug experiment—Hoxton's apparatus, air liquefiers, liquefaction and solidification of hydrogen and helium; use of liquid air and other liquefied gases Measurement of very low temperatures.

Thermal Conductivity —Rectilinear flow of heat in an isotropic body, Fourier's linear diffusion law, diffusivity; steady state 'Ingen-Hausz's experiment, Forbe's method, Angstrom's method, conductivity of earth's crust Electrical methods—Kohlrausch, experiments by Jaeger and Diesselhorst, Simidu, Langmuir, Konno. Wiedemann-Franz law, simple theory—

Drude, difficulties of the theory. Conductivity of poorly conducting solids. Eucken's determination of conductivity of crystals.

Conductivity of liquids—film-method.

Conductivity of Gases—Hot-wire method, cooling thermometer method, film-method; variation of conductivity with temperature and pressure, relation between thermal conductivity and viscosity; determination of molecular dimensions.

Thermo-dynamics.—First law, application to specific heats, work done in isothermal and adiabatic expansions.

Heat engines—steam engine, James Watt, modern steam engine; the Carnot engine, efficiency, Carnot's theorem; Rankine's cycle, performance of an actual steam engine, the indicator, the I H P and B H P, mechanical efficiency, thermal efficiency Internal combustion engines—the Otto cycle, the Diesel cycle, refrigerating machines, co-efficient of performance Second law of thermodynamics, absolute scale of temperature; entropy, reversible and irreversible processes, principle of increase of entropy.

Maxwell's thermodynamical relations, application to specific heats, Joule-Thomson effect, correction of gas thermometer; thermodynamic—potential at constant volume—Gibbs-Helmholtz equation, thermodynamic potential at constant pressure —application to change of state, equations of Clapeyron and Clausius; specific heat of saturated vapour, triple point.

Radiation —Theory of exchanges, Kirchhoff's law—applications and quantitative proof temperature radiation, black body—realisation of, pressure of radiation—experimental proof, energy density and pressure of diffused radiation; Boltzmann's proof of Stefan's law, experimental verification and determination of Stefan's constant—Coblentz

Adiabatic expansion of radiation, Wien's displacement law, experimental verification.

Number of independent vibrations of a continuous medium, Ravleigh's radiation formula, Planck's radiation formula, ex-

perimental verification of Planck's law—the isothermal and isochromatic methods, determination of h, Planck's constant

Radiometers, radiation pyrometers—Fery, optical pyrometers. Solar constant—pyroheliometers, effective temperature of the Sun—total radiation method, Wien's distribution law method.

Specific Heats and Quantum Theory.—Solids—Dulong and Petit's law—its failure, Einstein's theory and Debye's theory of specific heat of isotropic solids, comparison with experimental results, extension of Debye's, specific heat at high temperatures.

Gases.—Degrees of freedom, the equi-partition of energy—specific heats, comparison with experimental values; specific heat of hydrogen at low temperatures. Application of quantum theory to di-atomic gases.

Books recommended for study:—

Heat and Thermodynamics.

(i) Preston. Theory of Heat (Revised)—Macmillan & Co

(ii) Roberts J. K. Heat and Thermodynamics (Blackie & Son).

(iii) Saha M. N and Srivastava B N. A Text Book of Heat—The Indian Press Ltd., Allahabad.

LIGHT.

Gometrical Optics:—Reflection and refraction at plane and spherical surfaces; principle foci and focal planes, linear and longitudinal magnification; thin lenses, combination of two thin lenses, cardinal points, equivalent lens; thick lenses, cardinal points, linear magnification.

Dispersion and achromatism—dispersive power, irrationality of dispersion; chromatic aberration, achromatic combination of prisms, of thin lenses; object glasses and eye-pieces

Spherical aberration, caustics, circle of least confusion, focal lines formed by refraction, aplantic surfaces, aplantic points and microscope objectives; investigation of and remedy for sp-

herical aberration, coma, astigmatism, curvature, distortion. Figuring of a spherical surface—Foucault's test.

Optical instruments. Spectroscope, constant deviation type and direct vision type; telescopes, microscopes, sextant, binocular; stereoscope; photographic camera, telephotography and microphotography.

The eye —defects and remedies, opthalmometer; colour vision.

The Rain-bow —Spurious bows, Airy's explanation, Miller's experiments.

Velocity of Light —Fizeau's method, Foucault's method Newcomb's experiments, Michelson and Pearson's experiments. The astronomical methods

Photometry and Illumination —Photometers—The Lummer—Brodhun photometer, the flicker photometer, the microphotometer Star magnitudes, Spectro-photometry, lamps and illumination; distribution curve of an illuminant, mean spherical candle power, diffused reflection

Wave Theory —Huyghen's principle, reflection and refraction at plane and spherical surfaces, optical length and optical distances, Fermat's principle and its application, Hamilton's characteristic function Rectilinear propogation of light; zone plate.

Interference —Conditions necessary for interference; Fresnel's mirrors, bi-prism, Lloyd's mirror; bi-plate, split-lens. The plane parallel plate, colours of thin films; thick plates · Newton's rings, Haidinger's fringes.

Refractometers; variation of refractive index with density, Gladstone and Dale's law, Lorentz—Mossoti formula Michelson's interferometer, determination of refractive index and dispersion, determination of the length of standard meter, measurement of the diameter of stars, the echelon grating, Fabry and Perot's interferometer, Lummer and Gehrcke's interferometer. Stationary light waves, colour photography. Testing glass plates for flatness and plane-parallelism.

Diffraction.—Elementary theory of diffraction at a straight edge, narrow wire, narrow rectangular aperture, circular aperture, circular disc Babinet's principle, halos, Young's Eriometer

Plane diffraction grating, dispersive power, resolving power, purity of spectrum, absent spectra, concave grating, Rowland mounting, Eagle mounting, measurement of wavelength

The graphical method of investigating the intensity of diffraction patterns in the cases considered above Diffraction at a straight edge, Fresnel's theory, Cornu's spiral Franhaufer diffraction phenomena, determination of maxima and minima in the case of a narrow rectangular aperture, two equal rectilinear apertures and the diffraction grating

Resolving power of a prism, of a compound prism, of a telescope, of a microscope, of the eye

Polarisation Polarisation by reflection and refraction; Norrenberg's polariscope, law of Malus, pile of plates

Polarisation by double refraction, the Nicol's prism

Huyghen's construction of wave surfaces in uni-axial crystals, experimental verification Fresnel's theory of double refraction, the normal velocity surface, the wave surface; Axes of single wave-velocity, internal conical refraction; axes of single ray velocity, external conical refraction.

Interference of polarised light—colours of thin crystalline plates (i) parallel plane-polarised light (ii) convergent or divergent plane-polarised light, isochromatic and achromatic lines in uni-axial and bi-axial crystals.

Production and detection of (1) plane polarised light (2) circularly polarised light—Fresnel's Rhomb (3) elliptically polarised light—Babinet's compensator, determination of the constants of elliptical polarisation. Elliptical polarisation by reflection. The polarisation of sky light, of twilight.

Electro-magnetic Theory of Light: Derivation of Maxwell's equations, displacement currents, equation for an electro-magnetic wave, velocity of the wave, deduction of the laws of reflection and refraction for transparent media, polarising power of oblique plates; perpendicular incidence, explanation of total reflection; explanation of metallic reflection.

The theory of dispersion—Cauchy, Sellmeier, Helmholtz; Electron theory of dispersion; normal dispersion, anomalous dispersion Selective reflection—Rest-Strahlen—residual rays from powders. Interferometer, investigation of long heat waves; longest heat waves—focal isolation; selective reflection in the ultra-violet; selective dispersion of an absorbing gas.

Rotation of plane of polarisation Fresnel's explanation of rotation; Fresnel's experiments, Cornu's prism; Babinet's experiments; rotation of plane of polarisation by liquids; polarimeters. Rotatory dispersion.

The Faraday effect, direction of the rotation, variation with field strength. Kerr effect. The Zeeman effect, explanation on electron theory; Zeeman effect and the spectrum of the sun-spots; anomalous Zeeman effect The Stark effect.

Flourescence and Phosphorescence· Methods of study. Polarised flourescence, variation of intensity with angle of emission. Phosphorescence—duration, influence of temperature, spectra of phosphorescent light.

Spectrometry: *Experimental.*—Calibration; Hartmann's dispersion formula. Production of spectra; types of spectra. Doppler's principle—applications. Spectrometry of infra-red rays, of visible rays, and ultra-violet rays.

Scattering of light· *Classical.*—Theory of molecular scattering, Rayleigh, Schuster. The blue of the sky; scattering of light by gases—work of Strutt, Cabannes, Raman and Ramanathan. Scattering in liquids, results of the theory of Einstein and Smoluchowski—experiments of Raman and Seshagiri Rao; the colour of the sea.

Books recommended for study:—

i. Ramsay. A. S.: Elementary Geometrical optics. G. Bell & Sons.

ii Southall: Principles and Methods of Geometrical optics.

iii Preston · Light—Macimillan & Co

iv Wood R W.: Physical Optics

v. Houstoun R A · Light—Treatise on—Longmans, Green & Co.

vi Schuster A · The Theory of Physical Optics.

ELECTRICITY AND MAGNETISM.

Magnetism:

Inverse square law; magnetic field due to a magnet, Magnetic potential, couples and forces between magnets.

Terrestrial Magnetism.

Magnetic elements and their determination The Kew Magnetometer, the dip circle, variation in magnetic elements, recording instruments, magnetic maps. Ships compass—deviations produced by the magnetisation of a ship.

Electro-statics.

Inverse square law, dielectric medium, electrostatic potential; equipotential surfaces; electro-static charge—capacity of a conductor, laws of energy on sharing charge. Total normal induction, Gauss's theorem, electric intensity in simple cases; tubes of induction and lines of force, energy in medium; stress in tubes of induction, Maxwell's theory—its limitations.

Distribution of charge on conductor; force on an uncharged body; boundary conditions, uncharged sphere in an electric field; electrical images—conducting plane and sphere

Capacity of a condenser—spherical, cylindrical and parallel plate, effect of di-electric on capacity; condensers, construction, different types. Electro-meters, absolute and quadrant

types, practical uses of Dolezalek Electrometer; sensitive electroscopes and their use Comparison of capacities and determination of di-electric constants.

Electro-magnetism—Theoretical.

Magnetic shell, Ampere's theorem; strength of magnetic shell; magnetic field due to a uniformly magnetised sphere. Circular current, Helmholtz galvanometer, solenoidal current

Work done in carrying a magnetic pole round a current, line integral of magnetic field, magnetic field due to a straight current and a solenoid Magnetic permeability, magnetic induction—boundary conditions; force on magnetic body in uniform field, force on current in magnetic field, suspended coil and ballistic galvanometers, effect of current on current; coaxial coils, Kelvin's ampere-balance Siemen's electrodynamometer, Grassot fluxmeter

Theories of magnetisation—Weber, Ewing Magnetic induction, intensity of magnetisation Study of magnetic properties in iron and other materials, the magnetometer method, the ballistic method Hysteresis, hysteresis tester. Weak and strong magnetic fields Variation of susceptibity with temperature The magnetic circuit, Bar and Yoke tests

Electro-magnetic induction, Lenz's law, self-inductance and mutual inductance Growth and decay of current, units of inductance Charge and discharge of a condenser, current and charge in the secondary circuit, the induction coil, methods of measuring inductances Growth of current in a circuit with inductance, capacity and resistance when a steady E M F is applied, frequency of oscillation, discharge of the condenser when the applied E.M.F. is removed

Alternating Currents.

Circuit with inductance and resistance, representation by a vector diagram, measuring instruments Virtual current and E M. F, Measurement of inductance and power in alternating current circuit, Wattmeters Circuit containing capacity inductance and resistance. Choking coil; oscillographs; transfor-

mers. Resistance and inductance of wires for currents of high frequency; shielding effect of a mass of metal; repulsion between conductor and circuit carrying alternating current; Rotating magnetic field; single-phase and polyphase motor, imaginary quantities, rotating vectors; application to circuit containing inductance capacity and resistance; different inductance bridges; Maxwell's Anderson's Vibration galvanometer. Units.

Electro-magnetic and electrostatic system of units; their relation and practical determination of the ratio, determination of the ohm.

Electrolysis.

Electrolytic dissociation, osmotic pressure. Migration of ions, ionic velocities, theory, experimental determination. Conductivity and its determination, theory of reversible cells, concentration cells; capillary electrometers. Accumulators.

Thermo-Electricity Seebeck, Peltier and Thomson Effects. Thermo-electric power, thermo-dynamics of a thermo-couple; the thermo-electric diagram, applications.

Electric Instruments.

Ammeters, Voltmeters, Galvanometers—string galvanometers, ballistic galvanometers; dynamometers; Wattmeters, potentiometers, bridges, measurement of current, resistance and voltage.

Applications of Electricity.

Telegraphy, telephony, electric wiring. D. C. and A. C. generators and motors Characteristic curves and efficiency. Induction motors, transformers and transmission of power.

Electro-magnetic radiation.

Plane-waves Oscillatory discharge. Hertz's experiments; determination of wave-length by stationary oscillations. Oscillators and detectors. The triode valve. Elements of wireless telegraphy and telephony.

Discharge of Electricity through Gases.

Discharge at low pressures, Cathode rays and their properties; Determination of velocities and the ratio m|e of electrons, different methods, determination of e, C. T. R. Wilson's experiments, Millikan's modification.

Production of X-rays. The gas tube, the Coolidge tube; the absorption of X-rays, nature and properties of X-rays, practical applications and uses of X-rays, elements of X-ray technology.

Books recommended for study:—

i. Starling S G.: Electricity and Magnetism—Longmans, Green & Co.

ii. Pidduck F B.. Treatise on Electricity.

iii. Jeans J H Electricity and Magnetism—Cambridge University Press.

iv. Conduction of Electricity through gases—by Sir J. J. Thomson and G P Thomson.

MODERN PHYSICS.

I. Ionisation Theory of Gases.

Gaseous conduction Ionisation current and methods of measuring them; ionisation chambers Relation between the current and (i) the voltage applied, (ii) the pressure of the gas, (iii) the distance between the electrodes. Simple mathematical theory. Saturation current.

Recombination of ions; co-efficient of recombination and methods of measuring it—Rutherford, Langevin Mobility of ions and methods of determining it—Rutherford, Langevin, Tyndall and Grindley. Diffusion of ions.

II. Thermionics.

Thermionic phenomena; Richardson's theory of the thermionic current strength; Langmuir's law connecting current and voltage Space charge.

Application to valves, diode and triode valves. The static characteristics of the triode, determination of the amplification factor and the internal resistance of the triode—different methods Uses of the valves triode as (i) rectifier (ii) amplifier (iii) high frequency oscillator Condition for maintenance of oscillation, uses of the valves in wireless.

III. Photo-Electricity.

The photo-electric phenomenon; photo-electric cells. Methods of measuring photo-electric currents

Influence of intensity of the incident radiation on the current Influence of frequency of radiation on the photo-electric current and the velocity of emission of the photo-electrons. Einstein's photo-electric equation, Milliken's verification Contact difference of potential Influence of polarisation and frequency, selective and normal photo-electric effect Photo-electric fatigue Identification of photo-electrons with electrons.

IV. Conduction of Electricity by Metals.

Classical electron theory of metallic conduction and derivation of ohm's law, some difficulties of the theory; break down of ohm's law (i) when current density is enormous, (ii) supra-conductivity, work of Kammerlingh Onnes, McLennan Electron gas. Election theory of Peltier and Thomson effects.

V. Dielectrics.

Clausius—Mosotti law for molecular polarisation. Di-electric constant determination using high frequency valve oscillators Determination of molecular size. Electric polarisation in certain dielectrics; Failure of Clausius-Mosotti law, Debye's theory of dipoles; Langevin function. Debye's law for electrical polarisation.

VI. Magnetism.

Electron orbit theory, Diamagnetism, classical electron theory, Larmor's explanation—precession of electronic orbits.

Paramagnetism—Hypothesis of the resultant magnetic moment of atoms of paramagnetic substances. Curie law. Weiss's hypothesis of internal molecular fields; Weiss's generalised law for paramagnetics. The paramagnetic Curie or critical temperature.

Ferro-magnetism. Internal molecular fields and spontaneous magnetisation. Laws of spontaneous magnetisation above the Curie point and behaviour like paramagnetics obeying Weiss's law. Specific heats of ferro-magnetic substances.

Methods of determining susceptibilities of weakly magnetic substances—gases, liquids and solids. Methods of (i) Curie, (ii) Bouy, (iii) Quincke capillary ascension (iv) Hector and Will (v) Francis Britter.

"The Weiss Magneton" and the "Bohr Magneton" Critical examination of the evidence for the existence of the magnetons. Gerlach and Sterne's experiment. Spatial quantisation; Pauli principle. Relation between Weiss and Bohr magneton numbers. Pauli's Theory.

Zeeman Effect; quantum theory of Zeeman Effect. Paschen bach Effect.

Gyro-magnetic effect, methods of determining the gyromagnetic ratio (i) direct method of Chattock and Bates (ii) Null method of Sucksmith and Bates (iii) Resonance method of Sucksmith.

VII. Radio—activity. Nuclear Physics.

Phenomena of radio-activity; radio-active substances. Characteristics of radio-active radiations Nature and properties of α, β, and γ rays Methods of measurement—the α ray and the β and γ ray electroscopes, electrometers. Counting of γ particles Scintillation method, electrical method—from the amount of helium collected. Automatic counting machine of Rutherford.

Radio-active decay—radio-active constant. Mathematical theory of decay and of successive transformations by disinteg-

ration. Secular and transient equilibria Transformation series of radio-active substances Radio-active evidence of the age of the Earth.

Radio-active gases or emanations, discovery, nature and properties; methods of finding the half value period—Rutherford, Curie.

Active deposits, active products of quick decay and methods of finding their periods—Moseley and Fajans

Range of α particles, range and velocity, ionisation at different parts of range—the Bragg curve. Relation between range and the radio-active constant.

Scattering of α rays—explanations, Thomson's model of the atom, Rutherford's model Mathematical theory of scattering and experimental verification Size and charge of nucleus from scattering experiments Theory of impact of α particle with the nucleus of a light element. Rupture of the nucleus by α ray bombardment.

Theories of radio-active phenomena—elementary exposition.

VIII Mass-Spectra; Positive Ray Analysis

Thomson's work, discovery of Isotopes, improved focussing methods of Aston and Dempster in obtaining mass spectra

Packing effect Theory of the constitution of the atomic nuclei.

IX. Optical Spectra.

Arc and spark spectra, series in line spectra, series relationships, laws of Rydberg-Schuster and Runge, spectral terms.

Hydrogen spectrum—Lyman, Balmer, Paschen, and Brackett series Rydberg and Ritz formulae for spectra of the general atom, Ritz combination principle.

Quantum theory of spectra—Bohr's fundamental postulates. Theory of Hydrogen spectrum, effect of nucleus, Bohr's correspondence principle. Elliptic orbits—Sommerfeld, total

quantum number, azimuthal quantum number, radial quantum number. Relativity change of mass, fine structure of hydrogen lines, results of Sommerfeld theory.

Spectrum of the general atom, explanation in general of multiplet structure. Relation between multiplet structure and Zeeman effect.

X. X-Rays.

Measurement of X-ray wave lengths. X-ray spectrometry using (i) crystal grating, (ii) ionisation chamber, (iii) photo-electric methods.

X-rays and crystal structure.

The continuous X-ray spectrum, determination of Planck's constant, total intensity and distribution, experiments of Wagner and Kulenkampff, Kramer's formula for the continuous spectrum distribution of intensity.

Quantum theory of X-rays, characteristics X-rays, K.L.M. and N. series Moseley's law.

Scattering of X-rays, Compton Effect. A critical comparative study of the Compton and Raman Effects.

XI. Ionisation and Radiation Potentials.

Methods of determining ionisation and radiation potentials, electrical and spectroscopic methods—electrical (i) Lenard (ii) Franck and Hertz (iii) Davies and Goucher—distinguishing radiation potential from ionisation potential, (iv) Franck and Einsporn, (v) Partial current method, (vi) Hertz methods. Spectroscopic—Franck and Hertz.

Elastic and inelastic collisions.

Temperature radiation—sodium flame. State of matter at high temperatures—general considerations.

XII. The Raman Effect—Raman Scattering.

Molecular scattering of light in liquids—earlier work, discovery of the Raman Effect. Releigh scattering and Raman scat-

tering. Experimental method of investigating the Raman effect, Wood, continuous spectrum; intensity and polarisation of Raman lines, Raman effect in liquid hydrogen Relation to infrared and ultra-violet absorption Raman effect in crystals Raman effect and nature of valency, Raman effect and chemical constitution

Theory of the Raman effect in simple cases—a general idea of the work of Cabannes, Dieke, Rasetti, Van Vleck.

Books recommended for study.—

Modern Physics:

i. Crowther J A Ions, Electrons and Ionising Radiations Edwin Arnold & Sons

ii. Wilson H A. Modern Physics—Blackie & Son

iii. Richtmyer. Introduction to Modern Physics—Mc. Graw Hill Book Co.

iv Ruark and Urey. Atoms, Molecules and Quanta—Mc. Graw Hill Book Co.

Text Books on Practical Physics:—

i. Worsnop and Flint: Practical Physics.

ii. Watson. Text Book of Practical Physics—Longmans, Green & Co.

iii. Bedford Practical Physics—Longmans, Green & Co.

Physics (Subsidiary)

Properties of Matter.

Balance, uniform motion in a circle, centrifugal force, applications Simple Harmonic Motion; composition of simple harmonic motions Angular Velocity and angular acceleration Anglar Momentum, moments of inertia in simple cases; pendulum, determination of 'g'.

Elasticity Hooke's Law, Compressibility of Gases at High and Low pressure, and liquids, compressibility and rigidity of solids; elastic limits. Young's Modulus and its expression in

terms of k and n. Bending in one plane of bars of simple cross-sectional area Twisting of wires, of circular section by couple in a plane at right angles to length; torsional rigidity; applications to torsion balance. Determination of gravitational constant.

Diffusion of Liquids and Gases, analogy with conduction of heat Osmosis, viscosity Pressure of a Gas and kinetic theory, Avogardro's Hypothesis. Van der Waal's Equation

Properties of Gases, determination of heights by Barometer Pumps, pressure gauges and hydrostatic machines. Production and measurement of vacuum Capillary phenomena and their explanation by surface tension.

Heat.

The methods of calorimetry and thermometry. Vapour pressures, critical temperature and pressure Conduction of heat Determination of conductivity, radiation and absorption; laws of cooling Theory of Exchanges, Radiometers; Thermodynamics, simple applications.

Light.

Velocity of light Illumination; photometry. Achromatism in lense system, direct vision spectroscope

Wave theory, simple interference phenomena. Huyghens' principle Straight line propagation Action of mirrors, lenses, etc reviewed Simple diffraction phenomena Plane gratings, wave-length determination Spectrum analysis; Doppler's principle Double refraction and polarisation; rotatory polarisation, simple applications

Magnetism.

Forces on a magnet in magnetic field Moment of magnet Magnetic potential, level surfaces Interaction of two short magnets Magnetic shell, potential energy in magnetic field Gauss' Theorem, number of lines of force Magnetic induction in iron, etc Theory of magnetism

Magnetic field of the earth, terrestrial magnetic elements and their variations.

Electricity.

Wheatstone's bridge, specific resistance; resistance thermometers. Conductivity of electrolytes; ionization; migration phenomena, accumulators. Standard cells; the potentiometer, applications Thermoelectricty, application of thermo-dynamics, thermo-electric diagrams. Electro-magnetic induction, co-efficients of induction, induction coils. Energy of circuit carrying Current in a magnetic field. mechanical force on conductors carrying current, moving coil instruments. Lenz's law, illustration from dynomos and motors Elementary theory of continuous current motor and dynamo.

General principles of the application of electricity to lighting, power transmission, telegraphy and telephony The discharge of a condenser, Electric waves. Cathode rays, elementary X-rays; radioactive phenomena.

Chemistry (Main)

GENERAL SUBJECTS :—

2 *Physical Chemistry.*

In addition to a *fuller treatment* of the subjects prescribed for the B Sc. pass, a study of the following should be made

Reaction isochore; velocity of trimolecular reaction; determination of the order of reaction; theory of indicators.

Theory of galvanic cells; single electrode potentials, decomposition potentials, concentration and gas cells, hydrogen ion concentration and elementary knowledge of ionic activity; determination of "e".

Determination of Avogadro's number.

Arrangement of atoms and molecules in crystals, and in unimolecular films.

The practical examination shall include Physico-Chemical experiments on the following subjects :—

Setting up of a thermostat
Molecular weight determination.

Viscocity.
Surface tension.
Velocity of typical reactions.
Determination of the order of reaction
Heat of neutralisation, solution, dilution, ionisation and of combustion.
Determination of refractivity.
Polarimetry.
Spectroscopy.
Conductivity.
Transport numbers.
Ionic Velocity.
Concentration cells
Electro analysis.
Transition point.
Partition coefficient.

Text-Books recommended:—

Lewis—A system of Physical Chemistry Vols I and II
Nernst—Theoretical Chemistry.
Spencer—Practical Physical Chemistry.
Findlay—Practical Physical Chemistry.

Reference:—

Taylor—A treatise on Physical Chemistry.

3. Inorganic Chemistry.

In addition to a fuller treatment of the subjects prescribed for the B. Sc pass, a study of the following should be made—

History of Chemistry since the earliest period up to the recent developments.

Atomic structure; atomic number; periodic law; theories of valency; determination of equivalent, atomic and molecular weights; radio-activity; isotopes; chemical crystallography, isomorphism; double and complex salts.

A comprehensive study of the Chemistry of all the commoner elements and their compounds. A short study of the rarer elements, radio-elements and their compounds.

Metallography and Metallurgy.

PRACTICAL COURSE

Qualitative:—Analysis of mixtures containing not more than six radicles, positive and negative, excluding rare elements.

Preparation of typical compounds like.—Ferrous Ammonium sulphate, chrome alum, anhydrous aluminium chloride, sulphuryl chloride, phosphorus trichloride, hydrazine sulphate, chloropentammine cobaltic chloride

Quantitative.—Gravimetric estimation of the individual positive and negative ions excluding the rare metals. Separation of iron from aluminium, iron or aluminium from zinc, manganese, nickel and magnesium, lead from antimony, copper from zinc, iron or nickel; calcium from magnesium.

Acidimetry; alkalimetry; oxidation and reduction methods; iodometry, precipitation methods.

Analysis of typical alloys like:—brass, bronze, German silver.

Analysis of minerals.—haematite, pyrolusite, dolomite, limestone, pyrites, chromite.

Analysis of bleaching powder, red lead, water reagents *etc.*

Analysis of air and coal gas.

Books recommended:—

Moore—History of Chemistry ,,
Butler—Chemical elements and compounds
Fajans—Radio-activity.
Ephraim—Text-book of Inorganic Chemistry
Evans—Metals and metallic compounds Vols. I—IV.
Hopkins—Rarer elements.
Mellor—Modern Inorganic Chemistry.
Caven and Lander—Systematic Inorganic Chemistry
Stewart—Recent advances in Physical and Inorganic Chemistry.
Thomas—Complex salts.
Basset—The theory of quantitative analysis.

Treadwell and Hall—Analytical Chemistry Vols. I and II.
Biltz—Inorganic preparations.

4. *Organic Chemistry.*

A fuller treatment of the subject given in the B Sc. pass course with special reference to recent developments.

Cyanogen Compounds and their Oxy and Thio-derivatives Their isomerism, ketonic acids and Di-ketones. Polypeptides. Proteins. Configuration of monosaccharides. Chemistry of starch and cellulose.

Cyclo-paraffins and Cyclo-olefines. Benzenoid Hydrocarbons and their important derivatives. Phenanthrenes Triphenylmethane and Anthracene dyestuffs Furane Thiophene. Pyrones Coumarins Chromones and Flavones Xanthones Natural colouring matters of the Flavone and Xanthone series Anthocyanins Diazoles and Triazoles Pyrroles; Indoles Indigo Carbazole Pyridines. Quinolines. Iso-quinolines. Acridines

Monocyclic, dicyclic and olefinic Terpenes, Camphors. Pinene. Camphene. Bornylenes Fenchene

Pyrimidines and Purines Alkaloids.

Special types of condensations Fuller treatment of Geometrical isomerism, tautomerism, and stereo-isomerism of Carbon and Nitrogen compounds Baeyer's Strain Theory and modern developments Relation between Chemical constitution and Physical properties.

N B.—The course may and should be varied from time to time to admit of references to questions more immediately engaging the attention of Chemists.

Practical Organic Chemistry

Tests for the recognition of the important classes of Organic compounds. Identification by Physical and Chemical tests and the preparation of derivatives of about 16 pure Organic substances. Separation of about 6 mixtures containing not

more than 3 different compounds. Estimation of the more important groups occurring in Carbon compounds e g., Nitro, amino, hydroxy, carbonyl, methoxy etc. groups Ultimate analysis by combustion of carbon, hydrogen, and nitrogen in organic compounds. Estimation of halogens and sulphur by Carius method.

Preparation of at least a dozen organic compounds of an advanced type involving the application of important typical reactions.

Books recommended:—

Richter—Organic Chemistry.
Schmidt—A text-book of Organic Chemistry
Bernthsen—Organic Chemistry
Stewart—Recent advances in Organic Chemistry.
Cohen—Advanced Organic Chemistry.
Gatterman—Practical Organic Chemistry
Clarke—Handbook of Organic analysis

SPECIAL SUBJECTS

(*i*) *Electro—Chemistry.*

Text-Books recommended:—

1 Allmand—Applied Electro-Chemistry
2. Kolthoff and Furman—Potentiometric titrations.
3. Clarke—Hion Concentration.

Candidates are required to perform experiments illustrating the subjects included in the course of their special subject.

(*ii*) *Technical Gas reactions.*

Text-books recommended.

1. Technical gas reactions by Haber.
2 Rideal and Taylor—Catalysis in Theory and Practice.

(*iii*) *Analytical Chemistry.*

Books recommended.

1. Mellor—Quantitative Analysis.
2. Hillebrand & Lundell—Applied Inorganic Analysis.

3. Kolthoff & Furmann—Volumetric Analysis. Volumes I & II.
4. Schoeller & Powell—Analysis of Minerals and Ores of rarer elements.
5. Brearly & Ibbotson—Analysis of Iron and Steel.
6. Lowe—Ore analysis.
7. Emick—Microchemisches Praktikum.
8. Feight—Tupfel Analyses.
9. Chamot—Chemical Crystallography

(*iv*) *Chemistry of rarer elements and their industrial uses.*

Books recommended—

1. Spencer—The metals of the rare earths.
2. Friend—Text-book of Inorganic Chemistry.
3. Levy—Rare earths.
4. Browning—Rare elements.

PRACTICAL COURSE.

Qualitative:—Analysis of mixture containing rarer elements; spectral analysis; micro-analysis.

Quantitative:—Analysis of more complicated minerals, ores and alloys which may contain rarer elements; analysis of ordinary and special steels; electro-analysis; conducto-metric and potentio-metric titrations; assaying.

Special students are required to consult original papers on the subject.

(*v*) *Tinctorial Chemistry.*

Books recommended.—

1. Green—Analysis of Dyestuffs
2. Knecht, Rawson and Lowenthal—Manual of dyeing, 2 Vols.
3. Hubner—Bleaching and dyeing of vegetable fibrous materials.
4. Whittaker—Dyeing with coal-tar colours.
5. Mathews—Textile fibres.

(*vi*) *Bio-Chemistry.*

Definition and scope; Reactions in the living cell; application of Physico-Chemical principles to their study, Chemistry of the colloid state; Enzymes and the mode of their action, Fermentation of sugar into alcohol, Yeast and its properties; Theories of alcoholic fermentation; Chemistry of fats, sterols and lipins and their metabolism in the plant and animal cells, Proteins and Carbohydrates and their metabolism; Drugs: natural and synthetic; action of drugs and their relation to Chemical constitution; Chemo-therapy, Chemistry of food, dietetics; isodynamic value of food; Calorific requirement and surface law; normal diet; the energy equivalent of growth; nitrogenous bases forming the active principles of internal secretion; their Physiological action; effect on sex metabolism, blood and its Chemical composition; plasma, serum, fibrinogen etc, mechanism of coagulation of blood; Chemistry of Haemoglobin; specfic oxygen capacity of blood; basal metabolism; action of light on biological processes, effect of light energy; photo-synthesis in plants; Chlorophyll; Vitamines.

N. B.—A course of dozen lecturers on human Physiology should be given to the students to supplement their course in Bio-Chemistry.

Practical Bio-Chemistry

A Bacteriology.

Making of sterile water and storage.

Making and storing of media· Nutrient broth, Nutrient agar.

Preparation of sterile tubes and plates of agar and gelatine.

Preparation and examination of cultures. Staining of cultures by (a) dry and (b) wet staining process.

Cultivation of anaerobic bacteria by two distinct methods

Isolation of bacteria from (a) soil and (b) air, and preparation of a pure culture.

Counting of Colonies on Petri Dishes.

Photo-micrography.

Preparation of a pure culture of yeast and determination of its efficiency Analysis of water. Chemical and bacteriological.

Preparation of indicators and buffer solutions. Determination of PH values of (a) urine, and (b) a plant sap by electrical and indicator methods

Tests for proteins Determination of isoelectric point of Casein.

Preparation of the following amino-acids from natural sources:—

(a) Glycine ester hydrochloride from gelatin

(b) Histidine from animal blood.

(c) Cystine from hair.

(d) Tyrosine and Leucine from horn shavings.

Determination of nitrogen in amino-acids by Van Slyke's method.

Mono-Saccharides Common tests Estimation of sugar by (a) Bertrand's method (b) Polarimetric method. Experiments with starch.

Yeast· Preparation of a pure culture. Determination of fermenting power Reduction of Chloral to tri-chloro-Ethylalcohol by Yeast and Sugar.

Enzymes Preparation of Lipase from castor beans, determination of its splitting action Preparation of malted barley and diastase Estimation of diastatic power of malt·

Books recommended for Bio-Chemistry·—

Cameron—Text-book of Bio-Chemistry.

Bayliss—Enzyme action.

Matthew—Physiological Chemistry

Gortner—Bio-Chemistry.

Pryde—Recent researches in Bio-Chemistry.

Waldschmidt-Leitz—Enzymes

Parson—Fundamentals of Bio-Chemistry in relation to human Physiology

Cole—Practical Physiological Chemistry

Morrow—Bio-Chemical Laboratory methods

Mathematics (Subsidiary)

N B—Elementary treatment of the following is required.—

Algebra and Trigonometry Exponential and logarithmic series Elementary theory of probability Complex variable and its geometrical representation (interpretation as a vector). De Moivre's theorem.

Analytical Geometry—Rectangular Co-ordinates, areas of triangles, simple properties of straight lines and circles. Rectangular hyperbola referred to its asymptotes Change of axes; the rectangular parabola, ellipse and hyperbola referred to their standard axes, polar co-ordinates (Conversion into rectangular co-ordinates and vice-versa)

Rectangular co-ordinates in space—plane and straight line.

Calculus—Differentiation of rational integral functions; differential of sums, products, quotients and functions of a function, second and higher differentiation, partial differentiation—elementary ideas, gradient of a curve; errors; maxima and minima of functions of a single variable; differentiations of exponential and logarithmic series, direct and inverse trigonometrical functions, Taylor's and Mc Laurins theorems (without proof) and expansion in series of the above functions; hyperbolic functions.

Definite integral regarded as a limit of a sum; standard integral. Integration by substitution and by parts; integrals of simple functions, application of simple integrals, (1) geome-

trical. areas, volumes, length of curves. (2) dynamical moments of inertia, centres of gravity and centres of pressure

Simple cases of the use of Fourier's Series.

Differential Equations—Solution of differential equations of the first order and the first degree, statement of numbers of constants in a differential equation of a given order, solutions of equations of the form

$$A.\frac{d^2y}{dx^2} + B\frac{dy}{dx} + Cy = D \sin (KX + L)$$

where A, B, C and D are constants

CHAPTER XLIII

DEGREE OF BACHELOR OF EDUCATION

Qualification for degree.

1. No candidate shall be eligible for the Degree of Bachelor of Education unless he has taken a degree in this University or a Degree in some other University accepted by the Syndicate and has also passed the prescribed examination.

Qualification of candidates for Examination.

2. Candidates for the B. Ed Degree Examination shall have taken, or have qualified for, a degree in this University or have taken a degree in some other University accepted by the Syndicate as equivalent thereto† and shall have thereafter undergone the prescribed course in an affiliated college for three terms

Conduct of Examination

3 The examination shall be a written examination conducted by means of printed papers

Courses of study

4 Candidates shall undergo a course and be examined in:

(i) The Theory and Practice of education

(ii) History of Education and comparative study of Educational systems

(iii) Methods appropriate to the teaching of English

(iv) Methods appropriate to the teaching of *one* of the following groups of subjects —

(a) All subjects to young children

(b) Mathematics

(c) Physical Science

(d) Natural Science

(e) History

(f) Geography

(g) One language other than English

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† The following examinations have been recognised by the Academic Council, in accordance with Section 33(1) of the Act as equivalent to the B.A. Degree Examination of the University —

The B.A and B.Sc Degree Examinations of all other Statutory Indian Universities and Mysore University.

Candidates shall also undergo a course in practical training, including instruction in school management and practice in teaching

Papers for the Examination.

5. Candidates for the B.Ed. Degree Examination shall answer the following papers —

(i) The Theory and Practice of Education, Part I

(ii) Do. Do. Part II.

(iii) History of Education and Comparative Study of Educational Systems

(iv) Methods appropriate to the teaching of English.

(v) Methods appropriate to the teaching of one of the subjects mentioned in Section 4, (iv) above

Marks qualifying for a pass. Classification of successful candidates.

6 Candidates who obtain not less than 35 per cent of the aggregate marks in the papers (i) and (ii) mentioned in section 5 above and not less than 35 per cent in each of the papers (iii), (iv) and (v) but not less than 40 per cent of the aggregate marks in papers (iv) and (v), shall be declared eligible to receive the Degree of Bachelor of Education All other candidates shall be deemed to have failed Of the successful candidates those who obtain not less than 60 per cent of the total marks shall be placed in the first class and ranked in the order of proficiency as determined by the total marks obtained by each and those who obtain not less than 50 per cent of the total marks shall be placed in the second class and ranked in the order of proficiency as determined by the total marks obtained by each The remaining successful candidates shall be placed in the third class

Successful candidates who obtain not less than 60 per cent of the marks in the fourth paper or in the fifth paper shall be declared to have obtained distinction in that subject.

SYLLABUSES

(1) The Theory and Practice of Education

Part I

A. GENERAL.

(1) The Theory and practice of Education.

The need of a theory of education—relation of theory to practice.

The meaning of education—education as the process of adjustment between the individual and the environment—other concepts (preparation, unfoldment and formal discipline, etc).

The aim of education—the nature of an aim—general and specific aims

The agencies of education—the family, the social community, the church, the state and the school—the evolution and function of the school—the nature of the school environment

The function of the teacher—bi-polar and tri-polar relation. The modern views regarding the influence of the personality of the teacher—the scientific and cultural presuppositions of the teacher's work.

B PSYCHOLOGY IN RELATION TO THE CHILD'S DEVELOPMENT.

1 *Heredity and environment and the significance of infancy.*

Heredity as a condition of development—the inheritance of physical and mental traits

Environment (social heredity) as the other condition—environment as an originating and selecting agent—the possibilities of estimating the relative influences of heredity and environment

The theory of the inheritance of acquired characters and its bearing on education.

The prolongation of human infancy and its sociological and educational significance.

2 *The Physiological bases of mental processes.*

The constitution of the nervous system—the localisation of brain functions—the action of the nervous system

3 *The mental processes*

(a) *The effective and cognative processes*

Instinct and emotion

Specific tendencies or instincts pugnacity, flight, curiosity, disgust and sex, constructive, acquisitive, gregarious, self and parental instincts

General tendencies imitation suggestion (also auto-suggestion) and sympathetic induction of feeling

Play tendency differences between play and work, make-believe the play spirit in education

Volition inhibition and direction

Emotion primary and secondary

Sentiment temperament, mood

The unconscious libido, repression, sublimation, complexes, etc

The growth of group and moral consciousness

(b) *Cognative processes*

Attention—factors involved, classification, difference between adults and children, pedagogical application

Relation of attention to interest—nature and kinds of interests—development of interests, classification of interests

Sense-perception—its development, perception of quality, space and time, training in perception, preperception and apperception The doctrine of appercception

Memory—classification, favourable conditions, reminiscences and obliviscences, difference between children and adults, economical methods of memorisation

Learning methods--learning curves—platean stages

Imagination—factors involved—individual differences in imagery --growth of imagination, differences between adults and children--training in imagination

Thinking and reasoning—types of thinking—steps in thinking concrete and abstract thinking -induction and deduction --language and thinking training to think

Habit—nature and importance--principles of habit formation

Transfer of training--the traditional view—experimental result—interference--the limits of transfer

General intelligence—its measurement—the uses of intelligence tests.

Fatigue—its causes, symptoms and effects.

(c) *The material of instructions*

Criteria for selecting material of instruction.

The elements of the environment and the needs of the various stages of development as determining the curricula for infant,prifant, primary and secondary grades of education

Theories of recapitulation—the psycho-physiological theory and the culture epoch theorm

The scope and sequence of school studies.

Co-ordination, correlation and concentration.

(d) *General principles of methodical instructions.*

The nature and general principles of methods—teaching and learning processes—logical and psychological methods—the maxims of methodical procedure—formal steps—types of lessons —inductive, deductive, drill, review appreciation and how to study lessons Forms of instruction suited to different ages of pupils and in different subjects—devices of teaching—exposition, illustration, questioning etc., the use of black-board and of other class-room apparatus—Lesson plans—modern individualistic tendencies.

Books recommended for study·

Human Nature and Education by A. S Woodburne.
(Oxford University Press)

Educational Psychology by Peter Sandiford Longmans.

Educational—Its Data and First Principles by Percy Nunn (Edward Arnold)

Part II

A SCHOOL HYGIENE

General conditions of healthy life and growth—characteristics of successive stages of physical development.

School hygiene—School site and buildings—lighting and ventilation—play ground furniture.

Common ailments of children and how to detect them—infectious diseases.

Detection and avoidance of fatigue and overpressure.

Physical training, gymnastics, drill, games free-play

B. SCHOOL ORGANISATION.

The school and its divisions—school [illegible]mation, co[illegible] departments—size of departments—co-education vs separation—special classes—one teacher schools—the class as a working unit—size of classes—the staff, qualifications and adequacy, etc.—classification of pupils—time-tables for different grades of schools—examinations, external and internal—promotions and its different bases—school records and their proper maintenance

C DISCIPLINE.

Moral instruction and training The aim of moral training. The chief factors in moral training—(i) corporate life of the school, (ii) personal influence, and (iii) non-personal influence.

The corporate life of the school—school community—mutual rights and obligations—school societies and other organised

group—school government—school laws—their character and enforcement—juvenile delinquency—rewards and punishments —their nature and kind—pupil self-government and its forms.

Influence—Government discipline—personal influence of the teacher, and "the leaders of the group"—non-personal influence of the curriculum and other school activities.

Day and boarding schools and leisure time of pupils.

The relation of the school to other communities with kindred interests

(2) History of Education and Comparative Study of Educational Systems

(2) History of Education &c.

A INDIAN EDUCATION

Ancient Indian education literary and vocational instruction for the different classes—specialisation in "Parisheds"

Buddhistic education—the nature of elementary education—development of experimental sciences, such as medicine and chemistry—higher education in Universities

Muslim education its character—education of all classes—development of two classes of institutions

Education during the Company period· early activities in Madras and Calcutta. The part played by the Missionaries and Government The decision of 1835 and its results The despatch of Sir Charles Wood in 1854 and the foundation of the modern system The rise of the Universities

Education under the Crown the Education Commission of 1882 and the development of education till 1900. The Indian Universities Commission of 1902 The Calcutta University Commission· The creation of new Universities Montford reforms and education Compulsory Education Acts and Educational Control A general review of the present system of education.

B. EUROPEAN EDUCATION

Brief Outlines of Education in the 18th and 19th centuries —Individualism and Socialisation of Education—the educa-

tional aims and ideals of Rousseau, Pestalozzi, Froebel and Herbart—their influence on modern educational theory and practice

C A Comparative Study of Educational Systems.

The 19th Century and the movement for national education.

A national system an expression of the national genius. Influence of historical, geographical, ethnological, political and economic factors The aim of a national system of education.

The national systems of education in England, United States of America, Germany and Japan, with reference to the administrative arrangements—local and central control—organisation of education and types of Schools, elementary, secondary, continuation, vocational and special schools for boys and girls Provision for the training of teachers for elementary and secondary schools Child welfare movements, such as medical inspection, feeding of necessitous children, movement for play-grounds, open-air schools sanitoria, etc

Tendencies of post-war education.

(3) Methods Appropriate to the Teaching of English

General.—

(3) Methods appropriate to the teaching of English

Objects of teaching English—its practical and cultural values The position of English in India, the bilingual problem and its implications (a) English a medium of instruction, (b) high standard of attainment, (c) colloquial as well as literary English.

II. Methods of Teaching.—

(a) The translation methods of teaching English in India; its defects, comparison of English and Indian languages. Traditional methods of language study.

(b) The reformed methods, their meaning, object and importance in relation to the aim of teaching English The inhibition of the mother tongue as far as possible; the foreign

tongue the medium of instruction. Results—fluency of expression, oral and written.

III Oral Work.—

Its prominence in the initial stages.—

(a) Phonetics The value of phonetics—its importance to teachers in English—the value of phonetics and phonetic drill

The sounds of English—detailed study of their production—comparison of English and Indian sounds—methods of teaching (1) phonetic drill, (2) apparatus, (3) use of phonetic symbols Value of phonetic texts (i) for teachers, (ii) for pupils.

(b) Conversation precedes reading.

Subjects class-room objects, persons, actions; pictures; conversation between pupils Importance of repetition

IV. *The Text.*—

The centre of instruction, extent to which digression is desirable. Methods of explanation—use of objects, actions, gestures and pictures, forms of verbal explanation—the apperceptive principle, the use of mother tongue, extent to which it may be used Importance of study of language, drill in word and phrase, oral composition, means of extending vocabulary—word and phrase books—their arrangement The requisites of a good reader—consideration of existing readers

English life (customs, society, schools, etc.), stage at which to introduce; consideration of difficulties, contrast between condition of Indian pupils and e g French pupils in this respect.

Elementary study of diction in texts Choice of words; prose and poetic diction, attention to concrete expression, rhyme and metre.

Intensive and extensive reading. The function and treatment of non-detailed texts Creation of interest in reading. The importance of silent reading The formation and use of class libraries.

Reading aloud and recitation from texts—pronunciation, punctuation, phrasing, intonation, stress.

V. Grammar.—

Distinction between grammar common to all languages and the grammar of a particular language The need for uniformity in grammatical terms in English. The place of grammar in the reformed methods of language teaching Inductive methods, correlation with texts The function and form of words, word order, sentence structure, importance of analysis. Grammar summaries and framing of rules Grammar drill Framing of Grammar syllabuses The medium of instruction.

VI. Handwriting.—

Outline of work in initial stages—writing charts; copy books, transcription from texts, spelling, dictation. Importance of punctuation, syllabification in writing, difficulties arising from vernacular practice Attention to handwriting in exercise books, note books and composition.

VII. Composition.—

Correlation with texts, grammar and word lists Progress from reproduction to free composition, importance of oral work. Story reproduction, use of pictures, use of texts; correlation with other subjects, current events. Types of composition, (a) essay: narrative, description, etc, (b) letter-writing, (c) epitome, (d) expansion, (e) paraphrase Translation: principles of translation, stage at which it should be introduced.

The construction of the essay. Principles of sentence and paragraph structure. Oral and written preparation essential

Correction and valuation of written exercises. The difficulty of large classes.

VIII. Organization of English Teaching in schools.—

Time-tables, free and rigid. Schemes of work; syllabuses. Notes of lessons; note books. Class rooms, libraries.

(4) METHODS APPROPRIATE TO THE TEACHING OF OPTIONAL SUBJECTS

(4) Methods appropriate to the teaching of optional subjects.

(a) All Subjects to Young Children

(iv) (a) All subjects to young Children.

I Principles and methods of Child Study

History of Child Education with special reference to Rousseau, Pestalozzi, Froebel and Montessori

Experimental observations, physiological consideration, the child's instincts

Stages of child development—study of exceptional children and methods of dealing with them.

Mental Intelligence Tests

II. A survey of recent experiments in methods of child education.

Theories of play and play methods. importance of play in the development of the child Free and organised play. Consideration of the choice of child s play-things and occupation materials.

III. Self-activity, continuity, connectedness and creativeness as guiding principles in early education.

IV Sense training, its importance in the teaching of—

(a) Language, number and space.

(b) Nature interests.

(c) Class singing with special emphasis on rhythm. simple eurhythmics.

(d) Drawing and handwork.

(e) Story and dramatisation.

V. Correlation in the teaching of the various subjects, in the framing of syllabuses and time-tables and in the application of the project method.

(b) Mathematics

(iv) (b) Mathematics.

I. Nature of Mathematics.—

Subject-matter and methods

The relation of Mathematics to the applied science, logic and economics

Stages in the development of Mathematics, the experimental, the intuitional, the systematic and the philosophical

The fundamental concepts of Elementary Mathematics

II The aims of Mathematical Education —

Practical, Disciplinary and Cultural

III. History of Mathematics - -

Development of the subject-matter of Mathematics with special reference to Arithmetic, Elementary Algebra and Geometry, the decimal system, complex numbers vectors the function concept and the parallel postulate of Euclid

Contribution to the pedagogy of Mathematics by eminent educationists, Pestalozzi, Froebel, Herbart and Montessori

Modern tendencies in methods of teaching

Irrational number, infinity and limits

IV. Psychology of School Mathematics.—

The concepts of number, order, form and space.

The psychological basis of mathematical instruction

V. Methods of Teaching Mathematics —

The heuristic, laboratory, analytic and synthetic, inductive and deductive and genetic methods

Logical and psychological methods of development.

Means of securing speed and accuracy.

Oral and written work.

Graphical methods and illustrations.

VI. The Mathematics curriculum and the organisation of School Mathematics.—

Principles governing the construction of syllabuses and assignments The logical and the psychological sequences

The Concentric and Continuous systems

The primary, lower and upper secondary stages

Specialisation and the specialised course

The teaching of Arithmetic, Algebra and Geometry dealt with separately and in detail with regard to aim, matter and method

Correlation of Mathematical subjects and of those with the other school subjects

The Dalton Plan and the Project Method

Tests and Examinations.

VII. Equipment for the Teaching of Mathematics.—

Collection of data for problems

Notes of lessons

Vocational Mathematics with reference to local conditions

Text books, their place and value

Mathematical libraries and laboratories

The elements of 'Statistical Methods.'

Books for consultation —

1. The Teaching of Elementary Mathematics, J W A. Young (Longmans, Green and Co)
2. The Teaching of Arithmetic Lennes (Macmillan & Co)
3. The Teaching of Algebra · T P Nunn (Longmans, Green & Co.)
4. The Teaching of Geometry D E Smith (Macmillan & Co.)

5. The History of Mathematics, Vols I & II · D E Smith (Ginn & Co)
6 The Psychology of Arithmetic Thorndike (Macmillan & Co)
7 The Psychology of Algebra Thorndike (Macmillan & Co)
8 Fundamental Concepts of Algebra and Geometry: J W A Young (Macmillan & Co)
9 The Thirteen Books of Euclid's Elements Sir Thomas Heath (Cambridge University Press)

(c) Physical Science

iv) (c) Physical cience

4 *Introductory.*—

Meaning and genesis of Science, utilitarian and cultural values of the Sciences aims of teaching Science in the school; three stages in the growth of a Science—observational, heuristic and systematic and their characteristics

B Elementary Science —

Place of elementary science in the high school curriculum; different stages of teaching elementary science with subject matter, aims, and methods appropriate to each stage in relation to the mental equipment and development of the pupils in the various stages of school life.

Object or observation lessons of the primary classes, Nature study lessons of Forms I to III, experimental science course of Form IV, information lessons of Forms V and VI, object and mode of conduct of alternative courses

Qualifications of the elementary science teacher, principles of organisation of elementary science teaching with a view to secure coordination and correlation, importance of maintaining Nature Calendar, school gardens and museums; planning and conducting excursions

C. Optional Physics and Chemistry.—

Specialisation in Forms V and VI a sequence to elementary

science teaching; principles of selection of subject matter and organisation of teaching.

Methods of instruction in the class-room: lectures with demonstrations, verification method, heuristic method and its limitations, logical and psychological orders of development, historical method, projects and team work, individual work and supervised study, class-room teaching as class conferences; judging quality of work in the class room, equipment of the class-room, home work for pupils, provision for individual difference, methods of securing co-ordination and correlating with laboratory practice, means of creating and sustaining interest Importance of laboratory course in high school science, size of laboratory classes and their supervision, systems of laboratory work, nature and number of exercises in a course, quantitative work and treatment of the results

Laboratory manual, laboratory note books and their correction, provision for backward pupils

Planning and equipment of a physical and chemical laboratory, design and size of the demonstration table and work benches, light and ventilation, fume cupboards, and utilisation of wall space.

Laboratory arts—work-shop practice, including wood and metal work, glass blowing, photography, making of lantern slides

Laboratory management, selection of laboratory and demonstration appliances, preparation of indents, care of apparatus and chemicals, storeroom laboratory registers

D General.

Scientific method, inference, analogy, deduction and induction, synthesis and analysis—their application in the teaching of science, imagination, hypotheses, requisites of a good hypothesis, theory and law as applied to natural sciences, didacticism and scientific method, testimony and appreciation of authority.

Framing of syllabuses and time tables, place of text books, and reference books in high school science, class libraries.

Medium of instruction, oral questioning, written and practical examinations as tests of proficiency, nature of questions and valuation, award of school marks.

(d) Natural Science

(iv) (d) Natural Science.

1 *General.*

(a) Scope of Natural Science, its relation to other sciences, aims of teaching Natural Science, acquisition of knowledge by discovery methods not merely verification of known facts but finding out by means of experiments, the scientific habit of thinking, the place of deductive reasoning in science Values of teaching Natural Science mental, ethical, emotional and practical.

(b) Nature Study or Elementary Natural Science, aims of teaching plant and animal life in the lower forms, training powers of observation, comparison and reasoning, discovery of characteristics of life In higher forms training of the mind by discovery of laws governing the activities of life, the organism and its environment, recognition of order in nature and understanding of the principles of evolution, acquisition of useful knowledge.

2 *Methods.*

Observation and heuristic methods of teaching, the value of comparison, conducting experiments, individual work and demonstration, record of work, observations and inferences, hypotheses and verification The Project and Dalton methods Value of drawing and description Choice of material, value of living specimens

3 *Aids to teaching*

(a) The school garden how to maintain; value in teaching, study of life histories and other advantages.

(b) School museum and herbarium: their value in teaching, fitting and maintenance, selection of specimens, collection by teacher and by the pupils

(c) Charts, diagrams and lantern slides preparation and value in teaching

(d) Excursions, their educational value, how to conduct excursions

(e) Text-books their use and abuse

4 *Preparation of courses of study*

The concentric system, general principles underlying schemes of lessons, choice of topics and material, more for training the mind than for information, importance of using objects in the immediate surrounding of the school, imparting of useful information in Human Physiology and Hygiene

5 *Botany in the S S L C Course*

Aims preparatory to the study of plants as a science, acquisition of knowledge of the external features and functions of the parts of flowering plants, adaptation to external conditions, the principles of classification.

(a) Study of external features, importance of the study of actual specimens, personal observation of the pupils necessary, use of diagrams and descriptions, use of technical terms, floral diagrams, details of description and observation to be guided by the needs for classification.

(b) Study of principles of classification individuals and species, recognition of species and genera to precede study of families, grouping of species into genera and genera into families, relationship determined more by floral structure.

(c) Study of functions by observations and experiments, experiments to be carried by pupils, demonstration experiments, how to make pupils carry out experiments, scope of instructions to pupils, successful and unsuccessful experiments, observations and inferences, record of experiments

(d) Adaptations. to be studied in relation to environment, importance of field study, correlation of structure and function, similarity in form as a result of similar conditions.

(e) History

(iv) (e) History

1. *The Meaning of History.*—

Is History a Science? What is meant by the philosophy of History?

2. *The Scope and Importance of History.*—

Social, economic, political, and constitutional Its relation to other subjects Teaching History backwards—A unified social science course.

3. *The Educational Value of History*—

(A) *Contents*—Facts and ideas—cultural, mental, ethical, and disciplinary values.

(B) *Mental processes involved.*—Criticism—judgment. generalisation and expression

4. *The Aims of teaching History*—

(a) *General*—To create a historic and civic sense among pupils, to stimulate their imagination for the correct understanding of the progressive development of civilisation and to inculcate a right and intelligent use of books and other sources of information.

(b) *Special.*—(1) For lower classes—to arouse interest, kindle imagination and cultivate memory

(2) For upper classes—to stimulate interest, develop intellect (logical, critical, selective and descriptive powers) and train in individual work.

5 *The Medium of Instruction in History in Indian Schools.*—

How far the vernaculars can be pressed into service—the practical difficulties in the way and the remedies, if any—the advantages of a common medium.

6 *The Subject Matter of History.*—

(a) Selection—Local, Indian, European and World History Ancient, Mediaeval, Modern and Recent History

(b) Organisation—outlines, special periods, movements—undercurrents—concentric, chronological and topical treatment

(c) Correlation with Civics, Geography, and Literature (epic, ballad, lyric, novel, poetry and drama)

7 *The Methods of Teaching History*—

(a) In early stages—The Culture Epoch Theory, the Spiral plan—biographical approach and the Great Man Theory—ballads, narratives, illustrations excursions, dramatisation, drill

(b) In later stages—(i) Detailed study—bibliography—oral teaching—comparative method—selection of material—stimulation of a right understanding of causal relations by the heuristic method—analysis—parallels—special lectures—taking notes—antiquities—excursions—making the past real by visual instruction.

(ii) Individual work—The Dalton plan—Townshend Warner's method—the research method—home work—text-books—collateral reading documents and sources—library study—problems and projects—reviews—appreciation and essay—construction of plans, time lines and graphs—preparation of maps, charts and pictures—revision

(iii) Community work—Dramatisation of outstanding and interesting events embodying the principles of institutional development in school organisation—collection of historical data and research.

8 *The Equipment of the History Laboratory*—

Furniture—library—museum—maps and other illustrative materials—stereoscope—photographic camera—magic lantern and epidiascope.

9 *The Organisation of Teaching work in History.*—

Basis and construction of syllabus—the use and abuse of text-books—treatment of documents and other sources—prepa-

ration of lessons, notes of lessons and teaching notes—conduct of library work—organisation of excursions—conduct of debates—preparation of maps and charts—the right use of the blackboard—supervision by the chief teacher—the place of examinations in a scheme of history teaching—oral and written work—standard and other texts—organisation of teachers conferences for consideration of methods and syllabuses

List of books on the methods of teaching history for students.—

(1) The Teaching of History by the Board of Education
(2) The Teaching of History and Civics by H E Bourne.
(3) The Teaching of History by Hasluck.
(4) How to Study and Teach History by Hinsdale
(5) The Teaching of Indian History by Hutton
(6) The Teaching of History by Jarvis
(7) Studies in the Teaching of History by M W Keatinge.
(8) The Aim and Method in History and Civics by C R Long.
(9) An Experiment in History Teaching by E Rocklin.
(10) Handling of Historical Material by F. R Williams
(11) Teachers Handbook to Harrap's Dramatic History by F. E Melton.
(12) The Teaching of History—The New Educators Library.
(13) Essays on the Teaching of History (Maitland & Co.)
(14) The Teaching of History by P Klapper
(15) The Methods of Historical Study by E A. Freeman

(f) Geography

(iv) (f) Geography.

1. *The Nature of Modern Geography.*—

A brief historical sketch of its growth and of its pedagogy.

2. *The Subject matter of Geography.*—

Its scope regarded as a school subject The value and place in the course of mathematical, physical, economic, historical

and regional (including home) geography The necessity for selection and the principles on which this should be based with special reference to the type of school (elementary or secondary) and the area in which it is situated rural or urban)

The possibilities of correlation with other subjects

3 *The Value of Geographical Study* —

(a) *Practical*—As preparation for every day life—individual and civic

(b) *Educational* (i e in the school) —As an 'approach' subject in the early stages and as a 'correlating' and 'outlook' subject in the later stages

(c) *Disciplinary* — Mental training—processes involved in the scientific method of study observation, classification generalization, comparison

(d) *Cultural*—Breadth of outlook, depth of insight, and sympathy with lives of distant peoples, the world's workers

4 *The aims of Teaching* —

(a) To develop a geographic outlook and create an intelligent interest in the modern world

(b) To secure a dexterity in the use of geographical material—maps, blue-books, etc

5 *Methods of Teaching* —

(a) The value of oral work, pictures, handwork and dramatisation in the early stages

(b) The value and methods of teaching the following subjects —Maps and map-reading with special reference to methods of showing relief, drainage, climate, communications, human occupations, and distribution of population

Map-making The use of chain, prismatic compass and plane-table in school surveying

The use of a simple form of level in practical contouring

The methods of recording temperature, pressure and rain fall data obtainable in school

The possibilities of collecting local data with regard to climate and crop statistics

The sources of information regarding industries, trade crops, population, etc

The method and value of teaching graphical representation of such information in maps, curves and diagrams

(c) The value and possibilities of out-door work in the different stages of school Excursions Laboratory methods

(d) Class Work —Oral teaching its importance and limitations—types of lessons—causal relation, and place and value of geographical explanation—questioning to test memory and provoke thought—illustrations maps graphs, charts, pictures and models

(e) Individual work

(i) Use of text-books—characteristics of good text-books

(ii) Collateral reading—its purpose—assignments and guidance—sources of geographical information

(iii) Maintenance of note-books etc

(iv) Problems and exercise—The project method

(f) Team work Its value and possibilities

6 *Organization of Courses of Study* Construction of syllabuses schemes of lessons, formal notes of lessons teaching notes and lesson plans Preparation of assignment

7 *The Medium of Instruction in Indian Schools* Initial difficulties in the use of the mother tongue, and how to surmount them technical words text-books, maps and atlases.

8 *Examination* Oral and written Their aims and values, criticism of present methods, recent methods of testing.

9 *Geography Room* Necessity for a separate room, its plan, geographical equipment and its use minimum essentials

10 *Bibliography* Standard and recent books, maps, atlases, etc.

N.B.—Candidates will be expected to give satisfactory evidence that they have had experience in teaching the subject, and to this end compulsory questions on lesson notes, syllabuses and practical work will be set.

(g) One Language other than English

(1) SANSKRIT:

(a) *General: Preliminary.*

(iv) (g) Languages

Objects of teaching Sanskrit The standard to be aimed at in Secondary Schools and Pre-collegiate Sanskrit Schools. The position of Sanskrit in India, its cultural and practical value The inter-relations of Sanskrit and Indian Vernaculars Comparison of Sanskrit and English, with particular reference to their grammar and structure Practical and theoretical study of Sanskrit.

(b) *Methods of Teaching.*

The translation method and the direct method as applied to Sanskrit study, traditional methods of Sanskrit study, their merits and defects, the external and internal difficulties of the Sanskrit language and how best to overcome them

(c) *The Early Stages of Sanskrit Teaching.*

The sound of Sanskrit, detailed study of their production, the organic and acoustic methods of study Sanskrit sounds The means of teaching them to pupils The teaching of Sanskrit hand-writing, the place of dictation and transcription, translation Reading and recitation The Sanskrit text as the centre of instruction, manner of exposition, means of extending the Sanskrit vocabulary Inductive methods of Sanskrit teaching, Sanskrit grammar The use of Sanskrit Kosas.

(d) *The Later Stages.*

The choice of Sanskrit texts. Lines of development in teaching the various aspects of Indian life Correlation with the geography of Indian civilization and culture. Study of diction in Sanskrit texts; types of Sanskrit composition. Sentence

structure in Sanskrit. Paraphrase and translation with reference to Sanskrit The Historical and Comparative Method of studying the Sanskrit language and literature Study of Organisation of Sanskrit teaching in English Schools, consideration of time-tables, formation of class libraries and general libraries.

(ii) TELUGU:

I *General.*

(1) The importance of the mother-tongue, position of the vernacular in a scheme of general education, vernacular as the medium of instruction, relative importance of the mother-tongue and English as media of instruction, use of the mother-tongue in the various stages of education

(2) History of vernacular education in India, the village-school of the old type—intensive as opposed to the extensive study of the mother-tongue, study of the mother-tongue in schools under the control of the Educational Department, present position of the vernaculars in the various stages of education.

(3) Methods of teaching the mother-tongue, the effect of teaching English side by side with the vernacular; influence of English on the pronunciation, dictation and expression of the mother-tongue.

(4) Grammar—Its place in the reformed methods of teaching modern languages; the inductive method of teaching grammar, correlation with text-books, formal and practical grammar; function and form of words, word-order, sentence structure, analysis of sentences, framing of grammatical rules by the inductive method; grammar drill, syllabuses of grammar for general guidance, place of formal grammar in the early stages; relative importance of instruction in grammar and drill in expression in the use of the mother-tongue.

II. Telugu in the Primary stage.

(1) Rural and urban schools, boys and girls schools; question of differentiation of courses of study.

(2) Story-telling and reproduction; nursery table, fairy tales; puranic stories and their importance in the successive years of the primary course

(3) Songs and verses, nursery rhymes; comical ballads; memorization of easy verses

(4) Writing--Circles as the basis of the Telugu alphabet; methods of teaching the Telugu alphabet; the traditional method; modern methods of teaching the alphabet, the 'guninthamu' and the method of teaching it, phonetics of the Telugu language; defects of the Telugu alphabet and the 'guninthamu' and methods of reform.

(5) Reading—Knowledge of phonetics essential for correct pronunciation; defects of children—acoustic and organic—and methods of rectifying them, ordinary inability of children to pronounce the aspirates, distinction between s, sh, and s'; k pronounced as t, r as l, distinction between c and ts; r and r' and so on.

(6) Individual and group recitation.

(7) Text-books—At what stage to be introduced, text-books as the bodies of instruction in general knowledge and as a means of enriching the pupils' vocabulary, literary standard of the text-book, nature of text-books for rural and urban areas and for boys' and girls' schools

(8) Picture-reading and composition, word and phrase book, composition exercises and team work in composition

III. Telugu in the Secondary stage

1. Pre-High School.

(1) Story-telling and reproduction, puranic and historical; wonder tales of adventure and heroism; stories of invention and discovery; lives of great men

(2) Songs and verses; memorisation of easy portions of Telugu literature, individual and group recitation.

(3) Reading and writing—reading aloud; copy-writing; transcription.

(4) Text-books—Prose and poetry; their varieties; correlation of text-books with the other subjects of school instruction.

(5) Methods appropriate to the teaching of prose and poetry, detailed and non-detailed.

(6) Picture-reading, composition—oral and written; nature of subjects for composition, methods of correcting composition exercises.

ii High School

(1) Text-books, nature of material, methods of teaching, memorisation and recitation, dramatisation

(2) Precis-writing and expansion of ideas, composition —oral and written, appreciation of literature; training to speak on prescribed subjects

CHAPTER XLIV

DEGREE OF MASTER OF EDUCATION

On whom conferred.

1. The Degree of Master of Education may be conferred upon—

(1) persons who have passed the B Ed Degree Examination of this University and who are of not less than two years' standing;

Awarded for a thesis.

(2) persons who are residents of or domiciled in the University area and who have passed an examination accepted by the Syndicate as equivalent to the B Ed Degree Examination of this University and who are of not less than two years' standing.

If any question arises as to whether a person coming under clause (2) above, is a resident of or domiciled in the University area or not, the question shall be decided by the Syndicate and its decision shall be final, provided that a candidate will not be considered as domiciled unless he has lived continuously within the University area for a period of not less than 2 years, immediately preceding the date of submission of the thesis.

2 The M. Ed. Degree shall only be awarded to candidates who have submitted as a thesis work forming a distinct contribution to the advancement of learning Each candidate shall state in his application the subject or subjects within the purview of the Regulations for the Degree of Bachelor of Education upon a special knowledge of which he rests his application for M Ed. Degree and shall with the application transmit three copies printed or typewritten, of the thesis

The application and the thesis should be forwarded so as to reach the Registrar between 1st June and 1st July of any year

Conditions of thesis.

3 The thesis must comply with the following conditions—

(1) it must be satisfactory in respect of literary presentation as well as in other respects and should be in a form suitable for publication;

(2) the candidate shall indicate generally in his preface to his thesis and specially in notes, the sources from which his information is taken, the extent to which he has availed himself of the work of others and the portions of the thesis which he claims as his original work

(3) he shall further state whether his research has been conducted independently, under advice or in co-operation and in what respects his investigations or researches appear to him to the advancement of learning.

4 The thesis shall be referred to three independent judges appointed by the Syndicate who shall examine the thesis, who may examine the candidate orally if they so desire and who shall report individually whether the candidate's work is of sufficient merit to deserve the degree.

If the Syndicate, upon the independent reports of the judges, considers the candidate worthy of the degree of Master of Education it shall cause his name to be published with the subject of his thesis

5. Every candidate shall be at liberty to publish his thesis The thesis of any successful candidate may be published by the University with the inscription "Thesis approved for the Degree of Master of Education in the Andhra University".

CHAPTER XLV

DEGREE OF BACHELOR OF MEDICINE AND SURGERY

1. Candidates for the degree of Bachelor of Medicine and Surgery shall be required —

(i) to have completed the age of seventeen years on or before the date of admission to a College of Medicine for registration as medical students, unless specially exempted by the Syndicate from the operation of this rule. — Age limit for admission to College.

(ii) to have passed the Intermediate Examination in Arts and Science of this University, taking Physics and Chemistry as two of three optional subjects under Part III of the Intermediate examination, or an examination accepted by the Syndicate as equivalent thereto, provided however that students who commenced their Intermediate courses of study prior to July 1930 may be permitted to undergo the M B B S Degree course subject to the condition that they have passed the Intermediate examination in any three of the following subjects under Part III —Physics, Chemistry, Mathematics, Botany and Zoology, — Preliminary qualifications

(iii) to have subsequently studied for a period of six months in a college affiliated to or recognised by the University, the subject of Inorganic Chemistry, Physics and Biology, and passed the Pre-Registration Examination of this University or an Examination recognised by the General Medical Council of Great Britain and Ireland and accepted by the Syndicate as equivalent thereto, — Pre-Registration Examination.

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* *Note*—The following examinations have been recognised by the Academic Council, in accordance with Section 33 (1) of the Act, as equivalent to the Intermediate Examination of the Andhra University—Intermediate Examination of all other Statutory Indian Universities.

Five years' study at College.

(iv) to have, subsequent to passing the Pre-Registration Examination, been engaged for not less than five years in professional study in a College of Medicine affiliated to or recognised by the University, provided that not less than two academic years or six terms of medical study, immediately preceding the Final M B & B S Examination, be spent in attendance at the Andhra University on courses of instruction in the subjects of the curriculum.

Terms

(v) The academic year shall consist of three terms, spring, autumn and winter The spring term will extend from 1st January to 31st March, the autumn term from 1st July to 30th September, and the winter term from 1st October to 31st December.

Certificate of further study

(vi) In the case of the examinations other than the Final, candidates who fail at the examination or having applied for admission do not appear for the examination, or having obtained the prescribed certificate do not apply for admission to the examination although qualified to do so shall be required to produce a certificate of further study for at least one term before appearing for the next succeeding examination

Examinations twice a year

(vii) The Examination shall be held twice a year in the months of April and December and will commence on the following days —

Pre-Registration Examination—First Monday in April and 15th December

First and Second M.B. & B S. Examinations—

First Monday in April and 1st December.

Final M.B. & B.S. Degree Examination—Second

Monday in April and 1st December.

Pre-Registration Examination

Course of Study and Examination.

2. A candidate for the examination shall undergo a course of study extending over a period of six months, and shall be examined in.

(a) Inorganic Chemistry (according to a syllabus).

(b) Physics Do.

and (c) Biology Do.

The examination in each subject shall be written, practical and oral.

Preliminary qualifications.

3. No candidate shall be admitted to the examination unless he has produced satisfactory evidence of having complied with the provisions contained in clause (ii) of Regulation 1 of this Chapter, and has produced the prescribed certificates.

Candidates for B.A.B.Sc., etc. passing in Science group eligible for exemption.

4. Candidates who have passed the Physical or Natural Science group of the B A, B Sc., or B.A. (Honours), B.Sc. (Honours) Degree Examination of this University or of any other Indian University (where practical courses and examinations are held), accepted by the Syndicate as equivalent thereto, shall not, however, be required to produce the prescribed certificates for, or to pass in any of the subjects in which they have passed at the Degree Examination. Candidates who have passed the examination with either Botany or Zoology as one of the optional subjects shall not be exempted from examination in Biology. Such candidates shall, however, be required to pay the prescribed fee for the whole Examination.

Marks qualifying for a pass.

5. A candidate for the examination shall be declared to have passed the examination if he obtains not less than one-half of the marks in the written, and not less than one-half of the marks in the practical and oral taken together in each of the subjects, Inorganic Chemistry, Physics and Biology. All other candidates shall be deemed to have failed in the examination.

Conditions of obtaining exemption.

6. Candidates for the examination who fail, but obtain passing marks in any subject shall be exempted from re-examination in that subject.

Failure four times.

7. A candidate who after qualifying for admission to the Examination applies therefor and fails four times shall not be permitted to take the Pre-Registration Examination again. If a candidate, whose name has been registered for the Examination, absents himself therefrom, he shall be deemed to have failed in the Examination.

Classification of successful candidates.

8. Candidates who pass the whole examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each and shall be arranged in two classes; the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all the others.

Candidates who pass in the first class and who obtain not less than seventy-five per cent of the marks in any subject shall be declared to have passed with distinction in that subject.

Candidates who pass the whole examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass the examination subject by subject shall be ranked in the second class separately.

First M.B. & B.S. Examination

Course of study and Examination.

9. A candidate for the Examination shall undergo a course of study extending over a period of one academic year for Part I Organic Chemistry and two academic years for Part II, Anatomy including elements of Human Embryology and Physiology including Bio-Chemistry after passing the Pre-Registration Examination.

A candidate for the Examination shall be examined in

Part I—(a) Organic Chemistry (according to a syllabus),

Part II—(b) Anatomy, including Elements of Human Embryology, and

(c) Physiology including Bio-Chemistry (according to a syllabus).

The examination in each subject shall be written, practical and oral.

Conditions of admission to examination.

10 Candidates may present themselves for the whole Examination at one time, or may take the examination in two Parts

11 No candidate shall be admitted to Part I, Part II or whole of the examination unless he has passed the Pre-Registration Examination of this University, or an examination accepted by the Syndicate as equivalent thereto* and has produced the prescribed certificates

Marks qualifying for a pass.

12 A candidate for the examination shall be declared to have passed in Part I of the examination if he obtains in Organic Chemistry not less than one-half of the marks in the written, and not less than one-half of the marks in the practical and oral taken together, and to have passed Part II of the examination if he obtains not less than one-half of the marks in the written part of each of the subjects, Anatomy (including Elements of Human Embryology), and Physiology, (including Bio-Chemistry) respectively, and not less than one-half of the marks in the practical and oral taken together in each subject All other candidates shall be deemed to have failed in the examination

Exemption in subjects passed

13 Candidates for the Examination who fail but obtain passing marks in any subject shall be exempted from re-examination in that subject

Classification of successful Candidates

14. Candidates who pass Part I and II of the examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each in both Parts and shall be arranged in two classes, the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all the others.

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* The following examination has been recognised by the Academic Council in accordance with Sec 33 (1) of the Act, as equivalent to the Pre-Registration Examination of the Andhra University – Pre Registration Examination of the Sheffield University

Candidates who pass in first class and who obtain not less than seventy-five per cent of the marks in any subject shall be declared to have passed with distinction in that subject

Candidates who pass the whole examination at a subsequent appearance shall be ranked only in the second class

All candidates who pass the examination subject by subject shall be ranked in the second class separately

Second M B. & B S Examination

Course of study and examination

15 A candidate for the examination shall undergo a course of study extending over a period of one academic year for Pharmacology, Hygiene and Ophthalmology and two academic years for General Pathology with Bacteriology taken concurrently and subsequent to passing the First M B & B S Examination and shall be examined in

Part I—

(*a*) Pharmacology.

Part II—

(*b*) Hygiene,

(*c*) General Pathology with Bacteriology, and

(*d*) Opthalmology

The course in Ophthalmology shall include attendance at an Ophthalmic Hospital or Ophthalmic Wards of a General Hospital on three days in the week for a period of three months.

The examination shall be written, practical and oral in the case of Pharmacology, Hygiene and General Pathology with Bacteriology and written and oral in the case of Ophthalmology.

16 Candidates may present themselves for the whole examination at one time or may take the examination in two parts.

Admission to examination

17 No candidate shall be admitted to Part I, Part II or whole of the Examination unless he has passed the First M B. & B S Examination of this University or an Examination accepted by the Syndicate as equivalent thereto, and has produced the prescribed certificate

Marks qualifying for a pass.

18 A candidate for the Examination shall be declared to have passed in Part I of the examination if he obtains in Pharmacology not less than one-half of the marks in the written and not less than one-half of the marks in the Practical and Oral Examinations together and to have passed Part II of the Examination if he obtains not less than one half of the marks in the written part of each in Pharmacology of the subjects, Hygiene, General Pathology with Bacteriology, and Ophthalmology, and not less than one-half of the marks in practical and oral taken together in Hygiene and General Pathology with Bacteriology and not less than one-half of the marks in Oral Ophthalmology All the other candidates shall be deemed to have failed in the examination

Exemption in subjects passed.

19 Candidates for the examination who fail but obtain passing marks in a subject shall be exempted from re-examination in that subject

Classification of successful candidates.

20 Candidates who pass the Parts I and II of the examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each in both parts and shall be arranged in two classes, the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all others

Candidates who pass in the first class and who obtain not less than seventy-five per cent of the marks in any subject shall be declared to have passed with distinction in that subject.

Candidates who pass the whole examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass subject by subject shall be ranked in the second class separately

Final M B & B.S Examination

Candidates permitted to take the examination in whole or in parts.

21 A candidate for the examination shall undergo a course of study extending over a period of one academic year for Forensic Medicine and three academic years for Medicine, Surgery and Obstetrics and Gynæcology taken concurrently and

subsequent to passing the First M.B. & B.S. Examination and shall be examined in

Part I—

(*a*) Forensic Medicine.

Part II—

(*b*) Medicine,

(*c*) Surgery,

(*d*) Obstetrics and Gynæcology

Medicine, course of study and Examination

22 The course in Medicine shall include:

(a) an appointment for nine months as Clinical Clerk in the medical wards of a recognised hospital of which at least two months shall be in the final year; and

(b) an appointment for three months as Clinical Clerk in the medical out-patients department of a recognised hospital

23 Every candidate for the M B & B S degree shall also attend recognised courses of instruction in the following subjects:—

(i) A course of systematic instruction in the principles and practice of medicine;

(ii) Instruction in applied Anatomy and Physiology and in Clinical Pathology;

(iii) Infectious Diseases—with attendance as Clinical Clerk at a recognised hospital on two days in the week for a period of three months;

(iv) Mental Diseases—with attendance as Clinical Clerk at a recognised Mental Hospital on one day in the week for a period of three months;

(v) Tuberculosis—with attendance as Clinical Clerk at a Tuberculosis Hospital on one day in the week for a period of three months;

(vi) Medical Therapeutics;

(vii) Dermatology—with attendance at the special departments on two days in the week for a period of three months;

(viii) Instruction in Vaccination by a qualified Health Officer;

(ix) Diseases of Children.

24. The examination in Medicine may include questions on the above-mentioned subjects, but separate examinations in those subjects will not be held.

25 The course in Surgery shall include—

Surgery-course of study and examination.

(a) an appointment for nine months as Surgical Dresser in the surgical wards of a recognised hospital of which at least two months shall be in the final year; and

(b) an appointment for three months as Surgical Dresser in the out-patient department of a recognised hospital.

26 Every candidate for the M B & B S Degree shall also attend recognised courses of instruction in the following subjects:—

(i) A course of systematic instruction in the principles and practice of surgery;

(ii) Instruction in applied Anatomy and Physiology and Clinical Pathology;

(iii) Oto-Rhino-Laryngology—with attendance as a clinical clerk at a recognised clinic on three days in the week for a period of three months;

(iv) Orthopedics—two days in the week for three months;

(v) Administration of anaesthetics.

(vi) Operative Surgery.

(vii) Radiology with attendance at an X-ray institute on three days in the week for one month;

(viii) Veneral Diseases—with attendance at a Veneral clinic for two days in the week for a period of three months.

27. The Examination in Surgery may include questions on the above-mentioned subjects, but separate examinations in these subjects will not be held.

Obstetrics and Gynaecology Course of study and examination.

28. The course in Obstetrics & Gynæcology shall include:—

(a) Instruction during a period of at least two terms comclinic and maternity wards of a lying-in-hospital for a period of three months, and the personal conduct of twenty cases of labour of which five at least shall be under supervision; and

(b) an appointment as Clinical Clerk in the Gynæcological wards and out-patient department of a recognised hospital for a period of three months.

29. Every candidate for the M.B. & B S Degree shall also attend recognised courses of instruction in the following subjects:—

(a) Instruction during a period of at least two terms comprising courses of systematic instruction in the principles and practice of Obstetrics & Gynæcology

(b) Lectures or demonstrations in clinical Obstetrics & Gynæcology, and attendance on in-patient and out-patient Gynæcological practice

30 Every candidate for the M B. & B S. Degree before commencing the study of practical midwifery shall have held the appointments of Clinical Medical Clerk and Surgical Dresser and shall have attended a course of lectures on Medicine, Surgery and Obstetrics & Gynæcology.

31. A certificate that the candidate has conducted the above mentioned twenty cases of labour should be given by a member of the staff of lying-in-hospital or of a maternity charity hospital as may be recognised by the University from time to time after consulting the Board of Studies in Medicine.

32. Candidates may present themselves for the whole examination at one time or may take the examination in two parts.

Examination in each subject.

33. The Examination in each subject shall be written and oral in the case of Forensic Medicine, written, clinical and oral in the case of Medicine, written, clinical, practical and oral in the case of Surgery and Obstetrics and 'Gynæcology'

Admission to examination.

34. (a) No candidate shall be admitted to Part I of the examination unless—

(1) he has previously passed the Second M B & B.S. examination or an examination accepted by the Syndicate as equivalent thereto, and

(2) he has produced the prescribed certificates, and

(b) no candidate shall be admitted to Part II of the examination unless—

(1) he has passed the First M B & B S examination or an examination accepted by the Syndicate as equivalent thereto not less than three academic years previously;

(2) he has passed the Second M B & B S examination or an examination accepted by the Syndicate as equivalent thereto not less than one academic term previously,

(3) he has been engaged in Medical Studies at the Andhra University for not less than two academic years immediately preceding the examination, and

(4) he has produced the prescribed certificates

Marks qualifying for a pass

35 A candidate for the examination shall be declared to have passed the examination if he obtains not less than one half of the marks in the written part of each of the subjects, Forensic Medicine, Medicine, Surgery and Obstetrics & Gynæcology, not less than one half of the marks in Oral Forensic Medicine, and not less than one half of the marks in Clinical and Oral Medicine taken together, not less than one-half of the marks in (1) Clinical Surgery, (2) Operative & Oral Surgery taken together, and not less than one half of the marks in Clinical, Practical

and Oral Obstetrics & Gynæcology taken together. All other candidates shall be deemed to have failed in the examination.

Exemption from re-examination.

36. Candidates for the examination who fail but obtain passing marks in any subject, shall be exempted from re-examination in that subject.

Classification of successful candidates.

37. Candidates who pass Parts I & II of the examination on the first occasion of appearing therefor shall be ranked in the order of proficiency, as determined by the total number of marks obtained by each in both parts and shall be arranged in two classes; the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all the others

Candidates who pass in the first class and who obtain not less than seventy-five per cent of the marks in any subject shall be deemed to have passed with distinction in that subject.

Candidates who pass Part I or II of the Examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass the examination subject by subject shall be ranked in the second class separately

38 A candidate who holds the Diploma of L M P or any other qualification accepted by the Syndicate as equivalent thereto, will be admitted to the Degree of M B & B S provided—

(a) he has passed the Diploma Examination at least five years before the date of application for the Final M B & B S. Degree Examination;

(b) he has passed the Intermediate Examination in Arts and Science of this University, or an examination accepted by the Syndicate as equivalent thereto, or an examination accepted by the General Medical Council for entrance to the Medical Course;

(c) he has attended a course of study for not less than one academic year in a College of Medicine recognised by or

affiliated to this University before appearing for the Second M.B. & B.S. Examination, and not less than one academic year subsequent to passing the Second M B & B.S. Examination and before appearing for the Final M.B & B S. Degree Examination, during which year the candidate shall be required to produce evidence of having attended clinical course in a Medical College recognized by or affiliated to this University, and

(d) he passes Part II of the First, and the whole of the Second and Final M B & B S Examinations of this University.

39. Candidates, who have completed their course in Pharmacology before June 1929, but did not appear for the Examination in June 1929 shall be permitted to appear for the examination in December 1929, or any subsequent occasion without further certificates of attendance at College

40. Transitory Regulations—

(1) The Regulation in force prior to 1st July 1926 will continue to be in force for the benefit of candidates who commenced their course under those regulations.

(2) Candidates, who had completed their course in Pharmacology before June 1929, but did not appear for the Examination in June 1929, shall be permitted to appear for the examination without further certificates of attendance at College.

(3) Candidates, who had completed their course in Pharmacology before December 1931 or who had failed in the subject at a previous examination, will be allowed to appear for the examination in this subject in December 1931.

(4) Candidates for the M B & B.S. Degree, who had qualified for the L M & S Degree after a five years' course, shall be exempted from re-examination in the subject in which they had obtained 50 per cent of the marks and from the production of the additional attendance certificates in the other subjects.

(5) The Regulations printed in Vol. I of the Madras University Calendar for 1925-26, relating to courses of study and

examinations for the L M & S Degree shall remain in force for the benefit of candidates who have entered upon their courses of study prior to July 1926, subject to such alteration in the curricula of studies corresponding to those made in the Regulations for the M B & B S Degree in conformity with the recommendations of the General Medical Council of Great Britian in regard to (1) the intervention of three years between the date of passing professional examination in Anatomy and Physiology and that of admission to the Final examination in Medicine, Surgery and Midwifery, and (2) instruction in Bio-Chemistry and Acute Infectious Diseases

SYLLABUS

Pre-Registration Examination

Inorganic Chemistry

Pre-Registration Examination-Inorganic Chemistry

Candidates will be expected to understand the elements of Chemistry included in the syllabus for the Chemistry part of the Intermediate Examination, and in addition to have an elementary knowledge of the following subjects —

The general properties of solids, liquids and gases.

The gas laws and the kinetic theory of gases

The general properties of solutions, including osmotic pressure and the methods of measuring it, both direct and indirect.

Electrolysis and the theory of ionic dissociation, including the theory of hydrogen-ion concentration and its measurement.

The law of mass action and its application to chemical equilibriums.

Colloids, including the effect of surface on chemical actions.

Catalysis and the general conditions of catalytic actions.

Some elementary ideas on the constitution of matter, the classification of the elements and radioactivity.

Practical Examination.

Candidates will be expected—

to be familiar with the ordinary materials and apparatus used in laboratories, and with such operations as filtration, solution, distillation, drying, precipitation, crystallisation, and extraction with immiscible solvents,

to be familiar with the use of a chemical balance and the use and calibration of graduated flasks, pipettes and burettes,

to do easy preparations of inorganic substances,

to purify or to make an intelligent attempt to purify a known substance,

to perform simple quantitative exercises, such as the determination of melting points, boiling points, densities, and the determination of the amount of water in a substance or of the amount of ash left on the ignition of a substance,

to perform any easy gravimetric estimation, for example, a sulphate as Ba SO4 carbon dioxide by direct weighing, chloride-ion as AgCl, calcium as CaO,

to prepare and use in simple volumetric estimations standard solutions of acids, alkalies, permanganate, iodine, thiosulphate and silver nitrate,

to determine the approximate hydrogenion concentration of a given solution by means of indicators,

to attack with intelligence any simple chemical problem, such, for example, as the separation of two known substances and the preparation of a standard solution of a substance that cannot be weighed.

The Examiners will use their discretion as to whether or not books may be allowed for the whole or part of the practical examination.

PHYSICS

Physics.

The whole syllabus is to be treated in an elementary manner and with reference to the subsequent work of the student. The treatment will be mostly experimental and in no case will Mathematics be required beyond elementary algebra and geometry.

General Physics.—Units and measurements of length, mass and time, and the derived units and measurements of velocity, acceleration, force, work and energy, power and efficiency The laws of motion and conditions of equilibrium of bodies under the action of forces Simple machine Uniform circular motion and the centrifuge

The elements of hydrostatics including methods for the determination of densities Elementary principles governing the flow of liquids in rigid and elastic tubes Viscosity and surface tension and their measurements.

Gas laws including the diffusion of gases and elementary ideas of the kinetic theory of matter

Heat.—The effect of heat on bodies including thermometry, dilatation, change of state and calorimetry. Convection, conduction and radiation of heat. The relation between heat and work.

Sound—The production, propagation and reception of sound waves The measurement of velocity, frequency and wave length of sound.

Light.—Outlines of the wave theory of light including interference, diffraction, double refraction and polarization of light. Simple geometrical optics, including reflection and refraction at plane and curved surfaces The range of electromagnetic waves and various kinds of spectra. Optical instruments including the spectrometer, and photographic camera, the eye as an optical instrument, the microscope and the polarimeter.

Electricity and Magnetism.—The elementary facts and phenomena of magnetism and static electricity.

The production of electric currents and the chemical, magnetic and heating effects of them Units and measurements of current strength, potential difference and resistance. Thermo-electric couples.

Electric-magnetic induction and Ruhmkorff's coil, Electric discharge in rarefied gases Cathode and X-Ray.

Practical Physics.—Students are expected to have a practical knowledge of the following subjects —

General.—The use of graphs and diagrams.

Elementary mensuration and mechanics.

The use of a delicate balance, thermo-meters and the barometer.

The use of the vernier, the screw-gauge and the spherometer.

The determination of densities of solids, liquids and gases.

The use of the falling plate, Fletcher's trolley or Atwood's machine to determine g and n

The simple pendulum

The determination of surface tension by (a) the rise in a capillary tube, (b) the surface tension balance.

The comparison of viscosities of liquids.

Heat—The determination of melting and boiling points.

The determination of the co-efficients of expansion of solids, liquids and gases

The determination of specific and latent heats by the method of mixtures and of specific heats by the method of cooling

The determination of the mechanical equivalent of heat.

The use of hygrometers.

Sound.—The use of the sonometer and resonating columns of gases

Light.—The use of Photometers.

The determination of focal lengths of spherical mirrors, thin lenses and combinations of thin lenses.

The determination of the wave length of light by a diffraction granting.

The use of the polarimeter, the spectro-meter and the microscope

Electricity.—The use of electric batteries.

Mapping magnetic fields

The experimental proof of the Laws of Electrolysis.

The measurement of resistance by the meter and the microscope

The comparison of E M F's by (1) Tangent Galvanometer, (2) the Potentiometer

The use of the electrical calorimeter

The measurement of the conductivity of an electrolyte

The use of a Thermo-couple

Biology

Biology

The examination in Biology shall comprise the subjects included in the following syllabuses which are intended only to indicate its general scope and character

General Biology —

The distinctive properties of living and non-living matter.

The difference between animals and plants

The nature and properties of protoplasm

The structure of the cell. Cell division and gametogenesis.

Conjugation and fertilization

Segmentation and formation of germ layers

Structure and function of animal tissues.

B. Botany.—

The structure, life-history, and physiology of Yeast, Bacteria, Penicillium or other mould, Spirogyra, Chara, Fern.

The elements of the morphology and physiology of the Angiosperms embracing (a) the structure (macroscopic and microscopic) of the root, stem and leaf, (b) the structure of a typical flower and modifications of the type; (c) the inflorescence, and the principal types of branching; (d) the structure and development of the seeds and embryo, (e) the principal types of fruits, (f) the dispersal of seeds and embryo (g) the main facts in relation to nutrition, growth and reaction to environment.

The reproduction and life history of Angiosperms.

(' *Zoology.*—

The structure, life history and physiology of amoeba, paramaecium, Euglena, Hydra, Earthworm, Leech, Cockroach and the anatomy of Frog and Rabbit (Only an elementary knowledge of the muscular system of the frog, and the muscular and nervous systems of the rabbit will be required)

An elementary knowledge of the more important types of animal parasites, Protozoan, and Metazoan, such as Entamoeba Trypanosomes, Plasmodium Liver-fluke, Tape-worm, Roundworm, etc.

The leading types of reproduction in animals The main features of the larval history and metamorphosis of the frog, the embryonic membranes and placenta of the foetus of the rabbit

The chief external characters and poison apparatus of the poisonous snakes of South India

Variation, Heredity, Natural Selection, Evolution treated in an elementary manner.

Practical Examination.

Each candidate must be prepared to examine microscopically, to dissect and to describe the specimen of parts of the animals and plans enumerated in the foregoing syllabus with the exception that for the skull of the rabbit will be substituted that of the dog.

First M.B. & B.S. Examination

Organic Chemistry

The examination in Organic Chemistry shall comprise the following:—

The ultimate analysis of organic compounds, and estimation of carbon, hydrogen, nitrogen, sulphur, phosphorous, and the halogens

The determination of empirical, molecular, and structural formulae, and of molecular weights of organic substances.

The constitution and most important reactions and relationships of the following groups of compounds, illustrated in each case by a reference to a few of their most important members:—

Aliphatic series.—

Paraffins Unsaturated hydro-carbons The different classes of alcohols and their derivatives Halogen and nitro-derivatives of the hydro-carbons Aldehydes Ketones Acids Sulphonic acids Simple ethers Esters Amines Phosphines Arsines Amino-acids Amides Nitriles Cyanides Urea

Aromatic series --

Benzene Toluene and their simple derivatives

Phenols with special reference to phenol, pyrocatechol, resorcinol and hydroquinol, Pyrogallol

Benzyl alcohol, Benzaldehyde, benzoic acid, salicylic acid, gallic and tannic acids, phthalic acids, phenolphthalien Glucosides, and Alkaloids

Practical Examination

The detection of the following elements:—Carbon, hydrogen, nitrogen, sulphur, phosphorus and the halogens

Preparation of chloroform and of iodoform from ethyl alcohol and preparation and hydrolysis of an ester and of an amide.

Tests for and reactions of methyl alcohol, ethyl alcohol, glucose, cane sugar, phenol salicylic acid, formates, acetates, oxalates, cyanides, tartarates citrates morphine, strychnine, quinine, cinchonine and urea

The preparation of a fatty acid from a fat The determination of the molecular weight of a fatty acid by titration.

Candidates will be required to bring to the practical examination note books containing record of their previous practical work. These note books must be certified by the teacher of the candidates as being the actual working notes made by them in the laboratory

Examiners will use their discretion as to whether or not the candidates may be allowed books for the whole or part of the practical examination

PHYSIOLOGY (INCLUDING BIO-CHEMISTRY)

First M. B. B.S. Examination. Physiology.

Muscle and Nerve.—

Use of induction apparatus—structure and properties of muscle—effects on contraction of load and fatigue—chemical, thermol, and electrical changes in muscle—conduction in nerve -- Polarisation phenomena in nerve—reaction of degeneration.

Central Nervous System.—

Reflex action in 'Spinal' frog and in man. Structure and functions of the Spinal cord. Spinal mechanism of co-ordinated movements.

Structure and functions of the Brain Stem Connections and functions of cranial nerves.

Cerebellum.

General structural arrangements of the Cerebrum and its functions Cerebal localisation.

Autonomic nervous system.

Special senses.—

Muller's law of Specific irritability of nerves.

Structure of the eye-ball Light reflex. Mechanism of accommodation Refraction of the eye Common optical defects. Use of ophthalmoscope. Perimeter Retina and its connections Formation of retinal images Colour vision and contrast.

Structure of auditory apparatus Auditory sensations. Labyrinthine impressions.

Use of Laryngoscope.

Cutaneous sensations Gustatory and olfactory sensibility.

Digestion.—

Secretion and properties of the digestive juices and bile

Movements of the stomach and intestines.

Absorption of foodstuffs.

Metabolism.—

Metabolism of proteins, fats and carbohydrates Glycosuria Estimation of Metabolism Nitrogen, balance Influence of work and starvation on Metabolism Normal Diet

Temperature of man and its regulation.

Blood.—

Red and white blood corpuscles, their origin, life history and functions, Haemoglobin and its derivatives, Haemolysis. Coagulation Reaction of blood. Estimation of volume of blood, corpuscles and Haemoglobin.

Circulation.—

Physiological anatomy of the Heart and action of valves. The mechanism of heart pump Causation of heart beat Properties of cardiac muscle Factors influencing the activity of cardiac muscle Output of heart The nervous regulation of the heart Heart reflexes

Blood pressure Velocity of blood. Pulse. Capillary circulation Vasomotor mechanism Chemical regulation of bloodflow. Influence of exercise on circulation.

Lymph and its formation Lymphagogues.

Respiration.—

Mechanics of Respiratory movements Chemistry of respiration Regulation of respiration Effect of changes in the air breathed Estimation of total respiratory exchange and of composition of expired and alveolar air.

Excretion.—

Urine, its composition and characters Secretion of Urine Physiology of Micturition.

Skin and skin glands Their structure and functions.

Ductless glands—

The Physiology of reproduction.

Secretion and properties of Milk.

Histology.—

Preparation of specimens of normal tissues, either fresh or previously prepared, so as to demonstrate their minute structure.

Application of the commoner histological methods.

Recognition and description with diagrams, of microscopic preparations of any normal tissue.

Practical Physiology

The methods employed for the demonstration of fundamental physiological processes and performing simple experiments

Bio-Chemistry.—

I. The Chemistry of Food—

(a) Inorganic,

(b) Organic Chemistry of Proteins, fats and Carbohydrates,

(c) Vitamins.

II. The Chemistry of digestion and absorption in man.

III. Metabolism—General and special.

IV. The Chemistry of Respiration and acidosis.

V. The Chemistry of Blood and Lymph.

VI. The Chemistry of urine and faeces.

VII The Chemistry of internal secretions.

Practical Bio-Chemistry.—

Properties and Re-actions of—

(a) Carbohydrates·

Glucose, Levulose, Maltose, Lactose, Cane-sugar, Starch, Glycogen and Dextrins

(b) Fats—olive oil, oleic acid and palmitic acid, glycerol and cholesterol

(c) Proteins—Albumin and Globulin, Metaproteins—

—Proteoses—Peptones, amino acids and mucin, gegelatin, and casein.

Estimation of Carbohydrates, Glucose, Levulose, Maltose, Lactose.

Estimation of amino-acids.

Properties of Digestive Enzymes—Bile—analysis of Gastric contents

Qualitative tests and properties of blood and urine

Quantitative Estimation of chlorides, urea, Sugar, Non-Protein-Nitrogen, createnine and uric acid in Blood, and chlorides, sulphates, Phosphates, urea, sugar createnine, Ammonia acidity and uric acid in urine.

Estimation of alveolar carbon-di-oxide by Fredericia's method.

PHARMACOLOGY

Pharmacology

The course in Pharmacology consists of lectures, demonstrations in experimental pharmacology and practical pharmacy, the aim being to impart a general knowledge of the mode of action of drugs treated from an experimental point of view.

The lectures are devoted chiefly to the discussion of the effect of drugs and poisons on the tissues of man and animals and how these effects may be utilised to relieve or cure disease. The total number of lectures shall not be less than 35 The general scheme of the lectures shall be as follows:—

The mode of action of drugs treated from an experimental stand-point.

Pharmacology of the Central Nervous System.—

Alcohol; General anaesthetics; Hypnotics of the methane series, Bromides, Opium and Cannabis indica

The Caffeine group Camphor; strychnine.

Peripheral Nervous action Curage group; nicotine group;

Belladonna group, pilocarpine group Aconite and Veratine.

Local Anaesthetic —Cocaine and its substitutes; Hydrocyanic acid

Pharmacology of the Genito-Urinary system –

Diuretics and urinary antiseptics

Ergot, Hydrastis,

Gland Secretions.—

Adrenalin, Pituitary extract; Thyroid extract, Parathyroids and Insulin

Pharmacology of the Circulation —

Digitalis group

Pharmacology of the Vessels.—

Vaso-constrictors and Vaso-dilators

Pharmacology of respiration —

Stimulants, Depressants Anti-spasmodics, Expectorants, Saponins, Ipecacuanha, Respiratory disinfectants

Pharmacology of the Alimentary Canal.—

Bitters, Volatile oils, Purgatives, Astringents, Emetics, Enthelminitics

Pharmacology of Temperature regulation.—

Anti-pyretics, Salicylates

Drugs acting on the excretion of Uric Acid —

Colchicum; Atophan.

Skin irritants and Counter-irritation —

Antiseptics and disinfectants

Drugs acting on metabolism.—

Phosphorus.

Specific Therapy.—

Cinchona alkaloids, Mercury, Arsenic, Bismuth; and Antimony.

Ion action and Salt action.

Certain Positive ions

Hydrates and Carbonates of the Alkalies Soap

Certain Negative ions.

Acids.

General action of heavy metals.—

Iron Silver, Zinc, Copper, Lead, Aluminium, Manganese, Chromium, Gold Radio-active metals

Ferments Sweetening agents, Demulcents and Emollients

Vitamins.

Prescription writing, Incompatibility, Synergism, Antagonism.

The physical and chemical properties of the drugs considered only in so far as they concern their action and the methods of administration A selection of the more important pharmaceutical preparations

Demonstrations in Experimental Pharmacology shall be used to illustrate the lectures as far as practicable, and for this purpose the class shall be divided into sections so that each student may see some of the effects of drugs actually occurring. The total number of demonstrations to each batch shall not be less than 25

Instruction in Practical Pharmacy shall be given in batches, the total number of meetings for each batch, shall be not less than 20 In the practical class the student shall be instructed to prescribe some of the more important drugs dealt with in the lectures, and to dispense his prescriptions.

Final M.B & B.S. Examination

Mental Diseases

Final Exam. Mental Diseases.

The course of mental diseases shall comprise instruction in the following types of disorder:—

(i) Failure of Mental Development,
Idiocy, Imbecility, Weak-mindedness

(ii) Mania—Depressive Insanity
Mania, Melancholia; Stupor, Alternating and Circular conditions.

(iii) Delusional Insanity and Paranoia

(iv) Dementia—
Primary or Adolescent (D praecox); Consecutive or Termin, Organic, Para-Syphilitic (G.P I), Senile.

(v) Insanity due to drugs—
Alcohol, Indian Hemp; Opium and its derivatives; Cocaine, Lead

(vi) Epileptic Insanity

(vii) Hysteria and Psychasthenia

(viii) Exhaustion Psychoses—

Post Febrile Insanity; Acute Delirium; Neurasthenia.

(ix) Epochal Insanities—
Insanity of Puberty and Adolescence, Insanity of the child-bearing period, Insanity of Climacteric; Insanity of old age.

(x) Mental disorder, associated with physical diseases—
Diseases of the Thyroid Gland, Polioencephalitis Syphilis, Tubercle, Nephritis, Diabetes and Gout.

(xi) The Medico-Legal and Social relationships of Insanity.

(xii) General Treatment.

CHAPTER XLVI

ORIENTAL TITLES AND CERTIFICATES OF PROFICIENCY

Examination

1. There shall be an examination in Oriental Learning with a *compulsory division* for Titles and an *optional division* qualifying for Certificates of Proficiency in the modern methods of study.

I. COMPULSORY DIVISION FOR TITLES.

2. The titles shall be as follows —

Names of Titles.

Vidya Praveena added to Mimamsa, Vedanta, Nyaya, Vyakarana or Sahitya according to the special branch of study selected by the candidate who has offered for his examination Sanskrit alone,

Ubhayabhasha Praveena in the case of a candidate who has offered for his examination either (a) Sanskrit and any one of the following languages, Telugu, Kannada and Oriya, *or* (b) Telugu, Kannada or Oriya as the main language with Sanskrit as a subsidiary language, or (c) Telugu and any other Dravidian Language.

**Alim-i-Fazil* in the case of a candidate who has offered for his examination Arabic alone.

**Munshi-i-Kamil* in the case of a candidate who has offered for his examination Persian as the principal language, and Urdu as the subsidiary language, and also possesses an elementary knowledge of Arabic Grammar.

Subjects.

3. Candidates for the *Vidya Praveena* title shall offer for their examination Sanskrit alone, and those for the *Ubhayabhasha Praveena* title *either* (a) Sanskrit and any one of the following languages, Telugu, Kannada and Oriya, *or* (b) Telugu, Kannada or Oriya as the main language with Sanskrit as a subsidiary language, or (c) Telugu and any other Dravidian Language.

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* No examinations for Alim-i-Fazil and Munshi-i-Kamil Titles will be held after April 1933, as there will be no recognised institution presenting candidates for the examinations from 1934.

Candidates for the *Alim-i-Fazil* title shall offer for their examination Arabic alone; and those for the *Munshi-i-Kamil* title Persian as the principal language and Urdu as the subsidiary language.

Course of Studies—Four years.

4. The course of studies for the examination for Titles shall extend over four years and shall be taken in an institution or institutions approved by the Syndicate.

Examination—Preliminary and Final.

5 The examination for Titles shall be divided into two parts, viz,—preliminary and final—the preliminary examination in a specified portion of the course at the end of the second year and the final in the remaining portion of the course at the end of the fourth year No candidate shall be admitted to the final examination until he has passed the preliminary examination.

5-A. Candidates who have qualified under the regulations of this Chapter for Titles in Oriental Learning may continue their studies under the same regulations in order to qualify further (i) for the same title in an additional branch or branches, or in an additional Language, or in additional Languages, or (ii) for other Titles under the following conditions:—

GENERAL

i. No candidate who has qualified for a Title will be admitted to any further examination for a Title, except after the expiry of one year from the date of passing the last preceding qualifying examination, provided that candidates who have qualified for (1) the Vidya Praveena Title in any of the three South Indian Schools of Vedanta included in Branch II or (2) one of the titles in Arabic or Persian shall be admitted to a further examination (a) in any other South Indian School of Vedanta, or (b) in the other title in Arabic or Persian after the expiry of one year from the date of passing the last preceding qualifying examination.

ii. Application for exemption from the production of the prescribed certificates shall be forwarded so as to reach the Registrar before the 1st October preceding the examination.

iii. No candidate who has already proceeded to a Title and has been awarded his Diploma shall be admitted at Convocation a second time to the same Title, notwithstanding that he may have qualified in an additional Branch or in an additional Language. an endorsement will be made upon his Diploma setting forth the further examinations passed by him, the dates of such examinations and the class in which he was placed

iv. The provisions of Regulation 14 of this Chapter shall apply to all examinations held under this Regulation which shall, for the purpose of this regulation be deemed to be equivalent to either the Preliminary or the Final Examination for a Title, as the case may be.

SPECIAL

i *Vidya Praveena*

A candidate who has qualified for the Title of Vidya Praveena in any one of the special branches of study may further qualify in any other branch by passing in one and the same year an examination in such branch consisting of the question papers set that year in the special part only for both the Preliminary and Final Examinations in that branch provided that, in the case of candidates who have already qualified in one f the three South Indian Schools of Vedanta and seek to qualify in any other South Indian School of Vedanta, such further examination in the special part alone shall consist only of all papers except that relating to (b) in the Preliminary Examination.

ii. *Vidya Praveena and Ubhayabhasha Praveena.*

A candidate who has qualified for the Title of Vidya Praveena may further qualify for the Title of Ubhayabhasha Praveena by passing the examination for that Title in accordance with the regulations, provided that such a candidate who offers for his examination Sanskrit and a Dravidian language shall be exempted from examination in Sanskrit and shall be permitted to take the whole examination in the Dravidian language in one year, and may qualify for the Title Ubhayabhasha Praveena by passing the examination in that language: provided also that such a candidate who offers for his examination two Dravidian

languages and is exempted by the Syndicate from the production of the required certificates shall be permitted to take the Preliminary and Final Examinations in successive years.

iii. *Ubhayabhasha Praveena*

A candidate who has qualified for the Title of Ubhayabhasha Praveena may qualify in an additional language or in additional languages by passing the examination in such language or languages according to the regulations A candidate who offers one additional language only may take the whole examination in that language in one year, and a candidate who offers for his examination two Dravidian languages and is exempted by the Syndicate from the production of the required certificates shall be permitted to take the Preliminary and Final Examinations in successive years.

Candidates desiring to qualify in an additional Dravidian language may offer either of the course in that language detailed in Regulation 7 of this Chapter

A candidate who has qualified for the title of Ubhayabhasha Praveena Part A examination under Regulation 7-A of the course, may, in accordance with the regulations, further qualify himself for the same title in Part B after the expiry of one year by passing the examination in accordance with Regulation 7-B of the course subject to the following conditions —

i that he shall not be required to pass the Entrance test prescribed for the Ubhayabhasha Praveena Part B of the course;

ii that he shall take the vernacular which he has taken under Part A for the Part B examination also, and

iii that he shall take the whole examination (both Preliminary and Final) in one and the same examination

iv *Ubhayabhasha Praveena and Vidya Praveena*

A candidate who has qualified for the title of Ubhayabhasha Praveena under Regulation 7-A, i e, Part A, may further qualify himself for the title of Vidya Praveena Sahitya Branch after the expiry of one year by passing the examination for that title

in accordance with the regulations subject to the following conditions.-

i. that he shall not be required to pass the Entrance test prescribed for the Vidya Praveena Sahitya Branch; and

ii. that he shall answer all the papers of both the Preliminary and Final examinations in the same year, provided that a candidate who secured in Sanskrit at the Ubhayabhasha Praveena examination, Part A, 30 per cent of the total marks prescribed therefor, shall be exempt from answering the corresponding papers when he appears for Vidya Praveena examination.

6 *Vidya Praveena.*

Vidya Praveena Course of Studies.

i The course of studies shall be as follows —

A. General Subject.

(a) The History of Sanskrit Language and Literature.

(b) Prescribed text-books

B Special Subject.

ii. *For the preliminary examination*, the course in the general part shall comprise—

(a) Prescribed text-books relating to the elements of Vyakarana for candidates taking up Branches I, II and III only, of Tarka for candidates taking up Branches IV and V only and of Mimamsa for all

(b) Prescribed text-books chosen from among the Mantras, the Brahmanas, the Upanishads, the Grihya and Dharma Sutras and the Smritis.

For the final examination, the course in the general part shall comprise the History of Sanskrit Language and Literature.

iii. The course in the special part shall consist of one of the following branches of study taken by the candidate:—

Branch I —Mimamsa Group

For the preliminary examination, prescribed text-books relating to Purvamimamsa, Veda, Srauta and Dharmasastra.

For the final examination, (a) prescribed text-books relating to Purvamimamsa. (b) The application of Mimamsa to Vedic exegesis and to the proper comprehension of the social and the legal aspects of the Dharmasastras.

Branch II.—Vedanta Group

For the Preliminary Examination, (a) prescribed text-books relating to the *Bhasya Prasthana* of one of three South Indian Schools of Vedanta, viz, Advaita, Visistadvaita and Dvaita; and (b) prescribed text-books relating to Yoga, Sankhya and the elements of the three South Indian Schools of Vedanta.

There shall be two papers, one on (a) and the other on (b).

For the Final Examination, (a) prescribed text-books relating to the *Bhasya Prasthana* of one of the three South Indian Schools of Vedanta, viz, Advaita, Visistadvaita and Dvaita; and (b) prescribed text-books relating to the *Vada Prasthana* of one of the three South Indian Schools of Vedanta.

There shall be two papers on the books prescribed under (a) and one paper on the books prescribed under (b).

Branch III —Nyaya Group

For the preliminary examination, prescribed text-books relating to the Nyaya and Vaisesika Darsanas including select portions of Purvavada.

For the final examination, prescribed text-books relating to Nyaya and Vaisesika Darsanas including select portion of Uttaravada and of the Sabdabodha works in Nyaya and Mimamsa.

Branch IV —Vyakarana Group

For the preliminary examination, prescribed text-books relating to advanced Vyakarana including select portions of standard commentaries on the *Sidhantakaumudi.*

For the final examination, prescribed text-books relating to advanced Vyakarana, including Sabdabodha works in Vyakara-

na and select portion of the *Mahabhasya* and standard commentaries on the *Sidhantakaumudi.*

Branch V.—Sahitya Group

For the preliminary examination, prescribed Kavyas and Natakas and a simple work in Poetics

For the final examination, prescribed text-books relating to Grammar including Prakrit Grammar, Prosody and Poetics, and (b) prescribed text-books of an advanced character, relating to Alankara Sastra.

iv *Vidya Praveena Examination* —

(a) In the *preliminary examination* there shall be in the general part two papers on the prescribed text-books, and, in the special part, two papers on the prescribed text-books.

(b) In the *final examination* there shall be in the general part one paper on the History of Sanskrit Language and Literature and in the special part there shall be three papers on the prescribed text-books.

Ubhayabhasha Praveena-Course of Studies

7 A *Ubhayabhasha Praveena with Sanskrit and any one of the following languages, Telugu, Kannada and Oriya.*

i *Sanskrit*—

The course shall be—

For the preliminary examination, prescribed Kavyas, Natakas, a simple work in Poetics and a prescribed portion in Grammar The text-books prescribed under this head shall as far as possible be the same as those prescribed for the preliminary examination under Branch V Sahitya Group—Vidya Praveena course.

For the final examination, (a) History of Sanskrit Language and Literature, and (b) prescribed text-books relating to grammar including Prakrit Grammar, Prosody and Poetics. The text-books prescribed under this head shall be the same as those prescribed under (a) for the Sahitya Vidya Praveena final examination.

ii. *Vernacular Language.*

The course shall be—

For the Preliminary Examination.

(a) Prescribed text-books in Poetry and Prose and prescribed text-books relating to Grammar, Prosody and Poetics, and

(b) Vernacular Composition.

For the Final Examination.

Prescribed text-books in Poetry and Prose and prescribed text-books relating to Grammar, Prosody and Poetics

iii. *Ubhayabhasha Praveena Examination.*

(a) In the *Preliminary Examination* there shall be one paper on the prescribed vernacular text-books in Poetry and Prose, one paper on the prescribed vernacular text-books relating to Grammar and Prosody and in Vernacular Composition and two papers on the prescribed Sanskrit text-books. The last-mentioned papers shall as far as possible be the same as the papers on the text-books prescribed for the preliminary examination under the special part of the Sahitya Vidya Praveena course.

(b) *In the Final Examination, there shall be—*

(i) A paper on the prescribed Sanskrit text-books.

(ii) A paper on the History of the Sanskrit Language and Literature.

N.B.—(1) This paper shall be the same as the corresponding paper for the Vidya Praveena examination.

(iii) Two papers on the prescribed vernacular text-books.

N.B.—(1) The scope of each paper will be defined by the Boards of Studies concerned.

(2) The first paper on the text-books prescribed for the Sahitya Vidya Praveena final examination shall be identical

with paper (1) comprised in the Ubhayabhasha Praveena final examination and shall be on the text-books prescribed under (a) for the Sahitya Vidya Praveena final examination. The second and third papers on text-books for the Sahitya Vidya Praveena Final Examination shall be on those prescribed therefor under (b).

B *Ubhayabhasha Praveena with Telugu, Kannada or Oriya as the Main Language and Sanskrit as a Subsidiary Language*

i. *The Selected Language*—

The course shall be—

For the Preliminary examination, (a) prescribed text-books in Poetry and Prose, (b) prescribed text-books relating to Grammar, and (c) Composition

For the final examination, (a) prescribed text-books in Poetry, (b) prescribed text-books relating to Advanced Grammar, Prosody and Poetics, (c) History of Language and Literature.

ii. *Sanskrit*—

The course shall be—

For the preliminary examination, (a) prescribed texts in simple poetry and prose, (b) Elementary Grammar taught in relation to (a); (c) Translation from Sanskrit into the selected Language.

For the final examination. (a) prescribed text-books in Kavyas and Natakas; (b) Elementary Prosody and Poetics taught in relation to (a).

iii. *Ubhayabhasha Praveena Examination*—

(i) In the *preliminary examination* in the selected Language there shall be two papers on the prescribed text-books in Poetry and Prose and those relating to Grammar and one paper on Composition In Sanskrit there shall be one paper of two parts the first containing questions on Sanskrit Grammar and

Poetry and Prose text-books and the second containing passage or passages for translation from Sanskrit into the selected Language.

(ii) In the *final examination* in the selected Language there shall be one paper on poetry text-books, one paper on text-books relating to Advanced Grammar, Prosody and Poetics, and one paper on History of Language and Literature. In Sanskrit there shall be one paper containing questions on text-books

The standard required in Sanskrit shall not be higher than that required for that language taken as an optional subject in Part II of the Intermediate Examination.

C. *Ubhayabhasha Praveena with Telugu and any other Dravidian Language.*

The course in each language, the text-books prescribed and the examination therein shall be identical with those prescribed for the same language when offered along with Sanskrit for the Ubhayabhasha title, provided that a candidate who offers two languages shall, at the end of the second year of his course, take his preliminary examination in one of the two languages by answering all the four question papers in that language as set forth under 7-A iii supra for the preliminary and final examinations, and that he shall, at the end of the fourth year of his course ,take his final examination in the other language by adopting a similar procedure.

Alim-i-Fazil-Course of Studies.

8 The following shall be the course of studies in Arabic for the title *Alim-i-Fazil*:—

Preliminary.—

The course of study shall consist of—

I. Tafsir and Hadith.

II. Fiqh, Aqaid and Mantiq

III. Prose Text-books.

IV. Poetry Text-books.

V. History.

VI. Translation from Arabic into Urdu and from Urdu into Arabic.

Text-books will be prescribed from time to time.

Final.—

The courses of study shall consist of—

I. Tafsir and Hadith and Ilmul Hadith.
II. Fiqh, Usulul-Fiqh
III. Prose Text-books.
IV. Poetry Text-books.
V. History.
VI. Translation from Arabic into Urdu and from Urdu into Arabic.
VII. Mantiq and Balaghat
VIII Composition.

Text-books will be prescribed from time to time

Munshi-i-Kamil-Course of Studies.

9. The following shall be the course of studies for the title *Munshi-i-Kamil*:—

Preliminary.—

The courses of study shall consist of Persian as the main language and Urdu as a subsidiary language together with a text-book in Arabic.

Persian as the main subject will include—

I. Persian Prose.
II. Persian Poetry.
III. Translation from Persian into Urdu and *vice versa*.
IV. Composition in Persian.

Urdu as the subsidiary subject will include—

I. Urdu Prose.
II. Urdu Poetry.

Text-books will be prescribed from time to time.

Questions on Grammar may be put in the examination paper on the text-books.

Final.—

The courses of study shall consist of Persian as the main language and Urdu as a subsidiary language, together with a text-book in Arabic.

Persian as the main subject will consist of—

I. Persian Prose.
II. Persian Poetry.
III. Translation from Persian into Urdu and *vice versa*.
IV. History of Persian Language and Literature
V. Composition in Persian.

Urdu as the subsidiary subject will consist of—

I. Urdu Prose.
II Urdu Poetry.

Text-books will be prescribed from time to time.

Questions on Grammar may be put in the examination papers on the text-books.

Answering of papers.

10. All the papers in the examination for titles shall be set and answered in the respective languages to which they relate provided that papers in Sanskrit as the subsidiary language for the Ubhayabhasha Praveena course mentioned under 2 (b) in this Chapter shall be set in Sanskrit and answered in the respective main languages of the candidates. Devanagari script shall be used for Sanskrit

Admission test Vidya Praveena & Ubhayabhasha Praveena.

11. No person shall be permitted to enter upon any of the foregoing Vidya Praveena and Ubhayabhasha Praveena Part A course of study unless he has passed the admission test conducted by the Education Department and obtained from the department a certificate of fitness for admission to the course he proposes to take up.

In the case of candidates selecting courses of study for Ubhayabhasha Praveena Part B, the admission test shall consist of the two papers in the concerned modern Indian Language as an advanced second language set under Part III of the Intermediate Examination in Arts and Science, and the first paper on prescribed text-books in Sanskrit set under Part II of the same examination In the latter paper i e paper for Sanskrit, the questions shall be rendered into Sanskrit and answered in the selected modern language.

In the case of candidates selecting courses of study for Ubhayabhasha Praveena—Part C, the admission test shall consist of two papers in each of the languages set for the concerned advanced second languages under Part III of the Intermediate Examination in Arts and Science.

Candidates obtaining not less than 35 per cent of the total number of marks in each of the two languages selected and 40 per cent in the aggregate shall be certified eligible for admission. A candidate who has appeared for the Intermediate Examination and has obtained the required passing minima in the above language papers shall be admitted to the Ubhayabhasha Praveena courses without any further admission test, provided the candidate selects for the Ubhayabhasha Praveena course the particular languages in which he has passed the Intermediate Examination.

A candidate who has appeared for the Intermediate Examination and has passed in one of the selected languages forming part of the courses for the entrance test, shall be exempted from passing that part again and shall be required to pass only the part in which he has not already passed

Notwithstanding anything to the contrary contained in the above Regulations, the existing sub-para of Regulation 11 will remain in force for the benefit of candidates who have qualified themselves for admission to course of study for Ubhayabhasha Praveena Parts B and C—by passing in the required papers under the old Intermediate Examination

Notwithstanding anything to the contrary contained in the above Regulations, the Syndicate shall have power to recognize as equivalent to the whole or part of the prescribed entrance tests any examination in one or more languages passed by candidates seeking to enter on a course of study prescribed for the Ubhayabhasha Praveena parts B and C provided that such an examination is at least equal in standard to the Intermediate Examination in the concerned Languages

Admission test Munshi-i-Kamil and Alim-i-Fazil,

11-A. No person shall be permitted to enter upon Munshi-i-Kamil and Alim-i-Fazil Courses of Study unless he has passed the prescribed admission test.

In the case of candidates selecting courses of study for Munshi-i-Kamil the text-books shall be the same as those prescribed for Persian and Urdu as an advanced second language under Part III of the Intermediate Examination There will be two papers, each of 3 hours' duration. The first paper shall be on prescribed text-books in Urdu including Translation from Urdu into Persian. The second paper shall be on prescribed text-books in Persian including Translation from Persian into Urdu.

In the case of candidates selecting courses of study for Alim-i-Fazil, the text-books shall be the same as those prescribed for Arabic as an advanced second language under Part III of the Intermediate Examination There will be two papers, each of 3 hours' duration The first paper shall be in the prescribed text-books in Arabic and Grammar The second paper shall consist of questions on Translation from Arabic into Urdu and *vice versa* with a question on Composition in Arabic

Answering of papers.

The answers in respect of these admission tests should be written in Urdu.

Candidates obtaining not less than 35% of the marks in each of the two papers and 40 % of the marks in the aggregate shall be certified eligible for admission

Certificate of fitness.

No person shall be permitted to enter upon the courses of study prescribed for the titles *Alim-i-Fazil* and *Munshi-i-Kamil*, unless he has obtained a certificate of fitness from the head of the approved institution which he proposes to enter

Approval of institutions

12. The Syndicate shall be empowered to approve, for the purpose of the examination, such institutions as in its opinion are duly qualified to provide efficient instruction in one or more of the courses prescribed and also to withdraw such approval if at any time it thinks fit to do so.

Applications for approval.

All the applications for approval under this Regulation shall be referred for opinion to the Boards of Studies concerned before they are finally disposed of by the Syndicate.

Exemption from certificates.

13. The Syndicate shall have the power to grant exemption from the production of either or both of the annual certificates of attendance required by candidates for the Oriental Title Examinations, provided that the candidate—

(1) is at the time of the examination at least twenty five years of age, subject to the provision that women candidates shall be exempted from the operation of this age rule, and

(2) is certified by the head of an approved institution, or by a member of the Board of Studies dealing with the subject or language offered for the examination, or by a Mahamahopadhyaya or a Shamsul-ul-ulama or by any other competent scholar recognised by the Syndicate, to be qualified by his attainments to appear for the examination in the following form:—

Certificate for exemption.

I hereby certify that, to the best of my knowledge and belief will have completed his twenty-fifth year before the date of the next Oriental Title Examination, and that he is qualified by his attainments to appear for the examination.

Station.

Date *Signature and designation.*

Applications for exemption under this regulation must be forwarded so as to reach the Registrar before the 1st October preceding the examination.

Marks qualifying for a pass.

14. A candidate shall be declared to have passed the preliminary examination if he obtains not less than forty *per cent* of the total marks in that examination. A candidate shall be declared to have passed the final examination if he obtains not less than forty *per cent* of the total marks in that examination. All other candidates shall be deemed to have failed.

Successful candidates in that examination shall be arranged in three classes:—

Classification of successful candidates.

The first, consisting of those who obtain not less than sixty *per cent* ranked in the order of proficiency as determined by the total marks obtained by each; the second, of those who ob-

tain not less than fifty *per cent* ranked in the order of proficiency as determined by the total marks obtained by each; and the third, of those who obtain less than fifty *per cent* of the total marks.

II. CERTIFICATE OF PROFICIENCY IN ORIENTAL LEARNING

Subjects for Examination.

15 Candidates for certificates shall offer for their examination one of the following subjects —

(1) Literary criticism as applied to Sanskrit Literature according to a syllabus.

(2) Indian Philosophy in its relation to Western Philosophy, according to a syllabus,

(3) Indo-European Philology with special reference to Sanskrit, according to a syllabus

(4) South Indian Languages and Literatures in their bearing on Ancient Indian History and Culture.

(5) Hindu Law and Jurisprudence

(6) Muhammadan Law and Jurisprudence

(7) Literary Criticism as applied to Arabic or Persian Literature according to a syllabus

(8) Arabian Philosophy in its relation to Western Philosophy, according to a syllabus

(9) Semitic Philosophy—for Arabic, and Indo-Persian Philology with special reference to Persian—for Persian, according to a syllabus

Course of Studies—two years.

16 The courses of studies for the examination shall extend over a period of two years and shall be taken in an institution or institutions approved for the purpose by the Syndicate.

Papers set and answered in English.

17. The question papers in the examination for certificates shall be set and answered in English

Day of Examination.

18 The examination for certificates shall follow immediately after the Final Examination for Titles in Oriental Learning

Admission.

19. No candidate shall be admitted to the examination for certificates until the expiry of two years from the date of his appearing for and passing the preliminary examination for Titles.

Approval of Institutions.

20. The Syndicate shall be empowered, after reference to the Board of Studies in Sanskrit, or in Arabic as the case may be, to approve for the purpose of the examination for certificates such institutions as in its opinion are duly qualified to provide efficient instruction in accordance with the syllabuses prescribed for the several optional subjects of the examination and also to withdraw such approval if at any time it thinks fit to do so.

Exemption.

21 Applications for exemption from the production of the prescribed certificate shall be forwarded so as to reach the Registrar before the 1st October preceding the examination

Candidates may qualify for another optional.

22 Candidates for certificates, who have passed the examination for Titles and have satisfied the Examiners in one optional subject, may present themselves for examination in another optional subject after an interval of two years without further attendance in an approved institution

Duration of paper

23 In each subject for examination for certificates there shall be one paper of three hours' duration, which candidates shall be required to answer on the morning of the day following the final examination for Titles

SYLLABUSES

VIDYA PRAVEENA—FINAL EXAMINATION

HISTORY OF SANSKRIT LANGUAGE AND LITERATURE

(A) History of Sanskrit Language

1 GENERAL

I Nature, scope and utility of the Science of Language.

II Language—Theories of its origin Is language the creation of God or the acquisition of man?

III. The three chief elements of language—Varna Pada and Vakya The Vakya Sphota theory of Indian Grammarians.

IV. The mechanism of speech The production and classification of speech-sounds The phonetic description of the several speech-sounds.

V. The morphological classification of languages—Radical or isolating, Inflectional, (agglutinating and amalgamating) and Analytic

VI The genealogical classification of languages The Primitive Indo-European family of languages The Aryan sub-branch The place of Sanskrit therein.

VII. Linguistic change—Lopa, Adesa, Agama and Vyatyaya of Varnas Its causes—economy, clearness and analogy.

VIII. Sematology—change in meaning and its causes.

IX. Speech and writing. The evolution of script.

X. Syntax

*2. Phonology

1. Vowel-system in Sanskrit and its relation to P.I.E.

II. Vowel-gradation in Sanskrit—Guna, Vrddhi and Samprasarana.

III. Consonantal system in Sanskrit and its relation to P.I.E. consonantal system Centum and Satam divisions in P I E languages.

IV. Quantity and accent.

V. Sandhi—External and internal. Historic Survivals in Sandhi.

3. Morphology.

I. **Root, stem, suffix,** prefix and infix. **Formative suffixes:—**

(a) Primary—Krit. (b) Secondary Taddhita and **Stripratyaya**.

Note :—The several topics noted from under phonology onwards shall be studied in relation to the various stages of the Sanskrit Language namely the Vedic, Arsha and Classical.

II. Formation of Compounds.

III. Philological treatment of numerals and comparison of adjectives.

IV. Declension—Nominal, adjectival and pronominal; grammatical, gender, number, case and case-endings. Classification of declensions according to suffixes of the stems, vowels and consonant stems Uses of cases

V. The verb voice, mood, tense, argument, reduplication, stem, conjugational signs Present, perfect, aorist and future systems in Sanskrit Model formations. Periphrastic formations Derivative verbs—causative, denominative, desiderative and intensive.

VI The adverb. 1 Infinitives 2 Indeclinable past participles. 3. Other indeclinables

(B) History of Sanskrit Literature

I *Introduction.* The scope and importance of the History of Sanskrit Literature.

II *Vedic Literature* 1 Its chief characteristics 2 The three main divisions—Samhitas, Brahmanas and Aranyakas and Upanishads. 3. The poetry of the Vedas. 4 Civilisation in the Vedic age. 5 Religion and Philosophy of the Vedas.

III. *Arsha Literature.* 1 Its chief characteristics 2. Sutras, Vedangas, Sastraic sutras. Puranas, Ithihasas. Smrtis and Tantras

IV. *Classical Literature.*

Two main divisions—Kavya and Sastra

(1) Kavya Literature.

Sravya Kavya—Two fold classification (a) Gadya (b) Padya (c) Champu or (a) Historical (b) Romance (c) Fable (d) Lyric (e) Didactic

Gadya—Origin of Gadya Literature. Development of Gadya Literature. Dandin, Subandhu, Bana and later writers.

Padya—The predecessors of Kalidasa Kalidasa and later writers.

Champu—Its origin and development

Drsya Kavya—Rupakas and Uparupakas The origin of the Sanskrit Drama The development of Sanskrit Drama Asvaghosha and Sariputraprakarana. Bhasa -The authenticity of his dramas The predecessors of Kalidasa Sudraka Kalidasa, Sri Harsha, Bhavabhuti, Visakhadatta Bhattanarayana, Murari and Rajasekhara Their successors The decline of Sanskrit Drama

(II) Sastra Literature

(1) Grammar Paninean and other systems

(2) Prosody Pingalanaga and later writers

(3) Poetics the several schools of thought in regard to the soul of Poetry Bharata, Bhamana, Dandin, Vamana, Ananda Vardhana, Mammatta and later writers.

(4) Lexicography

(5) Jyotisha.

(6) Ayurveda.

(7) Dharma Sastra.

(8) Artha Sastra.

(9) Kama Sastra.

(10) Darsana--Astika and Nastika.

CERTIFICATES OF PROFICIENCY IN ORIENTAL LEARNING

The following syllabuses, for the subjects of the Optional division for Certificates of Proficiency in modern methods of study as applied to Oriental Learning, have been prescribed:—

SYLLABUSES

I. LITERARY CRITICISM AS APPLIED TO SANSKRIT LITERATURE

1. *The fundamentals of Sanskrit Poetics*

(a) Standard of literary taste

(b) The general characteristics of literature.

(c) Theories of style, its kinds in relation to sense—(*Vritti, Riti, Sayya* and *Paka*)

(d) The doctrine of *Rasa.*—
The theories of Rasa The different classes of Rasa and their nature. The significance of the Rasa doctrine in literary criticism The Rasa doctrine as the central theme of the Psychology and Philosophy of literary criticism.

(e) Literary merits and blemishes.

(f) Figures of speech—their literary value.

2. *The History of Sanskrit Poetics*—

Pre-dhvani schools. The development of the *Dhvani* school. The anumana school The development of figures of speech.

3. The Kavya kinds—their characteristics and development.

4. ***Sravya-kavya***—

(a) Prose—Development of prose Kinds of prose-style —(description, narration, exposition and persuasion)

(b) Poetry—Epic, Lyric, Didactic, Satire, Elegy, Devotional poems.

(c) Campus.

5. ***Drsya-kavya***—

(a) Dramatic kinds, their characteristics and development.

(b) Conventions of the Sanskrit drama.

(c) Principles of dramatic construction.

6. Sanskrit Metres—their bearings on literary criticism.

N.B—The following books should be studied They are not prescribed:—

1. Bain—Rhetoric and Composition (single volume book) —Longmans.
2. Crawshaw—The interpretation of Literature—Macmillan
3. Hudson—An introduction to the study of literature—George G Harap and Co, London
4. Hass—Dasarupaka—(English translation).
5. Horrwitz—Indian Theatre

The following books are recommended for consultation —

1. Brander Mathews—A study of the drama—Longmans.
2. Butcher—Aristotle's theory of Poetry and Fine Art with text and translation of the Poetic—Macmillan
3. Winchester—Some Principles of Literary Criticism—Macmillan
4. Courthope—Life in Poetry and Law in Taste
5. Articles on *Poetry*, *Fine Arts* and *Drama* in the Encyclopaedia Brittanica

II INDIAN PHILOSOPHY IN ITS RELATION TO WESTERN PHILOSOPHY

The following books are prescribed for study —

1. A S Rappoport—A Primer of Philosophy—(John Murray)
2. P Deussen—Elements of Metaphysics—(English translation)
3. Max Muller—Six Systems of Philosophy
4. A. B Keith—Indian Logic and Atomism—Oxford University Press
5. Deussen—The Philosophy of the Upanishads (Eng-Trans.)

6. Deussen—The system of the Vedanta.

N.B.—Candidates are expected to be familiar with original philosophical texts in Sanskrit on which the above mentioned works of Max Muller and Deussen are based.

III. INDO-EUROPEAN PHILOLOGY WITH SPECIAL REFERENCE TO SANSKRIT

N B - Knowledge, accurate, so far as it goes, but neither extensive nor minutely detailed is expected under each head.

P. I E =Primitive Indo-European, Ind-Ir =Indo-Iranian Skt =Sanskrit, Gk=Greek; Lat.=Latin, Teut =Teutonic.

A GENERAL

1 *Elementary Phonetics*—(a) The organs of speech—production and classification of speech-sounds Quantity accent, sentence word and syllable-accent Glides

(b) Phonetic description of all speech-sounds treated in the course, Phonetic transcription

(c) Sound-change, isolative, conditional, defective imitation and the result of analogy, Meaning of the term 'Law' in Linguistic Science Dialect separation Growth of 'literary' languages Families of languages, Cognate words and loan words

2 *The Indo-European Family of Languages*—The original speech and its earliest dialect divisions Branches and sub-branches of the Indo-European family Some distinguishing characteristics of the Indo-Iranian, Hellenic, Italic and Teutonic branches.

3 *Indo-Iranian*—The Indian Sub-Branch Dialects of Vedic times. Epic dialects Classical Sanskrit Middle Indian Speeches, New Indian Speeches

B PHONOLOGY

4. *The P I.E vowel system.*—The oldest conditions; primary vowels and changes resultant on accent; secondary vowels and syllabic liquids and nasals Vowel-gradation-quan-

titative and qualitative; its relation to accent and its bearing on morphology. The later P. I. E. vowel-system prior to the period of language-separation. General treatment of the P.I.E. vowel-system in the oldest Ind-Ir., Gk., Lat. and Teut.

5 *The vowel-system of Skt* in its relation to P. I. E. and the vowel-systems mentioned in 4. Vowel-gradation in Skt.

6 *The P.I.E Consonant system*—Classification of the P I E consonants Earliest dialectal variations; the 'centum' and 'satam' divisions Treatment of the P.I.E consonants generally in Ind-Ir., Gk., Lat and Teut

7 Representation of the *P I E consonant-system in Skt* liquids and nasals Plosive consonants Cerebral consonants (Fortunatov Law) Palatal and velar consonants (The Law of palatalization) The law of aspirates (Grassman's Law) Spirants Semi-vowels

8 *Sandhi*, external and internal Glides in Skt Anaptyxis (Svarbhakti) Haplology

C. Accidence.

9 *Word-formation* Base, stem and suffix Prefix-Infix.

10 *Skt compounds*, nominal and verbal

11 *Skt Suffixes* primary (krt) and secondary (taddhita).

12 *Nominal Declension* – P I E conditions. Number: Grammatical Gender Case and case-endings The P. I. E. case endings Syncretism *Contamination* Classification of noun-declensions according to suffix Vowels and consonant-stems.

13 *The noun declensions in Skt* treated historically and comparatively with reference to P I E, Gk, Lat and Teut Philological explanation of all case-endings Comparison of adjectives and formation of adverbs treated philologically.

14 *Numerals*—Philological treatment of the Skt. numerals.

15. *Pronouns and Pronominal adjectives*—The Skt. pronouns and pronominal adjectives treated philologically with reference to P.I E Gk Lat and Teut.

16. *The Verb* —The P I E. Verbal-system generally treated, Voice, mood, tense, argument, reduplication, personal endings. Thematic and Athematic stems Types of verbal action.

17 *The Skt verb* in its relation to the P I E. verbal system Present, perfect, aorist and future system in Skt. Transfer from the athematic to the thematic class Periphrastic formations Analogy in the Skt verbal-system Derivative verbs causative, denominative, desiderative, intensive

18 *Voices, moods and tenses* in Skt Infinitive verbal formations.

IV SOUTH INDIAN LANGUAGES AND LITERATURE IN THEIR BEARINGS ON ANCIENT HISTORY AND CULTURE

I The subject is divided under two heads, viz,

(1) A General Part,

(2) A Special Part

II The General part shall have the following syllabus:—

(a) An elementary knowledge of all the South Indian Languages and Literatures—Viz, Tamil, Telugu, Kanarese and Malayalam,—the scope of study being indicated by the following books recommended —

**General—*

A *Language* Linguistic Survey of India Vol IV—Dravidian Family of languages

B. *Literature*:

1. Telugu Literature by Bhujangarao and Chenchiah—(Heritage of Indian Series, Calcutta)
2. Kanarese literature by E P Rice (Heritage of India Series, Calcutta).
3. Primer of Tamil literature by M S Purnalingam Pillai. (C Coomaraswamy Naidu & Sons., Madras, or the author, Teppakulam).

* Subject to the approval of the Academic Council.

4. History of Malayalam literature by P. Sankara Nambiar M.A., Trichur.

III The special part shall have the following syllabus:—

(a) History as illustrated by Language and Literature.

(b) Culture as illustrated by Language and Literature.

Part (a)

This part shall cover a study of certain books prescribed from year to year bearing on the particular language taken by the candidate and a general knowledge of the *history* and *culture* as indicated by the following books recommended for consultation:—

(Separate Course)

TELUGU

**Special*—

(a) History as illustrated by language and literature:—

1. Tondaman Rajula charitramu } Telugu academy,
2. Rayavachakamu } Pithapur.

3 Krishnarayavijayamu by Kumara Dhurjati (Vavilla. Madras).

4. Introductions by the respective poets to—

(a) Amuktamalyada.

(b) Raghavapandaviyamu.

(c) Vasucharitramu.

(d) Vijayavilasamu.

5. Raja Raja Narendra Pattabhisheka Sanchika. } Andhra Historical Research Society, Rajahmundry.
6. Kalinga Sanchika }

(b) Culture as illustrated by language and literature.

1. Basavapuranamu by Palkuriki Somanatha (Andhra Patrika Office, Madras).

2. Sivatattvasaramu by Mallikarjuna Pandita (Telugu Academy, Pithapur).

* Subject to the approval of the Academic Council.

Books for reference—

1. History of the Andhras—3 parts by Chilukuri Virabhadrarao, Kovvur, West Godavari Dt.

2. Hindu Mahayugam
3. Muhammadiya Mahayugam } by K V Lakshmanarao, Vijnana Chandrika Series, Bezwada.

PART (b)

An elementary knowledge of the systems of South Indian Philosophy—Adwaita, Dwaita Visistadwaita and Saivita systems

V HINDU LAW AND JURISPRUDENCE

The following nine books are prescribed for study —

Books in Sanskrit.

1 Manu Smrti with Kulukabhatta's Commentary (whole).

2. Yajnavalka Smrti with Mitaksara (whole)

3 Jimatavahana's Dayabhaga (whole)

4 Viramitrodaya—Vyavahara only.

N B.—(1) to (4) can be had of Punjab Sanskrit Book Depot, Syaed Mehta Bazaar, Lahore.

5. Kautilya's Arthasastra—To be had of the Curator, Government Oriental Library, Mysore.

Books in English

6. Mayne. Hindu Law and Usage

7 Mayne: Ancient Law.

8. Alsten: Jurisprudence.

9 K. L Sircar. The Mimamsa Rules of Interpretation (Tagore Law Lectures) (Thacker Spink and Co, Calcutta).

The following three books are recommended for consultation but in no sense prescribed:—

1. Maxwell: On the Interpretation of Statutes.

2. Sidgewick: Elements of Politics.

3. Bentham: Principles of Morals and Legislation.

VI (i) LITERARY CRITICISM AS APPLIED TO ARABIC

Criticism on Arabic poetry and prose In poetry will be included the Pre-Islamic and the Islamic poetry

Books recommended for study:—

1. Naqdush-Shir, by Qudamah b, Jafar
2. Nuwazanab bayana Abi Tammam wal-Buhturi, by Hasan Amidi.
3. Al-Umdah, by Ibn Rashiq.
4. Kitabul-Aghani
5. Literary History of the Arabs, by R A Nicholson
6. History of Arabic Literature, by Clement Huart
7. Arabian Poetry, by Sir Charles Lyall

VI (ii) ARABIC PHILOSOPHY IN ITS RELATION TO WESTERN PHILOSOPHY

1. The Influence of Aristotle on Arabian Philosophy
2. The Work of Syrian and Nestorian Translators under the Abbasides.
3. The Mutakallimum and the Reaction under Gazzali.
4. Sufi-ism.

Books recommended for study.—

1. Works of al-Kindi and al-Farabi
2. Ghazzali's Ihyan Ulmiddin and Tahafutul-Falasifah.
3. Ibn Rushd's Tahafutul—Falasifah.
4. Al-Milal wal-Nihal, by Al-Shahristani.
5. Al-Insaul-Kamil, by al-Jili.
6. Kashful-Mahjub, by Al-Fujwiri.
7. Al-Risalatul-Qushayriyyah, by al-Qushayyri.
8. Philosophy in Islam, by De Boer.
9. Arabian Thought and its Place in History, by O'Leary.
10. Metaphysics in Persia, by Iqbal.
11. Studies in Islamic Mysticism, by Nicholson.

(iii) SEMITIC PHILOLOGY

The meaning of the term Semitic. The original home of the Semites The dialects of the Semitic languages. Semitic writing Semitic alphabet and the changes they undergo. Semitic vowels and consonants, and their permutations. The etymological and syntactical formations and forms in Semitic languages and the various changes and differences undergone by them. Semitic phonology The relation of the various Semitic dialects with each other Arabic in its relation with the non-Semitic languages.

Books recommended for study:—

Al-Bayan wal-Tabyin, by al-Jahiz
Al-Mizhar, by Al-Suyuti.
Al-Muarrab, by al-Jawaliqi.
Shiaul-Ghalil, by Al-Khaffaji.
Kitabul-Azdad, by al-Anbari
Comparative Grammar of the Semitic Languages, by W Wright.

Oriental and Linguistic Studies, by Whitney.

VII (i) LITERARY CRITICISM AS APPLIED TO PERSIAN POETRY AND PROSE LITERATURE

Only the literature in 'Modern Persian' will have to be studied.

Books recommended for study:—

1. Shirul-Ajam, by Shibli.
2. Khizana-i-Amirah, by Azad Bilgirami
3. Tazkiratush-Shhara, by Dawlet Shah Samarquandi.
4. Atashkadah, by Lutf Azar.
5. Studies in Islamic Poetry, by Nicholson
6. Persian Portraits, by Arbuthnot.
7. Literary History of Persian, by Professor Browne.

VII (ii) INDO-PERSIAN PHILOLOGY

The Aryan family of the world languages with special reference to the Indo-Persian branch thereof. Origin of 'Modern

Persian'; its real ancestors The relation between Avesta and Sanskrit The various dialects of the old Iranian languages and their limits. The gradual merging of the old Avestan and Pahlavi forms and their admixture with Arabic Persian phonology in its relation to the other Aryan and Semitic languages The etymological and syntactical changes undergone by Persian language comparatively as well as individually

Books recommended for study —

1 Sukhandan-i-Fars, by Azad.
2 Indo-Iranian Phonology by Grey
3 Avesta, Pahlavi and Ancient Persian Studies.
4 Avesta Grammar by Kanga (Sanjana)
5. Discourses on Iranian Literature, by D M Madan
6 Literary History of Persia, by Professor Brown
7. The Authenticity of the Aryan Family of Languages Pahlavi and Huzwaresh, by Cama.

CHAPTER XLVII

DEGREE OF MASTER OF ORIENTAL LEARNING

1. Every candidate for the Degree of Master of Oriental Learning shall have passed the Examination for Certificates of Proficiency in Oriental Learning and shall have thereafter pursued for two years an advanced course of study bearing upon the subject selected by him for the examination for that certificate.

2 Every candidate for the Degree shall be required to submit with his application—

(a) a certificate in the following terms from the head of an institution approved under Regulation 12 of Chapter XXXVI for imparting instruction in, or from a member of the Boards of Studies dealing with, the subject of the candidate's Certificate of Proficiency, or from some competent scholar recognized by the Syndicate —

Form of Certificate

I hereby certify that, to the best of my knowledge and belief has pursued, for not less than two years after qualifying for the Certificate of Proficiency in Oriental Learning, an advanced course of study bearing upon the subject of his Certificate of Proficiency.

Date

Station . *Signature with designation.*

and

(b) an original thesis in English showing evidence of original work connected with the special subject in which he qualified himself for his certificate, the candidate indicating in a preface to his thesis, and specially in notes, the sources from which his information is taken and the extent to which he has availed himself of the work of others

3. The thesis shall be referred by the Syndicate to a Board consisting of not more than three persons who at their

discretion may require the candidate to appear before them to be tested orally with reference to the thesis (and to his facility in the use of the English Language). The Board shall report to the Syndicate the result of the examination of the thesis, and of the oral examination, if any, stating whether, in their opinion the candidate is, by reason of his attainments, a fit person to receive the Degree of Master of Oriental Learning. The Syndicate shall publish the name of each successful candidate for the Degree with the title of his thesis.

CHAPTER XLVIII

TIME-TABLES FOR EXAMINATION

Time-Table and subjects for Examinations.

The order of time and subjects in which the several examinations shall be conducted shall be as set forth in the following tables and the number of marks assignable to each subject shall be as therein specified:—

Provided always

(1) that, in the case of Part II of the B.A. Examination held in April the first day of the examination in each of the optional groups shall be determined annually by the Syndicate and shall be notified in the Gazette in the month of February;

(2) that, unless otherwise determined by the Syndicate the practical, Clinical and Oral Examinations shall follow the Written Examinations;

(3) that the time-table for the Ubhayabhasha Praveena Examination as may be annually determined by the Syndicate shall be duly notified in the Gazette in the preceding February.

MATRICULATION EXAMINATION.

Days	Hours	Subjects	Marks
First day	10—12.30 2—4.30	English 1st paper .. Do. 2nd paper ...	75 75 } 150
Second day	10—1 2—4.30	Arithmetic and Algebra ... Geometry ..	80 70 } 150
Third day	10—1 2—4	Second Language .. History ..	75 50
Fourth day	10—1 2—4	Elementary Science ... Geography ...	75 50

INTERMEDIATE EXAMINATION IN ARTS AND SCIENCE.

PART I—English.

Days	Hours.	Subjects.	Marks.
First day	10—1 2—5	Poetry Prose	100 100
Second day	10—1	Composition	100

PART II—A Second Language.

Third day	10—1 2—5	Prescribed text-books Translation for classical languages or Composition and Translation for Mod. Indian Languages.	100 100

PART III—Group A.

Fourth day	10—12.30 2—4.30	Mathematics I paper (Algebra and Trigonometry) Do. II paper (Geomerty, Pure and Analytical)		50 50
Fifth day	10—12.30 2—4.30	Physics Do	I paper II paper	50 50
Sixth day	10—12.30 2—4.30	Chemistry Do.	I paper II paper	50 50
Seventh day	10—12.30 2—4.30	Botany Do.	I paper II paper	50 50
Eighth day	10—12.30 2—4 30	Zoology Do.	I paper II paper	50 50
Ninth day	10—12.30 2—4.30	Geography Do.	I paper II paper	50 50

INTERMEDIATE EXAMINATION. (Contd.)

PART III—Group B.

Days.	Hours.	Subjects.	Marks
Tenth day	10—12.30 2—4.30	Logic I paper Do II paper	50 50
Eleventh day	10—12.30 2—4.30	Indian History I paper Do. II paper	50 50
Twelfth day	10—12 30 2—4.30	Ancient History I paper Do. II paper	50 50
Thirteenth day	10—12.30 2—4.30	Modern History I paper Do. II paper	50 50
Fourteenth day	10—12.30	Text books for classical languages (advanced course)	50
		Text books for classical languages (third language)	50
	2—4 30	Translation for classical languages (advanced)	50
		Classical languages (third language) translation	50
Fifteenth day	10—12 30	Text books etc., for modern languages (advanced) I paper	50
		Modern Languages (a third language) I paper	50
	2—4 30	Text books for Mod. Languages (advanced) II paper	50
		Modern languages (third language) II paper	50

INTERMEDIATE EXAMINATION (Contd)

PART III—Group C.

Days.	Hours.	Subjects.	Marks.
Sixteenth day	10—12.30 2—4.30	Commercial Geography I paper Do. II paper	50 50
Seventeenth day	10—12.30 2—4.30	Banking I paper Do. II paper	50 50
Eighteenth day	10—12.30 2—4.30	Accountancy I paper Do. II paper	50 50
Nineteenth day	10—12.30 2—4.30	Agriculture (written) Do. (practical)	50 50
Twentieth day	10—12.30 2—4.30	Electrical Engineering I paper Do II paper	50 50
Twenty-first day	10—12.30 2—4.30	Mechanical Engineering I paper Do. II paper	50 50
Twenty-second day	10—12.30 2—4.30	Surveying (written) Do. (practical)	50 50
Twenty-third day	10—12.30 2—4.30	Drawing (written) Do. (practical)	50 50
Twenty-fourth day	10—1 2—5	Music I paper Do. II paper	50 50
Twenty-fifth day		Music (practical)	

Note:—Every year the exact dates of Part III of the Intermediate Examination will be notified on receipt of information from the affiliated colleges as to the different groupings of subjects offered by their candidates.

B. A. Degree Examination.

Part I—English Language and Literature.

Days.	Hours.	Subject	Marks.
First day	10—1 2—4.30	Composition Modern Poetry	90 70
Second day	10—1 2—5	Shakespeare Modern Prose	100 90
		Total	350

Part II—A Second Language.

Third day	10—1 2—5	First Paper Second Paper	100 100
		Total	200

Part III—Optional Groups.

(i) Mathematics.

First day	10—1 2—5	Algebra and Trigonometry Astronomy	90 90
Second day	10—1 2—4	Pure and Analytical Geometry Dynamics	90 70
Third day	10—1 2—4	Calculus Hydrostatics and Properties of Matter	90 70
		Total	500

(ii) Philosophy.

First day	10—1 2—5	Logic and Theory of Knowledge Ethics	100 100

Days	Hours	Subjects	Marks
Second day	10—12.30 2—4.30	European Philosophy Indian Philosophy	80 80
Third day	10—12 2—4	Psychology-First paper Psychology, Second paper	70 70
		Total	500

(iii) History and Economics (History main)

First day	10—1 2—5	Political Science Indian History, special period	100 100
Second day	10—1 2—5	Constitutional History of India, British Period Outlines of European History	100 100
Third day	10—1	Economics, General	100
		Total	500

(iv) History and Economics (Economics main)

First day	10—1 2—5	Modern History Sociology	100 100
Second day	10—1 2—5	Economics—Special I Economics—Special II	100 100
Third day	10—1	Economics, General	100
		Total	500

(v) Languages including English.

(1) Sanskrit and Early Indian History.

First day	10—1 2—5	Books of the Early Period Books of the Later Period	80 80

Days.	Hours.	Subject.	Marks.
Second day	10—1	Books of the Later Period II	80
	2—5	Grammar	80
Third day	10—1	History of Sanskrit Literature	80
	2—5	Early Indian History	100
		Total	500

(2) Pali and Early Indian History or Sanskrit.

First day	10—1	Prose books	80
	2—5	Poetry	80
Second day	10—1	Translation	80
	2—5	Grammar	80
Third day	10—1	History of the Language and Literature	80
	2—5	Early Indian History or Sanskrit	100
		Total	500

(3) Arabic or Persian and Early Muslim History.

First day	10—1	Prose	80
	2—5	Poetry	80
Second day	10—1	Translation	80
	2—5	Grammar including Rhetoric and Prosody	80
Third day	10—1	History of Arabic or Persian Language and Literature	80
	2—5	Early Muslim History	100
		Total	500

(4) Urdu and Indian History-Musim Period or Arabic or Persian

Days.	Hours	Subject.	Marks.
First day	10—1	Prose	80
	2—5	Poetry	80
Second day	10—1	Translation	80
	2—5	Grammar, including Rhetoric and Prosody	80
Third day	10—1	History of Language and History of Literature	80
	2—5	Indian History-Muslim period or Arabic or Persian	100
		Total	500

(5) Dravidian Language or Oriya and a Related Subject or Sanskrit.

First day	10—1	Set Books and History of Literature I	80
	2—5	Set Books and History of Literature II	80
Second day	10—1	History of Language and Grammar	80
	2—5	Comparative Grammar Dravidian or Gaudian	80
Third day	10—1	Composition	80
	2—5	Related Subject or Sanskrit	100
		Total	500

(6) Hindi and Mediaeval History of Northern India or Sanskrit.

Days.	Hours.	Subjects.	Marks.
First day	10—1	Prose books	80
	2—5	Poetry	80
Second day	10—1	Comparative Grammar of Gaudian	80
	2—5	History of Literature	80
Third day	10—1	Composition	80
	2—5	Mediaeval History of Northern India or Sanskrit	100
		Total	500

(7) English

First day	10—1	Drama	80
	2—5	Poetry	80
Second day	10—1	Prose	80
	2—5	History of English Literature and analysis of Literary forms	80
Third day	10—1	History of English Language and either (a) Primer of Anglo-Saxon or (b) Set book from Chaucer	80
	2—5	General Essay	100
		Total	500

B. A. (HONOURS) DEGREE EXAMINATION.
PRELIMINARY EXAMINATION.

Days	Hours.	Subjects	Marks.
First day	10—1	English Composition	90
	2—4 or 2—5	Translation or Related Subject	60
		Total	150

FINAL EXAMINATION
BRANCH I—MATHEMATICS.

1st day	10—1	1st paper	150
	2—5	2nd paper	150
2nd day	10—1	3rd paper	150
	2—5	4th paper	150
3rd day	10—1	5th paper	150
	2—5	6th paper	150
4th day	10—1	7th paper	150
	2—5	8th paper	150
		Total	1200

BRANCH II—PHILOSOPHY.

1st day	10—1	General I	100
	2—5	General II	100
2nd day	10—1	General III	100
	2—5	General IV	100
3rd day	10—1	Special I	100
	2—5	Special II	100
4th day	10—1	Special III	100
	2—5	Special IV	100
		Total	800

Branch III—History, Economics and Politics.

Days.	Hours.	Subject.	Marks.
First day	10—1	General I	100
	2—5	Do. II	100
Second day	10—1	Do. III	100
	2—5	Do IV	100
Third day	10—1	Special I	100
	2—5	Do. II	100
Fourth day	10—1	Do III	100
	2—5	Essay.	100
		Total	800

Branch VI—Telugu language and literature.

First day	10—1	Poetry and Drama.	100
	2—5	Prose and History of Language or Literature	100
Second day	10—1	Telugu grammar, prosody and poetics	100
	2—5	Elementary Sanskrit and Elementary Prakrit grammar	100
Third day	10—1	Essay	100
	2—5	Special I	100
Fourth day	10—1	Do. II	100
	2—5	Do III	100
		Total	800

B. Sc. DEGREE EXAMINATION.

PART I.

Days.	Hours.	Subjects.	Marks.
First day.	10—1	Composition	90

PART II

Mathematics (Main)

Second day	10—1 2—5	Algebra and Trigonometry Pure Geometry	100 100
Third day	10—1 2—5	Analytical Geometry Calculus	100 100
Fourth day	10—1 2—5	Statics and Dynamics Hydrostatics and Astronomy	100 100

Physics (Main)

Second day	10—1 2—5	Dynamics and Hydrostatics Properties of Matter and Heat	100 100
Third day	10—1 2—5 * 3 hours * 3 hours	Light and Sound Electricity and Magnetism Practical Examination Practical Examination	100 100 100 100

Chemistry (Main).

Second day	10—1 2—5	General Chemistry, including History of Chemistry Inorganic Chemistry	100 100
Third day	10—1 2—5 * 6 hours * 6 hours	Physical Chemistry Organic Chemistry Practical Examination Practical Examination	100 100 100 100

*Dates and hours of the **Practical Examinations** will be notified later.

Botany, Zoology or Geology (Main).

Days	Hours.	Sub ects	Marks.
Second day	10—1	First paper	100
	2—5	Second Paper	100
Third dav	10—1	Third Paper	100
	*3 hours	Practical Examination	100
	*3 hours	Practical Examination	100
	*3 hours	Practical Examination	100

Physiology (Main)

Second day	10—1	First Paper	150
	2—5	Second Paper	150
	*3 hours	Practical Examination	100
	*3 hours	Practical Examination	100
	*3 hours	Practical Examination	100

Mathematics (Subsidiary).

Fourth day	10—1	Algebra, Trigonometry and Analytical Geometry	100
	2—5	Calculus and Differential Equations	100

Physics (Subsidiary).

Fifth day	10—1	Physics (written)	100
	*3 hours	Practical Examination	100

Chemistry (Subsidiary).

Sixth day	10—1	Chemistry (written)	100
	*3 hours	Practical Examination	100

Botany (Subsidiary).

Seventh day	10-12.30	Botany I Paper	50
	2—4.30	Botany II Paper	50
	*3 hours	Practical Examination	100

*Dates and hours of the Practical Examinations will be notified later.

Zoology (Subsidiary)

Days.	Hours.	Subjects	Marks.
Eighth day	10–12.30	Invertebrata	50
	2—4.30	Vertebrata	50
	*3 hours	Practical Examination	100

Geology (Subsidiary)

Ninth day	10–12 30	Physical, Structural Stratigraphical Geology, Palaeontology	50
	2—4 30	Crystallography, Mineralogy and Petrology	50
	*3 hours	Practical Examination	100

Physiology (Subsidiary)

Tenth day	10—1	Physiology	100
	*3 hours	Physiology	150
	*3 hours	Practical Examination	50

Note —Every year the exact dates of Part II of the B Sc Examination will be notified on receipt of information from the affiliated colleges as to the different Main and Subsidiary Subjects offered by candidates.

* Day and hour to be notified.

B Ed. DEGREE EXAMINATION.

Days.	Hours.	Subjects.	Marks.
First day	10—1	Theory and Practice of Education Part—I.	100
	2—5	Theory and Practice of Education Part—II	100
Second day	10—1	History of Education	100
	2—5	Methods appropriate to teaching—English	100
Third day	10—1	Methods appropriate to teaching—Special subject.	100

MEDICAL EXAMINATIONS.

PRE-REGISTRATION EXAMINATION.

Days.	Hours	Subjects.	Maximum.	Minimum.
First day	10—1	Inorganic Chemistry—Written	100	50
	*	Inorganic Chemistry—Practical	50	50
	*	Inorganic Chemistry, Oral	50	
	2—5	Physics—Written	100	50
	*	Physics—Practical	50	50
	*	Physics—Oral	50	
Second day	10—1	General Biology—Written	100	50
	*	General Biology—Practical	50	50
	*	General Biology—Oral	50	
		Total	600	300

FIRST M. B & B S. EXAMINATION.

PART I.

First day	10—1	Organic Chemistry, Written	50	25
	*	Organic Chemistry—Practical	50	50
	*	Organic Chemistry—Oral	50	
		Total	150	75

PART II.

First day	2—5	Anatomy, Written etc —	100	50
	*	Anatomy, etc.— Dissection	50	50
	*	Anatomy, Oral etc.—	50	

* Days and hours will be decided before the commencement of each examination.

Days.	Hours.	Subjects	Maximum	Minimum
Second day	10—1 *	Physiology etc., Written—	100	50
		Physiology, etc — Practical	100	50
		Physiology, Oral etc.—		
		Total.	400	200
		Grand Total	550	275

SECOND M. B. B. S EXAMINATION.

PART I.

First day	10—1 * *	Pharmacology Written	100	50
		Pharmacology Practical	50	50
		Pharmacology Oral	50	
		Total	200	100

PART II.

First day	2—5 *	Hygiene—Written.	100	50
		Hygiene—Practical		
		Hygiene—Oral	50	25
Second day	10—1 * *	General Pathology, etc.—Written	100	50
		General Pathology, etc —Practical	50	50
		General Pathology etc.—Oral	50	
	2—5	Ophthalmology-Written	50	25
		Ophthalmology—Practical	50	25
		Ophthalmology—Oral		
		Total	450	225
		Grand Total	650	325

* Days and hours will be decided before the commencement of each examination.

FINAL M. B B. S. EXAMINATION.

PART I.

Days.	Hours	Subjects.	Maximum.	Minimum.
First day	10—1	Forensic Medicine, written	100	50
	*	Forensic Medicine—Oral	50	25
		Total	150	75

PART II.

First day	2—5	Medicine—Written.	100	50
	*	Do. Clinical.	150	125
	*	Do. Oral.	100	
Second day	10—1	Surgery—Written.	100	50
	*	Do Clinical.	150	75
	*	Do. Oral	50	50
	*	Do. Operative.	50	
Third day	10—1	Obstetrics and Gynaecology—Written	100	50
	*	Obstetrics and Gynaecology-Clinical	100	50
		Obstetrics and Gynaecology-Practical		
		Obstetrics and Gynaecology-Oral		
		Total	900	450
		Grand Total	1,050	525

* Days and hours will be decided before the commencement of each examination.

ORIENTAL TITLE EXAMINATIONS.

Vidya Praveena

Preliminary

Days	Hours	Subjects	Marks
First day	10—1	Prescribed Text-books General (i)	200
Second day	10—1	Prescribed Text-books General (ii)	200
Third day	10—1	Prescribed Text books Special (i)	200
Fourth day	10—1	Prescribed Text-books Special (ii)	200
		Total	800

Final

First day	10—1	History of Sanskrit Language and Literature	200
Second day	10—1	Prescribed Text-books Special (i)	200
Third day	10—1	Prescribed Text-books Special (ii)	200
Fourth day	10—1	Prescribed Text-books Special (iii)	200
		Total	800

UBHAYABHASHA PRAVEENA

Preliminary

For Parts A and C in Regulation 7 of Chapter XLVI

First day	10—1	Prescribed Vernacular Text-books	200
Second day	10—1	Prescribed Vernacular Text-books and Composition	200
Third day	10—1	Prescribed Sanskrit Text-books (i)	150
Fourth day	10—1	Prescribed Sanskrit Text-books (ii)	150
		Total	700

ORIENTAL TITLES EXAMINATION (Contd).

Ubhaya Bhasha Praveena
Preliminary (Contd.)

For part B in regulation 7 of Chapter XLVI

Days	Hours	Subjects	Marks
First day	10—1 2—5	Prescribed Text-books I Do. II	150 150
Second day	10—1	Composition	150
Third day	10—1	Sanskrit Textbooks and Translation	150
		Total	600

Ubhayabhasha Praveena
Final

For parts A and C in Regulation 7 of Chapter XLVI

First day	10—1	History of Sanskrit Language and Literature	200
Second day	10—1	Prescribed Sanskrit Text-books	200
Third day	10—1	Prescribed Vernacular Text-books I	200
Fourth day	10—1	Prescribed Vernacular Textbooks II	200
		Total	800

ORIENTAL TITLE EXAMINATIONS (Contd.)
U. P. Final (Contd.)
For part B in Regulation 7 of Chapter XLVI

Days	Hours	Subjects	Marks
First day	10—1 2—5	Prescribed Text-books I Do II	150 150
Second day	10—1	History of Language and Literature	150
Third day	10—1	Sanskrit Text-books	150
		Total	600

CERTIFICATE OF PROFICIENCY

A paper of three hours' duration to be answered on the morning of the day following final Examination for titles

ALIM-I-FASIL
Preliminary

First day	10—1 2—5	Tafsir and Hadith Fiqh, Aqualid	100 100
Second day	10—1 2—5	Prose Text-books Poetry Text-books	100 100
Third day	10—1 2—5	History Translation from Arabic into Urdu and vice versa	100 100
		Total	600

ORIENTAL TITLE EXAMINATIONS (Contd.)

Alim-i-Fasil (Contd.)

Final

Days	Hours	Subjects	Marks
First day	10—1	Tafsir Hadith and Ilmul-Hadith	100
	2—5	Fiqh and Usul-Fiqh	100
Second day	10—1	Prose Text-books	100
	2—5	Poetry Text-books	100
Third day	10—1	History	100
	2—5	Translation from Arabic into Urdu and vice versa	100
Fourth day	10—1	Mantiq and Balaghat	100
	2—5	Composition Arabic	100
		Total	800

Munshi-i-Kamil

Preliminary

First day	10—1	Persian Text-books	100
	2—5	Urdu Text-books	100
Second day	10—1	Translation from Persian into Urdu	100
	2—5	Translation from Urdu into Persian	100
Third day	10—1	Composition in Persian	100
	2—5	Arabic Text-books	100
		Total	600

ORIENTAL TITLE EXAMINATION (Contd.)

Munshi-i-Kamil (Contd.)

Final

Days	Hours	Subject	Marks
First day	10—1	Persian Text-books	100
	2—5	Urdu Text-books	100
Second day	10—1	Translation from Persian into Urdu	100
	2—5	Translation from Urdu into Persian	100
Third day	10—1	History of Persian Language and Literature	100
	2—5	Arabic Text-books	100
Fourth day	10—1	Composition in Persian	100
		Total	700

CHAPTER XLIX

TRANSFER AND TERM OR ANNUAL CERTIFICATES

Transfer Certificates.

1 No student who has previously studied in any recognized school or college shall be admitted to a college unless he presents a transfer certificate showing.—

(a) the name of the student in full,

(b) the date of birth as entered in the admission register,

(c) the dates on which he was admitted to and on which he left the institution,

(d) the class in which he studied at the time of leaving it,

(e) the subjects or portions thereof studied by him while enrolled,

(f) if it be the time when annual promotions take place whether he is qualified for promotion to a higher class,

(g) that he has paid all fees or other moneys due to that institution in respect of the last term in which he was enrolled.

No student shall be enrolled pending the production of such certificate Every such certificate shall be endorsed with the admission number under which the student is enrolled and shall be filed for reference and inspection.

2 A student applying for a transfer certificate during a college term on any day on which he has been enrolled, or applying not later than the fifth working day of the college term immediately following shall forthwith be given such certificate upon payment of all fees or other moneys due, or of such portion thereof as the principal may see fit to demand, for the college term in which he was enrolled.

A student applying for such certificate after the fifth working day of the college term immediately following that during which he has been last enrolled shall forthwith be given it on payment of (1) all fees or other moneys due or of such portion thereof as the principal may see fit to demand in respect of the college term in which he was last enrolled and (2) an additional fee of Rs. 3 at the option of the principal:

Provided that, when a student has been enrolled at favourable fee rates, he shall be liable for such rates only.

No student shall be considered to have been enrolled in any college term unless he has attended the college and received instruction for at least one day of that college term or has paid the fees or portions thereof prescribed.

In the case of a student who has been a candidate for a University Examination, the results of which have not been published before the beginning of the college term the eleventh day after the results of that examination have been announced at the Senate House shall be counted for him the first working day of the college term so far as the grant of a transfer certificate is concerned.

In the event of a Principal refusing or delaying to give a transfer certificate to which a student may be entitled the student shall have right of appeal to the Syndicate

Expulsion of student from College.

3. If any student is expelled from an affiliated college, intimation of the fact of expulsion, with a statement of the reasons therefor, shall be given forthwith by the Principal (a) to the parent or guardian of the student and (b) to the Syndicate; intimation to the Syndicate shall be accompanied by the transfer certificate of the student The Syndicate, on the application of the student or his parent or guardian, may after making such enquiry as it deems proper deliver the certificate to the student with any necessary endorsement or withhold it temporarily or permanently

Academic year.

4. The academic year for colleges affiliated in Arts, Science and Teaching shall consist of three terms, which shall ordinarily begin and end as follows

First term—June to September, closing with the Michaelmas holidays.

Second term—October to December, closing with the Christmas holidays.

Third term—January to April closing with the Summer holidays.

Combination of attendances.

5. A student shall ordinarily qualify for the annual certificate in one and the same college but in special cases the Syndicate may allow attendance in different colleges to be combined for the purposes of the annual certificate.

Conditions of grant of annual Certificate.

6 In colleges affiliated in Arts and Teaching the grant of the annual certificate shall be in respect of three terms ordinarily consecutive comprising one year, but it shall be competent for the authorities of an affiliated college to grant such certificate in respect of three terms which are not consecutive provided that the student has during those terms completed the necessary courses of study for the year.

7. The grant of the annual certificate shall be subject, in addition, to the following conditions:—

(1) In colleges affiliated in Arts and Teaching the certificate shall not be granted unless a student has kept three-fourths of the attendances prescribed by the college in the course of instruction followed by him during the year, and in instructions approved by the Syndicate under the regulations for Oriental Titles and Certificates of Proficiency in Oriental Learning unless he has kept three-fourths of the attendances prescribed by the institution in the particular course of study for which the certificate is issued.

(2) In colleges of Science the certificates shall not be granted unless a student has kept three-fourths of the attendances prescribed by the college in the course of instruction followed by him during the year, in colleges in Medicine unless he has attended four-fifths of the lectures in each course

(3) The certificate shall not be granted unless the student has completed the course of instruction to the satisfaction of the authorities of his college and his progress and conduct have been satisfactory.

Form of certificates.

8. The certificates shall be drawn up in the following forms:—

MATRICULATION EXAMINATION

I hereby certify that. . . . .has kept attendance for not less than 120 days of the previous school year before 10th March in ....School .....that he has completed the course of study prescribed for the several classes of a high school and that his progress and conduct have been satisfactory.

.....19 . *Headmaster.*

INTERMEDIATE EXAMINATION IN ARTS AND SCIENCE

FIRST YEAR

I certify that. . . . .has kept three-fourths of the attendances prescribed by the College . . in the course of instruction followed by him during the year consisting of the following terms:— 1 2 3. and that his progress and conduct have been satisfactory

(Signature)..... .....

.....19 . *Principal.*

I certify that has attended the course of practical instruction in.....

(Signature).....

.... 19 . *Professor or Lecturer.*

I certify that has attended the course of practical instruction in.....

(Signature).....

..... 19 . *Professor or Lecturer.*

I certify that.....has attended the course of practical instruction in.....

(Signature).....

(1).....

Professor or Lecturer.

(2).....

.....19 *Professor or Lecturer.*

SECOND YEAR

I certify that..... ...has kept three-fourths of the attendances prescribed by the ... ..College.....in the course of instruction followed by him during the year consisting of the following terms :—1. ....2.....3. ..that his conduct and progress have been satisfactory and that he has completed the course of study prescribed for the Intermediate Examination in Arts and Science.

(Signature).....

.....19 ***Principal.***

I certify that..... ..has satisfactorily completed the course of practical instruction in.....

(Signature) .....

.....19 *Professor or Lecturer.*

I certify that... ..... .has satisfactorily completed the course of practical instruction in..... .....

(Signature).....

.....19 . *Professor or Lecturer.*

I certify that.....has satisfactorily completed the course of practical instruction in..... .

(Signature).....

.....19 . *Professor or Lecturer.*

B A. DEGREE EXAMINATION

FIRST YEAR

I certify that . ..has kept three-fourths of the attendances prescribed by the.. . .. College .....in the course of instruction in ... . during the year consisting of the following terms:—1 . 2 3 . and that his conduct and progress have been satisfactory.

(Signature) ....

.....19 . *Principal.*

SECOND YEAR

I certify that. . . .has kept three-fourths of the attendances prescribed by the. . College in the course of instruction in .. .. during the year consisting of the following terms:—1 2 . 3 that his conduct and progress have been satisfactory and that he has completed the course of study prescribed for the B A Degree Examination

(Signature).....

....19 . *Principal.*

*****I certify that has attended the course of practical instruction in . ... . for the B A Degree Examination at the..... .....during the year consisting of the following terms:—1 .2. 3.. and that he has satisfactorily completed the course.*

(Signature).....

.....:... ... 19 . *Professor or Lecturer.*

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* This certificate has to be produced only by candidates in Group (i).

EXAMINATION FOR THE DEGREE OF BACHELOR OF ARTS (HONOURS)

PRELIMINARY EXAMINATION

I certify that . . . has kept three-fourths of the attendances prescribed by the University College of Arts..... for the year consisting of the following terms:—1 . .2.... 3.. in the course of instruction in English and .. .. that his progress and conduct have been satisfactory and that he has completed the course of study prescribed for the Preliminary Examination for the B A. (Honours) Degree.

(Signature) . ...

..... .19 . *Principal.*

B Sc DEGREE EXAMINATION

I certify that .. . has kept three-fourths of the attendances prescribed by the . College ... in the course of instruction in English during the year consisting of the following terms —1 2 3 and that his conduct and progress have been satisfactory

(Signature). . . . .

....19 . *Principal.*

I certify that has kept three-fourths of the attendances prescribed by the College .. in the course of instruction in during the year consisting of the following terms —1 2 3 that his progress and conduct have been satisfactory *and that he has completed the course of study in . ..(Subsidiary) prescribed for the B Sc. Degree Examination.

(Signature)..... .. ..

....19 . *Principal.*

* To be filled in only on behalf of candidates appearing for the subsidiary subject at the end of the First year course.

I certify that . has kept three-fourths of the attendances prescribed by the. . . . College . in the course of instruction in during the year consisting of the following terms:—1 .. 2. .. 3 . that his progress and conduct have been satisfactory and that he has completed the course of study prescribed for the B Sc Degree Examination.

(Signature)..... .....

....*19* . *Principal.*

†I certify that .. . has attended the course of practical instruction in. . . . for the B Sc Degree Examination of the.....during the year consisting of the following terms 1.....2.....3.....

(Signature) ... .
(1).....
(2).....
(3).....

.....*19* . *Professor or Lecturer.*

†I certify that. .. has attended the course of practical instruction in. for the B Sc Degree Examination at the .... during the year consisting of the following terms 1.....2. 3 .. and that he has satisfactorily completed the course.

(Signature).. .....
(1).....
(2).....
(3).....

.... *19* . *Professor or Lecturer.*

† These will not be required in the case of Mathematics.

CERTIFICATE OF ADDITIONAL STUDY

I certify that . . . . subsequently to his appearance in the year..... .for Part II of the B Sc Degree Examination, has kept three-fourths of the attendances prescribed by the .... in the course of additional instruction in ..... . .during the year consisting of the following terms:—1 .. 2 3 and that his progress and conduct have been satisfactory.

(Signature).... .. ..

....*19* . *Principal*

B Ed DEGREE EXAMINATION

I certify that has kept three-fourths of the attendances prescribed by the College in the course of instruction and practical training in teaching during the year consisting of the following terms:—1 2 . .. 3 that he has completed the course prescribed for the B Ed Degree, and that his conduct and progress have been satisfactory

(Signature) . . . .

... .*19* *Principal.*

PRE-REGISTRATION EXAMINATION

I certify that has undergone the prescribed course of study extending over a period of six months, subsequent to his passing the Intermediate Examination, and that his progress and conduct have been satisfactory

(Signature).... ... ..

....*19* . *Principal.*

I certify that has attended a course of lectures on Inorganic Chemistry and course of instruction in Practical Chemistry.

(Signature).....

.....*19* . *Professor of Chemistry.*

I certify that.....has attended a course of Experimental Physics, including Practical Physics

(Signature).....

....19 . *Professor of Physics.*

I certify that.. .... has attended a course of General Biology, Theoretical and Practical

(Signature).....

.....19 . *Professor of Biology*

ADDITIONAL CERTIFICATE

I certify that.. ... .has been re-engaged in the prescribed course of studies for the Pre-Registration Examination for a period of one term subsequent to his appearance at that examination in . .when he was referred to his studies by the Examiners and that his progress and conduct have been satisfactory.*

(Signature)... ....

Dated.. ... *Principal, Medical College,*

Vizagapatam.

FIRST M B & B S EXAMINATION

PART I

I certify that to the best of my knowledge and belief.. ... ... completed the age of seventeen years on or before the date of admission to the Medical College, Vizagapatam, that he has been engaged in medical studies at the Medical College, Vizagapatam, for not less than one academic year subsequent to his passing the Pre-Registration Examination, and that his progress and conduct have been satisfactory.

(Signature) . . . .

.... .19 . *Principal.*

* The date of the Examination should be noted here.

I certify that. . ....has attended a course of lectures on Organic Chemistry and a course of instruction in Practical Organic Chemistry.

(Signature) .. ..

..... 19 . Professor of Chemistry.

PART II

I certify that ... . has been engaged in medical studies at the Medical College, Vizagapatam, for not less than two academic years subsequent to his passing the Pre-Registration Examination, and that his progress and conduct have been satisfactory.

(Signature) . ..

....19 . Principal.

I certify that . .has attended a course of instruction in Anatomy including Elements of Human Embryology, Theorehcal and Practical

(Signature). . . . .

.. 19 . Professor of Anatomy.

I certify that . has dissected for twelve months during the regular sessions and has completed the dissection of the human body.

(Signature) .. ..

.... 19 Professor of Anatomy.

I certify that . has attended a course of lectures on Physiology and a course of instruction in Practical Physiology including Histology.

(Signature) ....

.....19 . Professor of Physiology.

I certify that..... has attended a course of lectures in Bio-Chemistry and a course of instruction in practical chemical Physiology and Bio-Chemistry.

(Signature)..... .....

.....19 . Professor of Physiology.

I certify that . . . has attended a course of lectures on Pharmacology and a course of instruction in Practical Pharmacy

(Signature).....

.....19 . Professor of Pharmacology.

ADDITIONAL CERTIFICATE

I certify that.. has been re-engaged in Medical studies for the First M B & B S Examination for a period of six months subsequent to his appearance at that examination in .. . when he was referred to his studies by the Examiners and that his progress and conduct have been satisfactory.

(Signature) . . . . .

.....19 . Principal, Medical College, Vizagapatam.

SECOND M B & B S EXAMINATION

PART I

I certify that . has been engaged in medical studies at the Medical College, Vizagapatam, for not less than one academic year subsequent to his passing the First M.B & B S. Examination and that his progress and conduct have been satisfactory.

(Signature). .. ..

. ...19 . Principal, Medical College, Vizagapatam.

I certify that ....has attended a course of lectures on Pharmacology, and a course of instruction in Practical Pharmacy.

(Signature).....

.....19 . Professor of Pharmocology.

I certify that..... ..has been engaged in medical studies at the Medical College, Vizagapatam, for not less than two years

after passing the First M B & B S. Examination, and that his progress and conduct have been satisfactory

(Signature) . . . . . .
Principal of the College.

I certify that.. . . . . has attended a course of lectures on general Pathology and Bacteriology.

(Signature) . . . . .
Professor of Pathology

I certify that . has attended a course of instruction in Practical Pathology including Bacteriology.

(Signature) . . . . .
Professor of Pathology.

I certify that . . . has attended a course of lectures on Hygiene and a course of instruction in practical Hygiene.

(Signature)... . . . . .
Professor of Hygiene.

I certify . . . . . has been engaged in post-mortem room-clerking for a period of one month.

(Signature)..... . . . . .
Professor of Pathology.

I certify that..... .has attended (1) a course of instruction in Ophthalmology extending over a period of two terms and (2) an Ophthalmic hospital or the Ophthalmic wards of a General Hospital on three days in the week for a period of three months.

(Signature)..... .....19 . Professor of Ophthalmology.

ADDITIONAL CERTIFICATE

I certify that. . . . has been re-engaged in Medical studies for the Second M B. & B.S Examination for a period of six

months subsequent to his appearance at that examination in ..... .when he was referred to his studies by the Examiners and that his progress and conduct have been satisfactory.*

(Signature).....

.....19 *Principal, Medical College,*
Vizagapatam.

FINAL M B & B S DEGREE EXAMINATION

PART I

I certify that. . . .has been engaged in medical studies at the Medical College . for not less than two years after passing the First M.B. & B.S. Examination and that his progress and conduct have been satisfactory

(Signature).... ..... .

....19 . *Principal, Medical College.*

I certify that . . ...has attended a course of instruction in Forensic Medicine including demonstrations for a period of two terms.

(Signature). .....

.....19 . *Professor of Medicine.*

PART II

I certify that .. .has been engaged in medical studies at the Medical College. ... for not less than three academic years after passing the First M B & B S Examination (subject to his having passed the Second M.B & B.S Examination at least six months previously), and that his progress and conduct have been satisfactory.

(Signature).....

.....19 . *Principal, Medical College.*

I certify that.....has attended a course of instruction in the Medicine including Therapeutics.

(Signature).....

.....19 . *Professor of Medicine.*

* The date of the Examination should be noted here.

I certify that..... has been engaged as clinical clerk in the Medical wards of a recognized hospital for a period of nine months.

(Signature).....
.....19 . Physician.....Hospital.

I certify that..... ..has been engaged as a clinical clerk in the Medical Out-patients Department of a recognized hospital for a period of three months.

(Signature). . . . .
... . .19 . Medical Officer.. .Hospital.

I certify that .. .has attended a recognized course of instruction in Infectious Diseases

(Signature) ..... .
.. .. .19 . Professor of Medicine.

I certify that . . . has attended as clinical clerk in a recognized hospital for Infectious Diseases in two days in the week for a period of three months

(Signature) .....
. ..... .19 Medical Officer,
Hospital for Infectious Diseases

I certify that . has attended a recognized course of instruction in Mental Diseases

(Signature) . .....
.. . ... .19 Professor of Mental Diseases.

I certify that has attended as clinical clerk in a recognized Mental Hospital on one day in the week for a period of three months

(Signature).. . .. .
.. .. 19 Superintendent,
Hospital for Mental Diseases.

I certify that. . . . has attended a recognized course of instruction in Tuberculosis.

(Signature)... .....
.....19 . Professor of Medicine.

I certify that.. . .has attended as clinical clerk in a Tuberculosis Hospital on one day in the week for a period of three months.

(Signature).....

.. . .19 *Medical Officer,*

Tuberculosis Hospital.

I certify that has attended a recognized course of instruction in Dermatology

(Signature) ....

. . . 19 . *Professor.*

I certify that has attended the special departments relating to skin diseases on two days in the week for a period of three months

(Signature) ..

. 19 Medical Officer . Hospital.

I certify that has attended a recognized course of instruction in Vaccination by a qualified Health Officer

(Signature) . . . ..

. . .. 19 *Health Officer.*

I certify that has attended a recognized course of instruction in Children's Diseases

(Signature). .....

. 19 . *Professor.*

I certify that. .has attended a course of instruction in Surgery.

(Signature) .. ..

... .19 *Professor of Surgery.*

I certify that .has been engaged as a surgical dresser in the surgical wards of a recognized hospital for a period of nine months.

(Signature).....

.. ..19 . *Surgeon.....Hospital.*

I certify that.... ...has been engaged as a surgical dresser in the Out-patients Department of a recognized hospital.

(Signature) ... .

.. .. .19 . Surgeon .Hospital

I certify that has attended (1) a recognized course of instruction in Oto-Rhine-Laryngology and (2) a recognised clinic as clinical clerk on three days in the week for a period of three months.

(Signature)

... . .19 . Professor.

I certify that has attended a recognized course of instruction in Orthopedics on two days in the week for a period of three months.

(Signature)

. . 19 . Professor.

I certify that .has attended a course of practical instruction in the administration of anaesthetics and has personally administered a general anaesthetic in at least six cases.

(Signature) . .. .

. . .19 . Surgeon in Charge

I certify that has attended a recognized course of instruction in Operative Surgery

(Signature)

. . 19 . Professor of Operative Surgery.

I certify that has attended (1) a recognized course of instruction in Radiology and (2) an X-Ray Institute on three days in the week for a period of one month

(Signature) . . ..

.....19 . Radiologist.

I certify that. .....has attended (1) a recognized course of instruction in Venereal diseases and (2) a Venereal clinic for two days in the week for a period of three months.

(Signature) . . . . .

....19 . Professor.

I certify that before commencing the study of Practical Midwifery has attended a course of lectures on Medicine, Surgery and Midwifery and diseases to women and new born child

(Signature) . .

19 Professor of Obstetrics and Gynaecology

I certify that . .has been engaged as clinical clerk at an antenatal clinic and the Maternity wards of a lying-in hospital for a period of three months, that he has conducted twenty cases of labour under my supervision (of which not less than five cases were conducted in my presence) and that under my supervision he attended the cases during the puerperal period

19 (Signature)..... . . ...

Member of the Staff of a Lying-in Hospital or of a Maternity Charity recognized by the University

I certify that has been engaged as clinical clerk in the Gynaecologic wards and Out-patients Department of a recognized hospital for a period of three months.

(Signature) ... .

.. . . 19 Medical Officer..... .Hospital.

ORIENTAL TITLE EXAMINATIONS

PRELIMINARY

I hereby certify that, after passing the admission test mentioned in Regulation 11 of Chapter XLVI..... has kept three-fourths of the attendances prescribed by..... ..(name

of institution) during the first two years of the course, that he has received adequate instruction in .....and that his progress and conduct have been satisfactory.

(Signature)..... ... ..

Station

Date..... *Principal.*

FINAL

I hereby certify that after completing the course of instruction prescribed for the preliminary part of the Oriental Title Examination. .....has kept three-fourths of the attendances prescribed by.....(name of institution) for a further period of two years, that he has received adequate instruction in .....and that his conduct and progress have been satisfactory.

(Signature)..... . ..

Station

Date..... *Principal.*

EXAMINATIONS FOR CERTIFICATES OF PROFICIENCY IN ORIENTAL LEARNING

I hereby certify that after passing the Preliminary Examination for a Title.... ...has kept three-fourths of the attendances prescribed by .....(name of institution) for a period of two years, that he has received adequate instruction in..... that he has completed the course prescribed and that his conduct and progress have been satisfactory.

(Signature).....

Station

Date..... *Principal.*

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