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FEDERAL PUBLIC SERVICE COMMISSION (INDIA).

Pamphlet of the Combined Competitive Examination

FOR

(1) THE INDIAN AUDIT AND ACCOUNTS SERVICE, THE MILITARY ACCOUNTS DEPARTMENT AND THE INDIAN RAILWAY ACCOUNTS SERVICE; (2) THE IMPERIAL CUSTOMS SERVICE; (3) THE POSTAL SUPERINTENDENTS (CLASS II) SERVICE; AND (4) THE TRANSPORTATION (TRAFFIC) AND COMMERCIAL DEPARTMENTS OF THE SUPERIOR REVENUE ESTABLISHMENT OF STATE RAILWAYS

HELD IN DELHI IN NOVEMBER

1938.

RULES, SYLLABUS, MEDICAL REGULATIONS, QUESTION PAPERS, TABLE OF RESULTS AND REVIEW OF THE EXAMINATION.



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CONTENTS.

	PAGES.
1. Rules	13—25
2. Syllabus	26—29
3. Medical Regulations	30—35
4. Time-Tables	36
5. Question Papers (Printed in order of the subjects as shown in the rules) . .	37—73
6. Table of Results	75—85
7. Review of the examination	86—88

1. (a).—The following rules* are prescribed for recruitment to the Indian Audit and Accounts Service, the Imperial Customs Service, the Military Accounts Department and the Indian Railway Accounts Service.

PART I.

Methods of Recruitment.

1. These Rules may be called the Customs and Accounts Service Recruitment Rules.

2. For the purposes of these Rules—

(a) “Government” means the Governor-General in Council;

(b) “The Commission” means the Federal Public Service Commission (India);

(c) “The Service” means the Indian Audit and Accounts Service, the Imperial Customs Service, the Military Accounts Department and the Indian Railway Accounts Service.

3. The Service shall be recruited by the following methods:—

(i) By competitive examination held in India in accordance with Part II of these Rules.

(ii) By promotion or transfer from another Service or Department in accordance with Part III of these Rules.

4. Subject to the provisions of rule 3, Government shall determine the method or methods to be employed for the purpose of filling any particular vacancies, or such vacancies as may require to be filled during any particular period, and the number of candidates to be recruited by each method.

5. Vacancies in the Service which are filled otherwise than by promotion shall be apportioned between the various communities in India in accordance with the provisions of the Government of India (Home Department) Resolution No. F. 14/17-B./33-Ests., dated the 4th July 1934, and the supplementary instructions connected therewith.

PART II.

Recruitment by competitive examination.

6. A competitive examination for admission to the Service shall be held in India at such time and place as Government may prescribe by notice issued through the Commission. Every such notice will, when possible, announce the number of vacancies to be filled on the result of the examination.

7. The competitive examination shall be a combined examination for admission to the Indian Audit and Accounts Service, the Imperial Customs Service, the Military Accounts Department, the Indian Railway Accounts Service, the Postal Superintendents (Class II) Service and the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways.

Any person may apply to be admitted as a candidate for appointment in all or any of these Services for which he is eligible. If he wishes to compete for appointment in more than one Service he shall state on his application form which Services he wishes to compete for and the order of his preference between them, and in such case only one application form will be necessary and one payment of the fees referred to in rule 16 (and Appendix III) will be sufficient.

Government shall assign successful candidates to each Service on a consideration of all circumstances including any personal preference expressed by the candidate.

* These rules are liable to alteration for subsequent examinations.

8. The candidates to be admitted to the examination shall be limited to such number, being not less than 200 and not more than 300 as the Commission may fix. If the number of applicants exceeds that limit, in selecting those who shall be admitted to the examination the Commission shall have regard to the suitability of the applicants and to the adequate representation of the various communities and provinces of India.

9. (i)* A candidate who is in the permanent service of the Government shall apply to the Commission for admission to the examination through the Head of his Office, who shall forward his application to the Commission through the Government concerned unless he refuses his consent to the application.

(ii) A candidate who is not in Government service, or is employed in Government service only in a temporary capacity at the time that he submits his application, shall apply to the Commission through the proper authority of the area in which his parents reside at the time of submitting his application, or have resided for a period of not less than three years, or in which the candidate has himself resided, otherwise than as a student, for a like period. A Government servant who is employed in a temporary capacity should, however, before submitting his application, obtain in writing, on the prescribed form, the permission of the Head of the Office or Department in which he is employed.

(iii) The proper authority for a Governor's Province shall be the Provincial Government of that Province; for Coorg, Delhi, Ajmer-Merwara, British Baluchistan or Andaman and Nicobar Islands, the Chief Commissioner; and for a State in India the Political Officer or Agent who must be addressed through the Government of the State.

(iv) No candidate may make more than one application in respect of any one occasion on which an examination is held.

10. A candidate must be a male and either—

(a) a British subject domiciled in India or a British subject of European or Indian descent domiciled in Burma, whose father (if alive) is a British subject or a subject of a State in India, or (if dead) was at the time of his death either a British subject or a subject of a State in India or a person in the permanent service of the Crown or a person who had retired from that Service; or

(b) a Ruler or a subject of a State in India.

Provided that in the case of a male British subject the requirements of this rule (other than that concerning domicile or descent) may be waived by Government if satisfied that their observance would occasion exceptional hardship and that the candidate is so closely connected by ancestry or upbringing with His Majesty's dominions as to justify special treatment.

Provided also that a ruler or a subject of a State in India cannot be appointed unless he has obtained a declaration under Section 262 of the Government of India Act, 1935, whether or not he has already obtained a declaration under section 96A of the Government of India Act, 1919.

NOTE.—British subjects of European or Indian descent domiciled in Burma will not, however, be eligible to compete at the Indian Audit and Accounts, etc., Services Examination that may be held after the 1st April 1939.

11. Candidates must have attained the age of 22, and must not have attained the age of 25, on the first day of August of the year in which the examination is held.

* The submission of applications by persons in Government service is further governed by the Government Servants' Applications for Posts (Central Services) Rules published with the Government of India Home Department (Railway Services) Notification No. F. 510/31—Ests. dated the 7th June 1934
Railway Department (Railway Board) Notification No. E. 34-R. R. I. 22nd January 1935, as amended from time to time, and the corresponding rules made by Provincial Governments,

Provided that a Government servant* who is over the age of 25 and under the age of 28 on that date may be admitted to the examination if he—

- (a) holds substantively a permanent appointment in a Department or (in the case of the Indian Railway Accounts Service) Branch, whose superior staff generally constitutes the Service for which he is a candidate, and
- (b) is recommended by the Head of his Department.

12. A candidate must satisfy the Commission that his character and antecedents are such as to make him suitable for appointment to the public service. No candidate who is in the employment of the Central or of a Provincial Government will be admitted to the examination, unless the Head of his Department reports that his character and attainments are satisfactory.

13. A candidate must be a graduate of one of the Universities enumerated in the first appendix to these rules or must hold the Senior Diploma of the Mayo College, Ajmer.

Provided that, in exceptional cases, the Commission may, on the recommendation of the Central Government or a Provincial Government, treat as qualified a candidate who, though he has not any of the foregoing qualifications, has passed examinations conducted by other institutions of a standard which in the opinion of the Commission justifies his admission to the examination.

14. No candidate shall be admitted to the examination unless he holds a certificate of admission from the Commission.

The decision of the Commission as to the eligibility or otherwise of a candidate for admission to the examination shall be final.

15. No recommendations except those invited in the form of application shall be taken into consideration. Any attempts on the part of a candidate to obtain support for his candidature by other means may disqualify him for admission.

16. Candidates must pay such examination fees as Government may prescribe (see Appendix III). No claim for a refund of any of these fees will be entertained, nor can they be held in reserve for subsequent examinations or selections.

17. Examinations under these Rules shall be conducted by the Commission in the manner prescribed in the regulations which form Appendix II to these Rules.

18. (i) After every examination the Commission shall make a list of the candidates in order of their merit as disclosed by the aggregate marks finally awarded to each candidate, and in that order so many candidates up to the number of vacancies announced under rule 6 above, as are found by the Commission to be qualified by the examination and are considered by Government or the appointing authority, as the case may be, to be suitable in all other respects, shall be appointed.

(ii) For the purposes of rule 5 of these Rules, selections for appointment to vacancies to be filled by members of a particular community or communities shall be made by Government or the appointing authority, as the case may be, after consulting the Commission, from candidates of that community or communities who have qualified at the examination.

19. A candidate must be in good mental and bodily health and free from any physical defect likely to interfere with the discharge of his duties as an officer of the Service. A candidate who (after such medical examination as Government or the appointing authority, as the case may be, may prescribe) is found not to satisfy these requirements will not be appointed. Only candidates who are likely to be appointed will be medically examined.†

* For the purpose of this proviso, a person holding an appointment in the service of an Indian State is not a "Government servant".

† In order to prevent disappointment candidates are advised to have themselves examined by a medical practitioner preferably a Civil Surgeon, before applying for admission to the examination. Particulars of the nature of the medical test to which candidates will be submitted before appointment and of the standards required can be had from the Commission. Candidates will have no right of appeal against the decision of the Medical Board.

20. (a) Appointments shall be made on probation for a period of 2 years provided that this period may be extended if the officer on probation has not qualified for confirmation by passing the prescribed departmental examinations. Repeated failure to pass the departmental examinations within a period of 3 years shall involve loss of appointment.

(b) If, in the opinion of Government the work or conduct of an officer on probation is unsatisfactory, or shows that he is unlikely to become efficient, Government may discharge him forthwith.

(c) On the conclusion of his period of probation, Government may confirm the officer in his appointment, or, if his work or conduct has in the opinion of Government been unsatisfactory, Government may either discharge him from the Service or may extend his period of probation for such further period as Government may think fit.

(d) If the power to make appointments in the Service is delegated by Government to any officer, that officer may exercise any of the powers of Government under this rule.

PART III.

Recruitment by promotion or transfer from another Service or Department.

21. Recruitment by promotion shall be made by selection from among the subordinate gazetted and ministerial establishments of the Service concerned after consultation with the Commission and the officer selected will be appointed by Government. No officer shall have any claim to such promotion as of right.

22. Recruitment by transfer from another Service or Department shall be made by Government after consultation with the Commission, from among members of such other services or departments as may be determined by Government when occasion arises.

23. If the power to make appointments in the Service is delegated by Government to any officer, that officer may exercise any of the powers of Government under this Part of these Rules.

APPENDIX I.

List of Universities approved by the Governor-General in Council.

(Vide Rule 13.)

Indian Universities—

Any University incorporated by an Act of the Central or a Provincial Government in India.

The Mysore University.

The Osmania University.

The Rangoon University.

English and Welsh Universities—

The Universities of Birmingham, Bristol, Cambridge, Durham, Leeds, Liverpool, London, Manchester, Oxford, Reading, Sheffield and Wales.

Scottish Universities—

The Universities of Aberdeen, Edinburgh, Glasgow and St. Andrews.

Irish Universities—

The Universities of Dublin (Trinity College) and the Queen's University, Belfast,

APPENDIX II.

(*Vide* Rule 17.)

1. The examination will include the following subjects. Each subject will carry the number of marks shown against it :—

Section A.—To be taken by all candidates.

	Marks.
1. Essay	150
2. English	150
3. General Knowledge	150
4. Elementary Geography	100
5. Elementary Mathematics	100
6. <i>Viva Voce</i>	200

Section B.—Candidates are allowed to take subjects in this section up to a total of 600 marks.

	Marks.
7. Pure Mathematics	200
8. Applied Mathematics	200
9. Chemistry	200
10. Physics	200
11. English literature (General)	200
12. Indian History	200
13. British History	200
14. General Economics	200
15. Economic History	100
16. Statistics	100
17. One of the following :—	
Latin, Greek, French, Sanskrit, Arabic or Persian	200
18. Applied Mechanics	200
19. Prime Movers	100

2. A candidate who takes any of the subjects 7, 8, 18 or 19 above will be required to offer some other subject carrying 100 marks in place of subject 5.

3. A candidate who takes Physics or Chemistry as an optional subject must produce, on the prescribed form, a certificate that he has undergone, after passing the intermediate or equivalent examination, laboratory training for a period of one year in an institution authorised to prepare candidates in that subject for a University Degree or in the Mayo College, Ajmer. The certificate must be signed by the head of the institution.

4. The standard and syllabus of the examination will be such as the Federal Public Service Commission shall prescribe and the Commission shall, if they think it desirable, determine what shall be the qualifying mark in all or any of the subjects of the examination.

5. From the marks assigned to candidates in each subject such deduction will be made as the Commission may consider necessary in order to secure that no credit is allowed for merely superficial knowledge.

6. If a candidate's handwriting is not easily legible, a deduction will be made on this account from the total marks otherwise accruing to him.

7. Credit will be given for good English including orderly, effective and exact expression combined with due economy of words in all subjects of the examination and not only in subjects which are specially devoted to English.

APPENDIX III.

Fees.

(Vide Rule 16.)

Candidates must pay the following fees :—

A. To the Federal Public Service Commission—

(i) Rs. 7-8-0 with the application form.

(ii) Rs. 75-0-0 immediately on receipt of an admission certificate from the Federal Public Service Commission.

(Only treasury receipts for these amounts will be accepted by the Federal Public Service Commission. The Federal Public Service Commission cannot accept fees in cash or postal orders or cheques.)

B. To the Provincial Government—

Rs. 16-0-0 before examination by a Medical Board in the case of successful candidates.

No claim for a refund of these fees will be entertained, nor can they be held in reserve for subsequent examinations or selections.

Candidates are required to pay their medical fees in cash to the Medical Boards concerned at the time of their medical examination.

1. (b).—The following rules* are prescribed for recruitment to the Postal Superintendents (Class II) Service.

PART I.

Methods of Recruitment.

1. These Rules may be called the Postal Superintendents (Class II) Service Recruitment Rules.

2. For the purposes of these Rules—

(a) “Government” means the Governor General in Council;

(b) “The Commission” means the Federal Public Service Commission (India);

(c) “The Service” means the Postal Superintendents (Class II) Service.

3. The Service shall be recruited by the following methods:—

(i) By competitive examination held in India in accordance with Part II of these Rules.

(ii) By promotion.

4. Subject to the provisions of rule 3, Government shall determine the method or methods to be employed for the purpose of filling any particular vacancies, or such vacancies as may require to be filled during any particular period, and the number of candidates to be recruited by each method.

5. Vacancies in the Service which are filled otherwise than by promotion shall be apportioned between the various communities in India in accordance with the provisions of the Government (Home Department) Resolution No. F. 14/17-B./33-Ests., dated the 4th July 1934, and the supplementary instructions connected therewith.

PART II.

Recruitment by competitive examination.

6. A competitive examination for admission to the Service shall be held in India at such times and places as Government may prescribe by notice issued through the Commission. Every such notice will, when possible, announce the number of vacancies to be filled on the result of the examination.

7. If the examination held under this part of these Rules is a combined examination for the purpose of making appointments to more than one Service or Department, the following provisions shall apply:—

(i) Any person may apply to be admitted as a candidate for appointment in all or any of these Services or Departments for which he is eligible. If he wishes to compete for appointment in more than one Service or Department, he shall state on his application form which Services or Departments he wishes to compete for and the order of his preference between them, and in such case only one application form will be necessary and one payment of the fees referred to in rule 16 (and Appendix III) will be sufficient.

(ii) Government shall assign successful candidates to each Service or Department on a consideration of all circumstances including any personal preference expressed by the candidate.

8. The candidates to be admitted to the examination shall be limited to such number, being not less than 200 and not more than 300 as the Commission may fix. If the number of candidates exceeds that limit, the Commission shall select from the applicants those who shall be admitted to the examination, and in doing so shall have regard to the suitability of the applicants and to the adequate representation of the various communities and provinces of India.

*These rules are liable to alteration for subsequent examinations.

9. (i) A candidate must apply to be admitted to the examination before such date, in such manner, and in such form as the Commission may prescribe.

(ii)* If a candidate is in the permanent service of Government he shall apply to the Commission for admission to the Examination through the Head of his Office, who shall forward his application to the Commission through the Government concerned, unless he refuses his consent to the application.

(iii) If a candidate is not in Government service, or is employed in Government service only in a temporary capacity at the time that he submits his application, he shall apply to the Commission through the proper authority of the area in which his parents reside at the time of submitting his application, or have resided for a period of not less than three years, or in which the candidate has himself resided, otherwise than as a student, for a like period. A Government servant who is employed in a temporary capacity should, however, before submitting his application, obtain in writing, on the prescribed form, the permission of the Head of the Office or Department in which he is employed.

(iv) The proper authority for a Governor's province shall be the Government of that province : for Coorg, Delhi, Aimer-Merwara, British Baluchistan or Andaman and Nicobar Islands, the Chief Commissioner, and for a State in India, the Political Officer or Agent, who must be addressed through the Durbar.

(v) No candidate may make more than one application in respect of any one examination.

10. A candidate must be either—

(a) a British subject domiciled in India or a British subject of European or Indian descent domiciled in Burma, whose father (if alive) is a British subject or a subject of a State in India, or (if dead) was at the time of his death either a British subject or a subject of a State in India or a person in the permanent service of the Crown or a person who had retired from that Service ; or

(b) a Ruler or a subject of a State in India.†

Provided that in the case of a British subject the requirements of this rule (other than that concerning domicile or descent) may be waived by Government if satisfied that their observance would occasion exceptional hardship and that the candidate is so closely connected by ancestry or upbringing with His Majesty's dominions as to justify special treatment.

Provided also that a ruler or a subject of a State in India cannot be appointed unless he has obtained a declaration under Section 262 of the Government of India Act, 1935, whether or not he has already obtained a declaration under Section 96A of the Government of India Act, 1919.

NOTE.—British subjects of European or Indian descent domiciled in Burma will not, however, be eligible to compete at the Indian Audit and Accounts, etc., Services Examination that may be held after the 1st April 1939.

11. A candidate must have attained the age of 22 and must not have attained the age of 25 on the first day of August of the year in which the examination begins.

Provided that a Government† servant who is over the age of 25 and under the age of 28 at that date may be admitted to the examination if he—

(a) holds substantively a permanent appointment in a Department or Office whose superior staff generally constitutes the service for which he is a candidate, and

(b) is recommended by the Head of his Department.

*The submission of applications by persons in Government service is further governed by the Government Servants' Applications for Posts (Central Services) Rules (published with the Government of India Home Department (Railway Services) Notification No. F. 510/31—Ests., dated the 7th June 1934 as amended from time to time), and the corresponding rules made by Provincial Governments, No. E. 34-R. R. I., dated the 22nd January 1935.

†For the purpose of this proviso a person holding an appointment in the service of an Indian State to be a "Government Servant".

12. A candidate must satisfy the Commission that his character is such as to make him suitable for appointment to the Service.

13. A candidate must be a graduate of one of the Universities enumerated in Appendix I to these rules or must hold the Senior Diploma of the Mayo College, Ajmer.

Provided that in exceptional cases the Commission may on the recommendation of the Central Government or a Provincial Government treat as a qualified candidate, a candidate who, though he has not all or any of the qualifications prescribed in this rule, has passed examinations conducted by other institutions of a standard which in the opinion of the Commission justifies his admission to the examination.

14. No candidate shall be admitted to the examination unless he holds a certificate of admission from the Commission.

The decision of the Commission as to the eligibility or otherwise of a candidate for admission to the examination shall be final.

15. No recommendations except those invited in the form of application shall be taken into consideration. Any attempt on the part of a candidate to obtain support for his candidature by other means may disqualify him for admission.

16. Candidates must pay such examination fees as Government may prescribe (see Appendix III). No claim for a refund of any of these fees will be entertained, nor can they be held in reserve for subsequent examinations or selections.

17. Examinations under these Rules shall be conducted by the Commission in the manner prescribed in the regulations which form Appendix II to these Rules.

18. (i) After every examination the Commission shall make a list of the candidates in order of their merit as disclosed by the aggregate marks finally awarded to each candidate, and in that order so many candidates up to the number of vacancies announced under rule 6 above, as are found by the Commission to be qualified by the examination and are considered by Government or the appointing authority, as the case may be, to be suitable in all other respects, shall be appointed.

(ii) For the purposes of rule 5 of these Rules, selections for appointment to vacancies to be filled by members of a particular community or communities shall be made by Government or the appointing authority, as the case may be, after consulting the Commission, from candidates of that community or communities who have qualified at the examination.

19. A candidate must be in good mental and bodily health and free from any physical defect likely to interfere with the discharge of his duties as an officer of the Service. A candidate who (after such medical examination as Government or the appointing authority, as the case may be, may prescribe) is found not to satisfy those requirements will not be appointed. Only candidates who are likely to be appointed will be medically examined.*

20. (a) Appointments shall be made on probation for a period which will not ordinarily exceed two years.

(b) If, in the opinion of Government the work or conduct of an officer on probation is unsatisfactory or shows that he is unlikely to become efficient, Government may discharge him forthwith.

(c) On the conclusion of his period of probation, Government may confirm the officer in his appointment, or, if his work or conduct has in the opinion of Government been unsatisfactory, Government may either discharge him from the Service or may extend his period of probation for such further period as Government may think fit.

* In order to prevent disappointment candidates are advised to have themselves examined by a medical practitioner, preferably a Civil Surgeon, before applying for admission to the examination. Particulars of the nature of the medical test to which candidates will be submitted before appointment and of the standard required can be had from the Commission.

(d) If no action is taken by Government under sub-rule (b) or (c) of this rule, the period after the prescribed period of probation shall be treated as an engagement from month to month, terminable, on either side on the expiration of one calendar month's notice in writing.

(e) If the power to make appointments in the Service is delegated by Government to any officer, that officer may exercise any of the powers of Government under this rule.

(f) Particulars as to pay and general conditions of service prescribed for Probationers in the Postal Superintendents' Service will be found in Appendix IV.

PART III.

Recruitment by promotion.

21. Recruitment by promotion shall be made by selection from among the Inspectors of Post Offices and of the Railway Mail Service and Head clerks to Superintendents of post offices and the officer selected will be appointed by Government. No officer shall have any claim to such promotion as of right.

22. If the power to make appointments in the Service is delegated by Government to any officer, that officer may exercise any of the powers of Government under this part of these Rules.

APPENDIX I.

List of Universities approved by the Governor General in Council.

(Vide Rule 13).

Indian Universities—

Any University incorporated by an Indian (Central) or (Provincial) Statute.

The Mysore University.

The Osmania University.

The Rangoon University.

English and Welsh Universities—

The Universities of Birmingham, Bristol, Cambridge, Durham, Leeds, Liverpool, London, Manchester, Oxford, Reading, Sheffield and Wales.

Scottish Universities—

The Universities of Aberdeen, Edinburgh, Glasgow and St. Andrews.

Irish Universities—

The University of Dublin (Trinity College) and the Queen's University, Belfast.

APPENDIX II.

The Standard and Syllabus of the Examination.

(Vide Rule 17).

1. The examination will include the following subjects. Each subject will carry the number of marks shown against it:—

Section A.—To be taken by all candidates.

	Marks.
1. Essay	150
2. English	150
3. General Knowledge	150
4. Elementary Geography	100
5. Elementary Mathematics	100
6. <i>Viva Voce</i>	200

Section B.—Candidates are allowed to take subjects in this section up to a total of 600 marks.

	Marks.
7. Pure Mathematics	200
8. Applied Mathematics	200
9. Chemistry	200
10. Physics	200
11. English literature (General)	200
12. Indian History	200
13. British History	200
14. General Economics	200
15. Economic History	100
16. Statistics	100
17. One of the following—	
Latin, Greek, French, Sanskrit, Arabic or Persian	200
18. Applied Mechanics	200
19. Prime Movers	100

2. A candidate who takes any of the subjects 7, 8, 18 or 19 above will be required to offer some other subject carrying 100 marks in place of subject 5.

3. A candidate who takes Physics or Chemistry as an optional subject must produce, on the prescribed form, a certificate that he has undergone, after passing the intermediate or equivalent examination, laboratory training for a period of one year in an institution authorised to prepare candidates in that subject for a University Degree or in the Mayo College, Ajmer. The certificate must be signed by the head of the institution.

4. The standard and syllabus of the examination will be such as the Federal Public Service Commission shall prescribe and the Commission shall, if they think it desirable, determine what shall be the qualifying marks in all or any of the subjects of the examination.

5. From the marks assigned to candidates in each subject such deduction will be made as the Commission may consider necessary in order to secure that no credit is allowed for merely superficial knowledge.

6. If a candidate's handwriting is not easily legible, a deduction will be made on this account from the total marks otherwise accruing to him.

7. Credit will be given for good English including orderly, effective and exact expression combined with due economy of words in all subjects of the examination and not only in subjects which are specially devoted to English.

APPENDIX III.

Fees.

(*Vide* Rule 16).

Candidates must pay the following fees :—

A.—To the Federal Public Service Commission—

(i) Rs. 7-8-0 with the application form.

(ii) Rs. 75-0-0 immediately on receipt of an admission certificate from the Federal Public Service Commission.

(Only treasury receipts for these amounts will be accepted by the Federal Public Service Commission. The Federal Public Service Commission cannot accept fees in cash or Postal Orders or cheques).

B.—To the Medical Board—

Rs. 16-0-0 before examination by a Medical Board in the case of successful candidates.

No claim for a refund of these fees will be entertained, nor can they be held in reserve for subsequent examinations or selections.

Candidates are required to pay their medical fees in cash to the Medical Boards concerned at the time of their medical examination.

APPENDIX IV.

[*Vide* Rule 20 (f)].

General conditions of service prescribed for Probationers in the Postal Superintendents Service.

Selected candidates will be appointed as Probationers for training in the Department for a period which will not ordinarily exceed two years. They will receive pay at the rate of Rs. 200 a month for the first year. On satisfactory conclusion of the first year's training and after passing the prescribed departmental tests they will receive Rs. 220 a month for the second year. Those who make satisfactory progress during the second year's training will be appointed to the cadre of Superintendents of Post Offices and R. M. S. on a scale of Rs. 240—20—480—15—600 in alternate permanent vacancies in that grade. These conditions of service are subject to revision according to the requirements of the service. Candidates will not be entitled to compensation if they are adversely affected by any changes in the conditions of service which may subsequently be introduced.

1. (c).—The following rules* are prescribed for recruitment to the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways.

RULES.

PART I.

Methods of Recruitment.

1. These Rules may be called the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways Recruitment Rules.

2. For the purposes of these Rules—

- (a) "Government" means the Governor-General in Council ;
- (b) "The Commission" means the Federal Public Service Commission (India) ;
- (c) "High Commissioner" means the High Commissioner for India ;
- (d) "the Department" means the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways ;
- (e) "Direct appointment" means appointment otherwise than on the result of a competitive examination or by promotion or transfer from another Service/Department.

3. The Department shall be recruited by the following methods :—

- (i) By competitive examination held in India in accordance with Part II of these Rules.
- (ii) By direct appointment of persons of non-Asiatic domicile by the High Commissioner for India by selection from the United Kingdom in accordance with the rules made by him.
- (iii) By promotion or transfer from another Service in accordance with Part III of these Rules.
- (iv) By direct appointment of persons of Indian Domicile or of European or Indian descent domiciled in Burma in accordance with Part IV of these Rules.

4. Subject to the provisions of rule 3, Government shall determine the method or methods to be employed for the purpose of filling any particular vacancies, or such vacancies as may require to be filled during any particular period, and the number of candidates to be recruited by each method.

5. Vacancies in the Department which are filled otherwise than by promotion shall be apportioned between the various communities in India in accordance with the provisions of the Government of India (Home Department) Resolution No. F. 14/17-B./33-Ests., dated the 4th July 1934, and the supplementary instructions connected therewith.

PART II.

Recruitment by competitive examination.

6. A competitive examination for admission to the Department shall be held in India at such times and places as Government may prescribe by notice issued through the Commission. Every such notice will, when possible, announce the number of vacancies to be filled on the result of the examination.

7. If the examination held under this part of these Rules is a combined examination for the purpose of making appointments to more than one Service or Department, the following provisions shall apply :—

Any person may apply to be admitted as a candidate for appointment in all or any of these Services or Departments for which he is eligible. If he wishes to compete for appointment in more than one Service or Department, he shall state on his application form which Services or Departments he wishes to compete for and the order of his preference between them, and in such

* These rules are liable to alteration for subsequent examinations.

case only one application form will be necessary and one payment of the fees referred to in rule 16 (and Appendix III) will be sufficient.

- (ii) Government shall assign successful candidates to each Service or Department on a consideration of all circumstances including any personal preference expressed by the candidate.

8. The candidates to be admitted to the examination shall be limited to such number, being not less than 200 and not more than 300, as the Commission may fix. If the number of candidates exceeds that limit, the Commission shall select from the applicants those who shall be admitted to the examination, and in doing so shall have regard to the suitability of the applicants and to the adequate representation of the various communities and provinces of India.

9. (i)* A candidate who is in the permanent service of the Government shall apply to the Commission for admission to the examination through the Head of his Office, who shall forward his application to the Commission through the Government concerned unless he refuses his consent to the application.

(ii) A candidate who is not in Government service, or is employed in Government service only in a temporary capacity at the time that he submits his application, shall apply to the Commission through the proper authority of the area in which his parents reside at the time of submitting his application, or have resided for a period of not less than three years, or in which the candidate has himself resided, otherwise than as a student, for a like period. A Government servant who is employed in a temporary capacity should, however, before submitting his application, obtain in writing, on the prescribed form the permission of the Head of the Office or Department in which he is employed.

(iii) The proper authority for a Governor's Province shall be the Provincial Government of that Province; for Coorg, Delhi, Ajmer-Merwara, British Baluchistan or Andaman and Nicobar Islands, the Chief Commissioner; and for a State in India the Political Officer or Agent who must be addressed through the Government of the State.

(iv) No candidate may make more than one application in respect of any one occasion on which an examination is held.

10. A candidate must be a male and either—

(a) a British subject of Indian domicile or of European or Indian descent domiciled in Burma whose father (if alive) is a British subject or a subject of a State in India, or (if dead) was at the time of his death either a British subject or a subject of a State in India or a person in the permanent service of the Crown or a person who had retired from that Service; or

(b) a Ruler or a subject of a State in India.

Provided that in the case of a male British subject the requirements of this rule (other than that concerning domicile) may be waived by Government if satisfied that their observance would occasion exceptional hardship and that the candidate is so closely connected by ancestry or upbringing with His Majesty's dominions as to justify special treatment.

Provided also that a ruler or a subject of a State in India cannot be appointed unless he has obtained a declaration under sub-section I of Section 262 of the Government of India Act, 1935, whether or not he has already obtained a declaration under Section 96A of the Government of India Act, 1919.

NOTE.—British subjects of European or Indian descent domiciled in Burma will not, however, be eligible to compete at the Indian Audit and Accounts, etc., Services Examination that may be held after the 1st April 1939.

* The submission of applications by persons in Government service is further governed by the Government Servants' Applications for Posts (Central Services) Rules [published with the Government of India, Home Department (Railway Services) No. F. 510/31-Ests. 7th June 1934], Railway Department (Railway Board) Notification No. E. 34-R. R. I., dated the 22nd January 1935, as amended from time to time, and the corresponding rules made by Provincial Governments.

11. A candidate must have attained the age of 21 and must not have attained the age of 25 on the first day of August of the year in which the examination begins.*

12. A candidate must satisfy the Commission that his character is such as to make him suitable for appointment to the Department.

13. A candidate must—

- (i) hold a degree of one of the Universities enumerated in Appendix I (a) to these rules ; or
- (ii) have passed Parts A and B of the Associate Membership examination of the Institution of Engineers (India) ; or have such educational qualifications as are now or may subsequently be recognised by that Institution as exempting candidates from passing Parts A and B of that examination. [For qualifications at present recognised *see* Appendix I (b)] ; or
- (iii) hold a degree of any University in the Dominions, approved for this purpose by the Commission, or the Associateship or Fellowship of the Indian Institute of Science, Bangalore ; or
- (iv) have such other qualifications, if any, as may be approved by the Governor General in Council after consulting the Commission.

14. No candidate shall be admitted to the examination unless he holds a certificate of admission from the Commission.

The decision of the Commission as to the eligibility or otherwise of a candidate for admission to the examination shall be final.

15. No recommendations except those invited in the form of application shall be taken into consideration. Any attempt on the part of a candidate to obtain support for his candidature by other means may disqualify him for admission.

16. Candidates must pay such examination fees as Government may prescribe (see Appendix III). No claim for a refund of any of these fees will be entertained, nor can they be held in reserve for subsequent examinations or selections.

17. Examinations under these Rules shall be conducted by the Commission in the manner prescribed in the regulations which form Appendix II to these Rules.

18. (i) After every examination the Commission shall make a list of the candidates in order of their merit as disclosed by the aggregate marks finally awarded to each candidate, and in that order so many candidates up to the number of vacancies announced under rule 6 above, as are found by the Commission to be qualified by the examination and are considered by Government or the appointing authority, as the case may be, to be suitable in all other respects, shall be appointed.

(ii) For the purposes of rule 5 of these Rules, selections for appointment to vacancies to be filled by members of a particular community or communities shall be made by Government or the appointing authority, as the case may be, after consulting the Commission, from candidates of that community or communities who have qualified at the examination.

19. A candidate must be in good mental and bodily health and free from any physical defect likely to interfere with the discharge of his duties as an officer of the Department. A candidate who (after such medical examination as Government or the appointing authority, as the case may be, may prescribe) is found not to satisfy those requirements will not be appointed. Only candidates who are likely to be appointed will be medically examined.†

* NOTE.—These age limits apply whether or not the candidate is already in Government Service.

† In order to prevent disappointment candidates are advised to have themselves examined by a medical practitioner, preferably a Civil Surgeon, before applying for admission to the examination. Particulars of the nature of the medical test to which candidates will be submitted before appointment and of the standards required can be had from the Commission.

20. (a) Appointments shall be made on probation for a period of three years.

(b) If, in the opinion of Government the work or conduct of an officer on probation is unsatisfactory, or shows that he is unlikely to become efficient, Government may discharge him forthwith.

(c) On the conclusion of his period of probation, Government may confirm the officer in his appointment, or, if his work or conduct has in the opinion of Government been unsatisfactory, Government may either discharge him from the Service or may extend his period of probation for such further period as Government may think fit.

(d) If no action is taken by Government under sub-rule (b) or (c) of this rule, the period after the prescribed period of probation shall be treated as an engagement from month to month, terminable on either side on the expiration of one calendar month's notice in writing.

(e) If the power to make appointments in the Department is delegated by Government to any officer, that officer may exercise any of the powers of Government under this rule.

(f) Particulars as to (1) pay, the State Railway Provident Fund and the Gratuity Rules and (2) courses of training will be found in Appendices IV and V.

PART III.

Recruitment by promotion or transfer from another Service or Department.

21. Recruitment by promotion shall be made by selection from among the specially qualified officers of the Lower Gazetted Service and subordinates of the Transportation (Traffic) and Commercial Department, after consultation with the Commission, and the person selected will be appointed by Government. No one shall have any claim to such promotion as of right.

22. Recruitment by transfer from another Service/Department shall be made by Government after consultation with the Commission, from among members of such other services or departments as may be determined by Government when occasion arises.

23. If the power to make appointments in the Department is delegated by Government to any officer, that officer may exercise any of the powers of Government under this Part of these Rules.

PART IV.

Recruitment by Direct Appointment.

24. Recruitment by direct appointment of eligible persons living in India shall be made in India on the recommendation of the Commission, and of eligible persons living out of India on the recommendation of the High Commissioner, who may appoint a selection board to advise him concerning the appointment, and may determine the manner in which any such selection board shall exercise its functions.

25. Every candidate for direct appointment—

(a) must be a male and either—

(i) a British subject of Indian domicile or of European or Indian descent domiciled in Burma whose father (if alive) is a British subject, or (if dead) was at the time of his death either a British subject or a subject of a State in India or a person in the permanent service of the Crown, or a person who had retired from that service, or,

(ii) a Ruler or a subject of a State in India.

Provided that a Ruler or a subject of a State in India cannot be appointed unless he has obtained a declaration under sub-section I of Section 262 of the Government of India Act, 1935.

- (b) must be not less than 21 and not more than 25 years of age on the first day of August in the year in which the appointment is to be made ;
- (c) must—
- (i) hold a degree of one of the Universities enumerated in Appendix I (a) to these rules ; or
 - (ii) have passed Parts A and B of the Associate Membership examination of the Institution of Engineers (India) ; or have such educational qualifications as are now or may subsequently be recognised by that Institution as exempting candidates from passing Parts A and B of that examination. [For qualifications at present recognised, see Appendix I (b)] ; or
 - (iii) hold a degree of any University in the Dominions, approved for this purpose by the Commission, or the Associateship or Fellowship of the Indian Institute of Science, Bangalore ; or
 - (iv) have such other qualifications, if any, as may be approved by the Governor General in Council after consulting the Commission and such other special qualifications as Government may prescribe for the Department or post to which appointment is to be made ;
- (d) must satisfy the Commission or the High Commissioner, as the case may be, that his character and antecedents are such as to make him suitable for appointment to the Department or post.

26. The decision of the Commission, or of the High Commissioner, as the case may be, on the question whether a candidate does, or does not, satisfy any of the requirements of rule 25 [including special qualifications, if any, prescribed under sub-rule (c) of rule 25] shall be final.

*27. Government may modify or waive all or any of the requirements of rule 25 (a), (b) and (c) when an appointment for work of a special nature is to be made and it is not practicable to obtain a suitable candidate who fulfils all the requirements of rule 25.

28. A candidate for direct appointment must be in good mental and bodily health and free from any physical defect likely to interfere with the discharge of his duties as an officer of the Department. A candidate who (after such medical examination as Government or the appointing authority, as the case may be, may prescribe), is found not to satisfy those requirements will not be appointed.

29. When a direct appointment is to be made on the recommendation of the Commission every candidate must, at the time of application, pay such fee as Government after consulting the Commission may from time to time prescribe (See Appendix III), and candidates must submit such proofs of their qualifications as the Commission may require.

30. (a) Direct appointments will be made on probation for a period of three years.

(b) If the work or conduct of an officer on probation is in the opinion of Government unsatisfactory, Government may discharge him forthwith.

(c) On the conclusion of his period of probation, Government may either confirm the officer in his appointment, or, if his work or conduct has in the opinion of Government been unsatisfactory, Government may either discharge him or extend his period of probation for such further period as Government may think fit.

(d) If no action is taken by Government under sub-rule (b) or (c) of this rule, the period after the prescribed period of probation shall be treated as an engagement from month to month, terminable on either side on the expiration of one calendar month's notice in writing.

* Any exercise of the power under this rule will be subject to the provisions of Section 202 of the Government of India Act, 1935.

(e) If the power to make appointments in the Department is delegated by Government to any officer, that officer may exercise any of the powers of Government under this rule.

APPENDIX I (a).

[*Vide* Rule 13 (i)].

List of Universities approved by the Governor General in Council.

Indian Universities—

Any University incorporated by an Act of the Central or of a Provincial Legislature in India.

The Mysore University.

The Osmania University.

The Rangoon University.

English and Welsh Universities—

The Universities of Birmingham, Bristol, Cambridge, Durham, Leeds, Liverpool, London, Manchester, Oxford, Sheffield and Wales.

Scotish Universities—

The Universities of Aberdeen, Edinburgh, Glasgow and St. Andrews.

Irish Universities—

The University of Dublin (Trinity College).

The Queen's University of Belfast.

APPENDIX I (b).

[*Vide* Rule 13 (ii)].

List of Examinations recognised by the Council of the Institution of Engineers (India) as exempting from Parts "A" and "B" of the Associate Membership Examination.

Institution of Civil Engineers	Sections A and B of the Associate Membership Examination.
Institution of Mechanical Engineers	Associate Membership Examination.
Institution of Electrical Engineers	The Graduateship Examination.
Oxford	B. A. with Honours in Engineering Science, Final Honours School.
Cambridge	B. A. (Honours) Mechanical Sciences Tripos.
St. Andrews	B. Sc. in Engineering.
Glasgow	B. Sc. in Engineering.
Edinburgh	B. Sc. in Engineering.
Dublin	B. A. I. (Ordinary, or with Honours in Engineering).
McGill University (Montreal)	B. Sc. in "Civil" or "Mechanical" or "Electrical" or "Metallurgical" or "Mining" Engineering. (Honours or Ordinary Degree).
Durham	B. Sc. in "Civil" or "Mechanical" or "Electrical" Engineering, or in "Naval Architecture". (Honours or Ordinary Degree).
London	B. Sc. (External and Internal Degree) Engineering not including the B. Sc. Engineering (Mining) or the B.Sc. in Engineering (Metallurgy). (Honours or Ordinary Degree).
Victoria University (Manchester)	B. Sc. in "Engineering". (Honours Degree; or Ordinary Degree from 1925 onwards). B. Sc. Tech. in "Mechanical" or "Electrical" Engineering. (Honours Division in the Final Examination.)

Birmingham	B. Sc. in "Civil" or "Mechanical" or "Electrical" Engineering. (Honours or Ordinary Degree).
Liverpool	B. Eng. in "Civil" or "Mechanical" or "Marine" or "Electrical" Engineering, or "Naval Architecture". (Honours or Ordinary Degree).
Leeds	B. Sc. in "Civil" or "Mechanical" or "Electrical" Engineering. (Honours or Ordinary Degree).
Sheffield	B. Eng. in "Civil" or "Mechanical" or "Electrical" Engineering. (Honours Degree or Ordinary Degree with a First Class in the Final Examination).
Bristol	B. Sc. in "Civil" or "Mechanical" or "Electrical" Engineering. (Honours or Ordinary Degree).
Wales	B. Sc. in "Civil" or "Mechanical" or "Electrical" Engineering.
National University of Ireland	B. E.
Queen's University (Belfast)	B. Sc. in Engineering.
Sydney	B. E. in "Civil" or in "Mechanical" and "Electrical" Engineering.
Melbourne	B. C. E., B. Mech. E. or B. E. E.
New Zealand	B. E. in "Civil" or "Mechanical" or "Electrical" Engineering.
Adelaide	B. E. in "Civil", "Mechanical" or "Electrical" Engineering.
Queensland	B. E. in "Civil" or in "Mechanical and Electrical" Engineering.
Western Australia	B. E.
South Africa	B. Sc. in Engineering (until 1921).
Cape Town	B. Sc. in Engineering.
Witwatersrand	B. Sc. in "Civil" or "Mechanical" and "Electrical" Engineering.
Calcutta	B. E. Examination in Civil Engineering.
Bombay	B. E. Examination.
Madras	B. E. Examination.
Benares Hindu University	B. Sc. Examination in Engineering.
Manchester	Certificate in Technology, Mechanical or Electrical Engineering.
Patna	B. C. E.
Rangoon	B. Sc. in Engineering (from March 1932).
Mysore	B. E. (from March 1932).

Diplomas in Engineering—

City and Guilds (Engineering) College, Kensington.

University College, London.

King's College, London.

City and Guilds of London Institute Technical College, Finsbury : Diploma or Higher Certificate (three years' course) if taken by Matriculated Students or Students who have passed the Institution Studentship Examination or its recognized equivalent.

Royal Technical College, Glasgow—Final Diploma Examination in Mechanical or Electrical Engineering provided an approved Matriculation Examination has been passed before beginning the course.

Thomason Civil Engineering College, Roorkee—Assistant Engineer's Certificate.

Bengal Engineering College—Associate Diploma.

Indian Institute of Science, Bangalore—Certificate in Electrical Technology.

Maclagan Engineering College, Moghalpura, Lahore :—

"A" class Diploma in the First Division (65 per cent. or more marks) and in the Honours Division (80 per cent. or more marks) in (i) Mechanical Engineering, and (ii) Electrical Engineering.

Naval Officers—

Examination which qualifies as Lieutenant (E.).

Royal Naval College, Greenwich—

Professional Certificate for Constructors.

APPENDIX II.

The Standard and Syllabus of the Examination.

(Vide Rule 17.)

1. The examination will include the following subjects. Each subject will carry the number of marks shown against it :—

Section A.—To be taken by all candidates.

	Marks.
1. Essay	150
2. English	150
3. General Knowledge	150
4. Elementary Geography	100
5. Elementary Mathematics	100
6. <i>Viva Voce</i>	200

Section B.—Candidates are allowed to take subjects in this section up to a total of 600 marks.

	Marks.
7. Pure Mathematics	200
8. Applied Mathematics	200
9. Chemistry	200
10. Physics	200
11. English literature (General)	200
12. Indian History	200
13. British History	200
14. General Economics	200
15. Economic History	100
16. Statistics	100
17. One of the following :—	
Latin, Greek, French, Sanskrit, Arabic or Persian	200
18. Applied Mechanics	200
19. Prime Movers	100

2. A candidate who takes any of the subjects 7, 8, 18 or 19 above will be required to offer some other subject carrying 100 marks in place of subject 5.

3. A candidate who takes Physics or Chemistry as an optional subject must produce, on the prescribed form, a certificate that he has undergone, after passing the intermediate or equivalent examination, laboratory training for a period of one year in an institution authorised to prepare candidates in that subject for a University Degree. The certificate must be signed by the head of the institution.

4. The standard and syllabus of the examination will be such as the Federal Public Service Commission shall prescribe and the Commission shall, if they think it desirable, determine what shall be the qualifying mark in all or any of the subjects of the examination.

5. From the marks assigned to candidates in each subject such deduction will be made as the Commission may consider necessary in order to secure that no credit is allowed for merely superficial knowledge.

6. If a candidate's handwriting is not easily legible, a deduction will be made on this account from the total marks otherwise accruing to him.

7. Credit will be given for good English including orderly, effective and exact expression combined with due economy of words in all subjects of the examination and not only in subjects which are specially devoted to English.

APPENDIX III.

FEES.

(Vide Rule 16.)

Candidates must pay the following fees :—

A. To the Federal Public Service Commission—

(i) Rs. 7-8-0 with the application form.

(ii) Rs. 75-0-0 immediately on receipt of an admission certificate from the Federal Public Service Commission.

(Only treasury receipts for these amounts will be accepted by the Federal Public Service Commission. The Federal Public Service Commission cannot accept fees in cash or postal orders or cheques.)

B. To the Agent of the Railway concerned—

Rs. 16-0-0 before examination by a Medical Board in the case of successful candidates.

No claim for a refund of these fees will be entertained. nor can they be held in reserve for subsequent examinations or selections.

APPENDIX IV.

[Vide Rule 20 (f).]

Particulars regarding the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways.

(The arrangements and the rates of pay hereinafter described are subject to revision according to the requirements of the Service.)

1. (a) Candidates selected for appointment under 3 (i) will be appointed as probationary officers in the Transportation (Traffic) and Commercial Department for a period of three years during which they will undergo the training prescribed in Appendix V.

(b) During this probationary period the agreement which probationary officers are required to sign may be terminated by three months' notice on either side.

(c) At the conclusion of the probationary term of 3 years, officers, who have passed the written and oral tests prescribed in the subjects in which they have been trained, and, who are well reported on, will be confirmed in the Transportation (Traffic) and Commercial Department. On confirmation their agreement will be continued subject to their service being terminable on six months' notice on either side.

2. Probationers will be required to pass a language examination in Urdu by the Lower Standard, modified to suit the requirements of the Railways, before they can be confirmed or granted any increment beyond the first during the period of their probation. Probationers whose vernacular is Urdu may be exempted from passing the language examination. Failure to pass the examination within the probationary period involves liability to removal from service.

3. Officers (including probationers) of the Transportation (Traffic) and Commercial Department of the Superior Revenue Establishment of State Railways, recruited under these rules, will not be entitled to pension on quitting the service, but will be eligible throughout their service for the benefits of the State Railway Provident Fund, to which they will be required to subscribe, and by the rules of which Fund they will be required to abide. They will also be eligible for gratuities for good, efficient, faithful and continuous service. A summary of the benefits of the State Railway Provident Fund and the Gratuity Rules will be found in rule 14 of this Appendix.

4. Pay will commence from the date of joining service. Service for increments will also count from that date.

5. Officers recruited under these rules shall be eligible for leave in accordance with the rules for the time being in force applicable to officers of State Railways.

6. Officers will ordinarily be employed throughout their service on the railway to which they may be posted on first appointment and will have no claim, as a matter of right, to transfer to some other Railway. But the Government of India reserve the right to transfer such officers in the exigencies of service to any other railway or project in or out of India.

7. The relative seniority of officers appointed under rule 3 (1) will ordinarily be determined by their order of merit in the competitive examination. The Government of India, however, reserve the right of fixing seniority at their discretion in individual cases. They also reserve the right of assigning to officers appointed under rules 3 (iii) and (iv) positions in the seniority list at their discretion.

8. The following are the rates of pay at present admissible to officers appointed in India to the Transportation (Traffic) and Commercial Department of the Superior Revenue Establishment of State Railways :—

Persons recruited to the Transportation (Traffic) and Commercial Department of the Superior Revenue Establishment of State Railways shall be considered on probation for a period of at least two years while under training and they shall draw during the probationary period—

(a) in the first year Rs. 250.

(b) in the next year, provided they have passed any departmental examinations that may be prescribed, Rs. 275, otherwise they will remain on Rs. 250. After two years, and provided they have passed all the departmental examinations prescribed they will start on the timescale prescribed below, *viz.*, Rs 300. The stipulation regarding the passing of all departmental examinations after the 2nd year of their training does not apply to probationers selected for training in rates work who are finally examined at the end of their 3rd year. (See Appendix V.)

ASSISTANT AND DISTRICT OFFICERS.

Assistant Officers—

Rs. 300—25—400.

Rs. 450 in 7th year, and

Rs. 500 in 10th year of service.

District Officers—

Grade III (to include 50 per cent. of the District Officers' posts)—
Rs. 750 per mensem.

Grade II (to include 30 per cent. of the District Officers' posts)—
Rs. 850 per mensem.

Grade I (to include 20 per cent. of the District Officers' posts)—Rs. 950 per mensem.

NOTE.—No officiating appointments will be permissible between the three grades of District Officers in these Departments.

ADMINISTRATIVE POSTS.

(i) *Junior Administrative Posts.*

	Rs.
Deputy Chief Operating Superintendent, East Indian Railway and North Western Railway.	1,300
Deputy Chief Commercial Manager, East Indian Railway and North Western Railway.	
Deputy Traffic Manager, Eastern Bengal Railway.	
Deputy Transportation Superintendents, Great Indian Peninsula Railway.	
Divisional Transportation Superintendent, Great Indian Peninsula Railway.	
Deputy Traffic Manager, Great Indian Peninsula Railway.	

(ii) *Senior Administrative Posts.*

Chief Traffic Manager, Great Indian Peninsula Railway.	2,000
Chief Commercial Manager, East Indian Railway and North Western Railway.	
Traffic Manager, Eastern Bengal Railway.	
Chief Operating Superintendents, North Western and East Indian Railways and the Chief Transportation Superintendent, Great Indian Peninsula Railway	2,250

9. The increments will be given for approved service only and in accordance with rules of the Department.

10. Promotions to the administrative grades are dependent on the occurrence of vacancies in the sanctioned establishment and are made wholly by selection ; mere seniority is considered to confer no claim to promotion.

11. The Administrative appointments in the Transportation (Traffic) Department are also open to officers of the Transportation (Power) Department.

12. The administrative appointments are not reserved for officers of the Transportation (Traffic) and Commercial or Transportation (Power) Departments of the Superior Revenue Establishment of State Railways, and the Government of India reserve the right to appoint, at their discretion, an officer of any department of a Railway to any of these posts.

13. Officers of the Transportation (Traffic) and Commercial Departments are eligible for appointment to administrative posts in the Agency and the Divisions.

Provident Fund and Gratuities.

14. The following is a summary of the rules relating to Provident Fund and Gratuities applicable to officers appointed to the Transportation (Traffic) and Commercial Department of the Superior Revenue Establishment of State Railways.

(1) *Provident Fund*.—The State Railway Provident Fund is established on the following basis :—

- (i) Every officer is required to subscribe to the Provident Fund at a uniform monthly rate of one-twelfth of emoluments as defined in the Provident Fund Rules, to which is added half-yearly a bonus at the rate of 100 per cent. of an officer's subscriptions for the half year.
- (ii) Compound interest at the rate announced for the purpose by the Governor General in Council from time to time is allowed on the officer's subscription and bonus.
- (iii) The sum which thus accumulates to the credit of an officer is paid to him on quitting the service ; or, in the event of his death before retirement, to his legal representatives.

(2) *Gratuities*.—Officers of Indian State Railways are also eligible on retirement, at the discretion of the Railway Board, for gratuities for good, efficient, faithful and continuous service, on the following conditions :—

- (a) Completion of 30 years' service, or
- (b) Attainment of age of 50 years, or
- (c) Retirement on account of permanent incapacity due to bodily or mental infirmity, or
- (d) Abolition of appointment due to a reduction of establishment, if other suitable employment cannot be found for the officer.

The amount of gratuity admissible is as follows :—

- (a) For service not exceeding 18 years half of month's pay for each year of service, subject to a maximum of six months' pay ;
- (b) For service in excess of 18 years, six months' pay *plus* half a month's pay for each year after the eighteenth, subject to a maximum of 12 months' pay or Rs. 25,000 whichever is less.

In case of an officer's death while in service the gratuity is paid to his widow or children dependent on him,

APPENDIX V.

*Vide Rule 20 (f).]**Courses of training for Probationers in the Transportation (Traffic) and Commercial Departments.*

NOTE 1.—The Government of India reserve the right to reduce, at their discretion, the period of training in the case of candidates who have had previous training or experience either in the United Kingdom or India.

NOTE 2.—The programmes of training given below have been drawn up chiefly for the purpose of guidance; they may be varied at the discretion of Agents to suit particular cases, provided that the total aggregate period of training is not ordinarily curtailed.

1 Length of Course—Two years.	Months.
Area School to learn Guard's duties and elementary Station Accounts	2½
Working as a Guard*	1
Attached to Yard Master	1
Posted to Goods and Transhipment Shed	1½
Traffic Accounts, including personal preparation of Balance Sheet at Stations	2
Area School to qualify as Assistant Station Master	1
Working as Assistant Station Master, Station Master, and Yard Foreman*	3
Working as Assistant Locomotive Foreman*	1
Working as Assistant Controller*	2
Training in District or Divisional Office	2
Training in Headquarters Office (Operating).	} 7 months, of which not less than 2 must be spent in the Operating Branch and in the Commercial Branch of a Headquarters Office.
Training in Headquarters Office (Commercial).	
Final theoretical Transportation and Commercial Course at Headquarters or at some other selected place, to be followed by an examination.	
Total	24

2. Provided he passes the examination at the end of his two years training a probationer who has not been selected for further training in Rates work will be given charge of a working post on probation for a further year.

3. *Syllabus of a further year's training in Rates work.*—At the end of his two years probation, a Probationer selected for training in Rates, will, as soon as convenient, be posted to the Rates Section of the Chief Commercial Manager's Office where his course of training will be as follows :—

1st month—

1st week	Records of the section.
Remainder of the month	Preparation of Rate and Fare Tables.
2nd month	Agreements with foreign railways regarding the routing of traffic and cases pertaining thereto. Agreements relating to worked lines.
3rd month	Compilation of tariffs and issue of notifications.
4th month	Understudy the head clerk of the coaching sub-section.

5th and 6th months—

First fortnight	Deal with applications for the quotation of rates, under the supervision of a responsible clerk.
Remainder of the period	Understudy the head clerk of the goods sub-section.

NOTE.—During the 4th, 5th and 6th months, every case of the two sub-sections concerned, which, in the ordinary course, would be seen by their respective head clerks, must be seen and, where possible, noted on by the Probationer while he is understudying the head clerk of the sub-section.

* NOTE.—Before a probationer is put to work independently as a Guard, Assistant Station Master, Station Master, Yard Foreman, Assistant Locomotive Foreman or Assistant Controller, he must be examined by a responsible officer of the administration in the respective duties for each of these posts and declared qualified.

7th month	Rates policy and practice and a study of the statistical figures of Traffic of State-managed Railways generally and of the Railway on which the Probationer is employed particularly.
8th month	Surveys, Road development, motor competition and general development.
9th month	Training in Traffic Accounts Branch and Railway Clearing Accounts Office.
10th to 12th month	Understudy the Junior Officer of the Rates Section. During this period cases from the section submitted for orders must pass through the Probationer who should be required to note thereon what orders he would pass. No action, however, is to be taken on these orders without the approval of the responsible Officer of the section.

4. Examinations will be held as may be required at the close of courses as well as at intervals during the period of training.

2. Syllabus for the Competitive Examination to be held in November 1938 for recruitment to the Indian Audit and Accounts Service, the Imperial Customs Service, the Military Accounts Department, the Indian Railway Accounts Service, the Postal Superintendents (Class II) Service and the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways.

1. *Essay*.—An essay to be written in English on one of several specified subjects.

2. *English*.—Questions to test the understanding of and the power to write English. Passages will usually be set for summary or précis.

3. *General Knowledge*.—Including knowledge of current events.

4. *Elementary Geography*.—The general and political geography of the world. A special knowledge of the Geography of India and neighbouring countries will be expected. Questions on physical and economic geography may be set. The paper will not be of an advanced character.

5. *Elementary Mathematics*—

(1) *Arithmetic*.—The whole of arithmetic. (The use of algebraical symbols and processes will be permitted.)

(2) *Algebra*.—The four simple rules, Fractions; Greatest Common Measure; Least Common Multiple; Factors; Remainder Theorem; Proportion; Simple Equations of one or more unknown quantities with easy problems: Quadratic equations, with easy problems: Graphs and their applications. (Candidates will be provided with squared papers).

6. *Viva Voce*.—The examination is intended to test the candidate's alertness, intelligence and general outlook. In assigning marks regard will be paid to the candidate's previous career.

7 & 8. *Mathematics (Pure and Applied)*.—There will be one paper on Pure and one on Applied Mathematics. The subjects included in Pure Mathematics will be—

(1) Algebra, Trigonometry and Theory of Equations with Determinants.

(2) Pure Plane Geometry and Analytical Geometry of two and three dimensions.

(3) Differential and Integral Calculus and Differential Equations.

The subjects included in Applied Mathematics will be—

(1) Statics (including Theory of attractions and Potential) and Hydrostatics.

(2) Dynamics of a particle and Elementary Rigid Dynamics.

9. *Chemistry*.—There will be only one paper on General (including physical) Chemistry, Inorganic Chemistry and Organic Chemistry.

10. *Physics*.—There will be only one paper on General Physics, Heat and Sound, Electricity, Magnetism and Light.

11. *English Literature*.—General.—Candidates will be expected to show a general knowledge of the history of English Literature from the time of Chaucer to the end of the reign of Queen Victoria and to give evidence of wide reading in English Literature.

12 & 13. *Indian and British History*.—The examination will be in Indian History from the beginning of Asoka's reign to the close of the 19th Century and in British History from 1485 to 1880. The papers will include questions on social and literary developments.

14. *General Economics*.—Candidates will be expected to have a knowledge of economic theory and should be prepared both to illustrate the theory by the facts and to analyse the facts by the help of the theory. Questions may be set on the history of economic thought.

15. *Economic History*.—Candidates will be expected to have a knowledge of both British and Indian economic history with special reference to the economic development of India during the British period : such knowledge will be expected of conditions in other countries as is necessary for the understanding of the subject.

16. *Statistics*.—Frequency distributions, averages, percentiles, and simple methods of measuring dispersion, graphic methods, treatment of qualitative data, *e.g.*, investigation of association by comparison of ratios, the practice of graphic and algebraic methods of interpolation.

(2) Practical methods used in the analysis and interpretation of statistics of prices, wages and incomes, trade transport, production and consumption, education, *etc.*, methods of dealing with population and vital statistics, miscellaneous methods used in handling statistics of experiments or observations.

(3) Elements of modern mathematical theory of statistics, frequency curves and the mathematical representation of groups generally, accuracy of sampling as affecting averages, percentages, the standard deviation, significance of observed differences between averages of groups, *etc.*, the theory of correlation for two variables.

17. *Languages*.—Candidates will be expected to show a knowledge of the principal classical authors and to be able to translate from and compose in the language.

NOTE.—Unless otherwise directed in the Question paper the answers to questions in Sanskrit must be written in Devanagiri script.

18. *Applied Mechanics*.—

(a) *Buildings*.

Consideration of materials used in the construction of roof-trusses. Steel and timber. Determination of stresses in trusses by various methods. Dead-loads and wind pressures. Factors of safety and working stresses.

Design of roof-trusses. Various types of roof-trusses and roof-coverings ; collar beam and hammer beam trusses.

Use of Euler's, Gordon's, Rankine's, Fidler's, Johnson's and straight line formulæ in the design of struts. Buckling factor of struts ; curves showing comparative strength of struts obtained by various formulæ. Choice of size of sections. Finish of steel work. Joints Design of end-bearings ; methods of fixing and supporting ends.

Application of circle and ellipse of stress and Clapeyron's theorem to design of structures.

Cast Iron and Steel Columns.—Flange and web connections to steel columns caps ; bases ; transverse bracing of columns.

Foundations.—Safe pressures, foundations for columns. Slab foundations ; cantilever foundations ; grillage foundations. Wells. Piles.

Retaining Walls and Earth pressures.—Rankine's theory, Wedge theory, Winkler's and Bligh's graphical constructions with corrections. Design of various types of retaining walls in masonry.

Tall Masonry and Steel Chimneys.—Theory and design.

Design of Steel and masonry reservoirs, with considerations of wind-pressures.

Deflection of framed structures and determinations of stresses, *etc.*, in redundant frames.

Influence diagrams for bending moment and shear for uniformly distributed and irregular loads on trusses, built-in beams, and three pinned, parabolic, semi-elliptic and semi-circular arches.

General principles of dome design.

Principles of Building Design ; consideration loads on buildings. Steel-work, girders, *etc.*, for buildings.

(b) Bridges.

Design of superstructures. Determination by graphical and analytical methods of bending moment due to moving loads. Wind-pressures.

Design of masonry bridges and culverts.

Plate-webb girders. Analysis of stresses.

Warren and lattice girders.

Three pinned arches ; doubly pinned and rigid arches.

General considerations on the design of suspension, cantilever, and tubular bridges.

Steel arched bridges.

Swing bridges.

(c) Reinforced Concrete.

Shear, bond, and diagonal tension ; its nature, evolution and location of reinforcement.

Design of simple doubly reinforced beams and continuous beams.

Theory and design of reinforced concrete columns and piles.

Design of slab foundations.

Design of simple cantilever and counterfort retaining walls.

Equivalent moments of inertia for reinforced concrete sections.

Theory of elastic deflections and outline of investigation of stresses in reinforced concrete arches.

(d) General.

Analysis of stress, analysis of strain, elastic limit and ultimate strength. Relation between the elastic constants. Launhardt-Weyrauch formula for working stresses in a structural member and determination of its cross sectional area. Repetition of stresses. Bending moment and shearing force diagrams for dead loads. Graphical determination of stresses in frames ; effect of wind pressure ; method of sections. Stress in the cross-section of a beam due to bending (M/I f/y E/R) ; compound and conjugated stresses. Rankine's theory of earth-pressure ; depth of foundations and strength of footings. Grillage foundation, Coulomb's theory of earth-pressure modification due to Rebahn.

Bending moment and shearing force diagrams for live loads. Analysis of uniform and uniformly varying stress. Elastic theory of bending of beams ; bending and shear stresses in beams. Modulus of section and equivalent areas. Maximum and minimum stresses in a joint due to eccentric loading. Stresses in dams and chimneys. Stability of block-work structures. Design of rivetted joints and stresses in boiler shells. Euler's theory concerning struts ; modifications due to Rankine, Gordon and others. Torsion. Combined torsion and bending deflections. Encastre beams. Continuous beams and theorem of three moments. Elastic theory of arches. Masonry arches.

*19. Prime Movers.—**Fuel, Gas Plants and Boilers—*

(a) *Fuel*.—Coal, wood, petroleum, gas, petrol, alcohol, etc., physical characteristics ; approximate chemical composition, heat of combustion.

(b) *Gas Plants*.—Gas-producers ; pressure suction plants ; arrangement and working.

(c) *Boilers*.—Draught ; natural, forced and induced. Ordinary forms of stationary, locomotive, marine, water-tube and other types ; heating surface, firegrate area ; boiler efficiency ; superheaters ; feedwater heaters accessories and management.

Theory of Heat Engines—

- (a) Thermodynamical principles ; Carnot's cycle ; perfect heat engine ; second law.
- (b) *Air Engines*.—Stirling and other forms.
- (c) *Internal Combustion Engines*.—Gas, oil and petrol engines ; engines with fluid pistons ; types and working ; features of cycle. Proportioning of mixtures ; efficiencies.
- (d) *Steam*.—Thermodynamics of the generation, expansion and condensation of steam heat-diagrams, etc.
- (e) Steam engines and turbines, with special reference to modern developments.
- (f) *Refrigerating Plant*.—Theory and general arrangement of the more common types.
- (g) *Air Compressors*.—Theory of pneumatic working.

Generating Plants, Accessories and Details—

- (a) General arrangement and construction of the more important types.
 - (b) Condensers, air-pumps, circulating pumps, cooling tanks, etc.
 - (c) Carburettors, and systems of ignition.
 - (d) Cylinders, pistons, cross-heads, guides, connecting rods, cranks, governors, fly-wheels, valves and valve gears, glands and pipes.
 - (e) *Engine-Testing*.—Consumption of steam and fuel, gas and oil ; brakes and dynamo-meters, indicators and indicator diagrams.
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3. (a) Indian Audit and Accounts Service, Imperial Customs Service, Military Accounts Department, Indian Railway Accounts Service and the Postal Superintendents (Class II) Service Examinations, 1938.

Regulations for the medical examination of candidates for appointment to the service of Government of India.

[Save as provided in regulation 2 (b) these Regulations are intended merely for the guidance of Medical Examiners and are not meant to restrict their discretion in any way.]

1. To be passed as fit for an appointment under Government in India a candidate must be in good mental and bodily health, and free from any physical defect likely to interfere with the efficient performance of the duties of his appointment.

2. (a) The following table of correlation of age, height and chest girth is to be used as a guide in the examination of candidates of European race. It is not applicable to candidates of Indian or mixed race.

(b) For all candidates for appointment to the Indian Police a minimum height of 5 ft. 4 ins. is required. For Indian Police candidates not of European race a minimum chest measurement of 33 ins. (girth when fully expanded, with a minimum expansion of 2 ins.) is required. These minima are absolute and no Medical Officer or Board has power to waive them.

Physical Equivalents.

Age last birthday.	Height without shoes.	Chest.	
		Girth when fully expanded.	Range of expansion not less than
		Inches.	Inches.
16	60 and under 62 inches	32½	2
	62 " 65 "	33½	2
	65 " 68 "	33½	2
	68 " 72 "	34	2
	72 and upwards	34½	2
17	62 and under 65 inches	33½	2
	65 " 68 "	34	2
	68 " 72 "	34½	2
	72 and upwards	35	2
18	62 and under 65 inches	34	2
	65 " 68 "	34½	2
	68 " 72 "	35	2
	72 and upwards	35½	2
19	62½ and under 65 inches	34½	2
	65 " 68 "	34½	2
	68 " 70 "	35	2
	70 " 72 "	35½	2
	72 and upwards	36	2
20	62½ and under 65 inches	34½	2
	65 " 68 "	34½	2
	68 " 70 "	35	2
	70 " 72 "	35½	2
	72 and upwards	36	2
21 and upwards.	62½ and under 65 inches	34½	2
	65 " 68 "	35	2
	68 " 70 "	35½	2
	70 " 72 "	36	2
	72 and upwards	36½	2

3. The candidate's height will be measured as follows :—He will remove his shoes and be placed against the standard with his feet together, and the weight thrown on the heels and not on the toes or outer side of the feet. He will stand erect without rigidity, and with the heel, calves, buttocks and shoulders touching the standard; the chin will be depressed to bring the vertex of the head level under the horizontal bar, and the height will be recorded in inches and parts of an inch to quarters.

4. The candidate's chest will be measured as follows :—He will be made to stand erect with his feet together, and to raise his arms over his head. The tape will be so adjusted round the chest that its upper edge touches the inferior angles of the shoulder blades behind, and its lower edge the upper part of the nipples in front. The arms will then be lowered to hang loosely by the side, and care be taken that the shoulders are not thrown upwards or backwards so as to displace the tape. The candidate will then be directed to take a deep inspiration several times and the maximum expansion of the chest will be carefully noted.

The minimum and maximum will then be recorded in inches, 33—35, 34—36½, etc.

In recording the measurements, fractions of less than ½ inch should not be noted.

5. The candidate will also be weighed, and his weight recorded in pounds. Fractions of a pound should not be noted.

6. (A) The examination for determining the acuteness of vision includes two tests, one for distant, the other for near, vision. Snellen's test types will be used for the test for distant vision, without glasses at a distance of 20 feet, and for the test for near vision without glasses, at any distance selected by the candidate. The standards of the minimum acuteness of vision which will be used for guidance in the examination of a candidate are as follows :—

STANDARD I.

Right eye.	Left eye.
Distant vision— $V=6/6$.	$V=6/6$.
Near vision—Reads 0, 6.	Reads 0, 6.

STANDARD II.

Better eye.	Worse eye.
Distant vision— $V=6/6$.	V , without glasses=not below $6/60$, and after correction with glasses=not below $6/24$.
Near vision—Reads, 0, 6.	Reads 1.

STANDARD III.

Better eye.	Worse eye.
Distant vision= V , without glasses =not below $6/24^*$; and after correction with glasses=not below $6/6$.	V , without glasses=not below $6/24^*$ and after correction with glasses=not below $6/12$.
Near vision—Reads 0, 8.	Reads 1.

(B) Each eye must have a full field of vision as tested by hand movements.

(c) Squint or any morbid condition of the eyes or of the lids of either eye liable to the risk of aggravation or recurrence, will cause the rejection of the candidate.

(D) Each eye will be examined separately and the lids must be kept wide open during the test.

*Temporarily lowered to $6/60$ except for the Indian Police.

(E) Inability to distinguish the principal colours will not be regarded as a cause for rejection but the fact will be noted in the proceedings and the candidate will be informed.

(F) The degree of acuteness of vision of all candidates for appointments will be entered in the proceedings in the following manner :—

V. R=..... ; with glasses=..... ; Reads

V. L.=..... ; with glasses=..... ; Reads

(G) In cases of serious abnormality the opinion of an ophthalmic specialist should be obtained.

NOTE 1.—Special rules apply to Royal Indian Navy and Railway Servants (excluding Indian Railway Accounts Service).

NOTE 2.—The candidate will be rejected if his vision does not come up to the requirements specified above without the use of Contact glasses.—(A contact glass or lens is defined as a glass shell, the concavity of which is in contact with the globe of the eye, a layer of liquid being interposed between the lens and the cornea. The meaning of the word “glasses” wherever used below is to be interpreted as not covering contact glasses.)

7. The urine (passed in presence of the Examiner) should be examined and the result recorded.

8. The following additional points should be observed :—

- (a) that the candidate's hearing in each ear is good and that there is no sign of disease of the ear ;
- (b) that his speech is without impediment ;
- (c) that his teeth are in good order and that he is provided with
• dentures where necessary for effective mastication (well filled teeth will be considered as sound) ;
- (d) that his chest is well formed and his chest expansion sufficient, and that his heart and lungs are sound ;
- (e) that there is no evidence of any abdominal disease ;
- (f) that he is not ruptured ;
- (g) that he does not suffer from hydrocele, a severe degree of varicocele, varicose, veins or piles.
- (h) that his limbs, hands and feet are well formed and developed and that there is free and perfect motion of all his joints ;
- (i) that he does not suffer from any inveterate skin disease ;
- (j) that there is no congenital malformation or defect ;
- (k) that he does not bear traces of acute or chronic disease pointing to an impaired constitution ;
- (l) that he bears marks of efficient vaccination.

When any defect is found it must be noted in the certificate and the medical examiner should state his opinion whether or not it is likely to interfere with the efficient performance of the duties which will be required of the candidate. If the condition is remediable by operation it should be so stated.

NOTE.—Candidates are warned that there is no right of appeal from a Medical Board, special or standing, appointed to determine their fitness for the above Service. If, however, Government are satisfied, on the evidence produced to them, of the possibility of an error of judgment in the decision of the first Board, it is open to Government to allow an appeal to a second Board.

3 (b) Regulations for the Medical Examination of candidates for admission into the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways, 1938.

(These regulations are published for the convenience of candidates and in order to enable them to ascertain the probability of their coming up to the required physical standard. But it must be clearly understood that the Government of India reserve to themselves an absolute discretion to reject as unfit any candidate whom they may consider, on the report of the Medical Board, to be physically disqualified for the Railway Services, and that their discretion is in no respect limited by these regulations.)

1. To be passed as fit for an appointment as an officer of the Transportation (Traffic) and Commercial Departments a candidate must be in good mental and bodily health and free from any physical defect likely to interfere with the efficient performance of the duties of his appointment.

2. In the matter of the correlation of age, height and chest-girth of candidates of Indian (including Anglo-Indian) race, it is left to the Medical Board to use whatever correlation figures are considered most suitable as a guide in the examination of the candidates.

NOTE.—The following table of correlation of age, height and chest-girth is to be used as a guide in the examination of candidates of European race.

Physical Equivalents.

Age last birthday.	Height without shoes.	Girth when fully expanded.	Chest range of expansion not less than—
	Inches.	Inches.	Inches.
16	60 and under	32½	2
	62 „ 65	33½	2
	65 „ 68	33½	2
	68 „ 72	34	2
	72 and upwards	34½	2
17	62 and under	33½	2
	65 „ 68	34	2
	68 „ 72	34½	2
	72 and upwards	35	2
18	62 and under	34	2
	65 „ 68	34½	2
	68 „ 72	35	2
	72 and upwards	35½	2
19	62½ and under	34½	2
	65 „ 68	34½	2
	68 „ 70	35	2
	70 „ 72	35½	2
	72 and upwards	36	2
20	62½ and under	34½	2
	65 „ 68	34½	2
	68 „ 70	35	2
	70 „ 72	35½	2
	72 and upwards	36	2
21 and upwards	62½ and under	34½	2
	65 „ 68	35	2
	68 „ 70	35½	2
	70 „ 72	36	2
	72 and upwards	36½	2

3. The candidate's height will be measured as follows :—He will remove his shoes and be placed against the standard with his feet together and the weight thrown on the heels and not on the toes or outer sides of the feet. He will stand erect without rigidity and with the heels, calves, buttocks, and shoulders touching the standard ; the chin will be depressed to bring the vertex of the head level under the horizontal bar, and the height will be recorded in inches and parts of an inch to quarters. No fixed limit of height is enforced.

4. The candidate's chest will be measured as follows :—He will be made to stand erect with his feet together, and to raise his arms over his head. The tape will be so adjusted round the chest that its upper edge touches the inferior angles of the shoulder blades behind, and its lower edge the upper part of the nipples in front. The arms will then be lowered to hang loosely by the side, and care will be taken that the shoulders are not thrown upwards or backwards so as to displace the tape. The candidate will then be directed to take a deep inspiration several times and the maximum expansion of the chest will be carefully noted, and the minimum and maximum will then be recorded in inches, 33—35, 34—36½, etc. In recording the measurements, fractions of less than ½ inch should not be noted.

5. The candidate will also be weighed and his weight recorded in pounds. Fractions of a pound should not be noted.

6. The candidate's eye-sight will be tested in accordance with the following rules. The results of each test will be recorded :—

(i) *General*.—The candidate's eyes will be submitted to a general examination directed to the detection of any disease or abnormality. The candidate will be rejected if he suffers from any morbid conditions of eyes, eye-lids or contiguous structures, of such a sort as to render, or to be likely at a future date to render him unfit for service.

(ii) *Visual Acuity*.—The candidate will be examined with the apparatus and according to the methods prescribed by the Railway Board's Standing Advisory Committee of Medical Officers, to determine his acuity of vision, and the examination will include two tests, one for distant and the other for near vision. Each eye will be examined separately. No candidate will be accepted whose Visual Acuity falls below the following standards :

	The one eye.	The other eye.
Distant vision—		
without glasses	6/12	6/18
corrected with glasses	6/6	6/9
Manifest Hyperopia	1.5	1.5
Near vision—		
with or without glasses	0.6	0.6

(iii) *Colour perception*.—The candidate will be examined for colour knowledge with the apparatus and according to the methods prescribed by the Railway Board's Standing Advisory Committee of Medical Officers. Any defect of colour perception will be a cause for rejection of the candidate.

(iv) *Night Blindness*.—The candidate's Night Vision will be tested, with the apparatus and according to the methods prescribed by the Railway Board's Advisory Committee of Medical Officers, to ascertain whether or not he suffers from night blindness. The candidate who under the conditions of the ordinary Test for Visual Acuity has 6/6 Vision with both eyes open with or without glasses, will be rejected, if, under the conditions of the Night Blindness Test, his vision with both eyes open, with or without glasses, falls below 6/24.

(v) *Field of Vision*.—The fields of vision of the candidate's eyes will be examined with the apparatus and according to the methods prescribed by the Railway Board's Standing Advisory Committee of Medical Officers. Any defect will be a cause for rejection of the candidate.

N.B.—The Candidate will be rejected if his vision does not come up to the requirements specified above without the use of Contact glasses. (A contact glass or lens is defined as a glass shell, the concavity of which is in contact with the globe of the eye, a layer of liquid being interposed between the lens and the cornea. The meaning of the word "glasses" wherever used above is to be interpreted as not covering contact glasses.)

7. The urine (passed in the presence of the examiner) should be examined and the result recorded,

8. The following additional points should be observed :—

- (a) that the candidate's hearing in each ear is good and that there is no sign of disease of the ear ;
- (b) that his speech is without impediment ;
- (c) that his teeth are in good order and that he is provided with dentures where necessary for effective mastication (well filled teeth will be considered sound) ;
- (d) that his chest is well formed and his chest expansion sufficient ; and that his heart and lungs are sound ; and that his blood pressure is within normal limits ;
- (e) that there is no evidence of any abdominal disease ;
- (f) that he is not ruptured ;
- (g) that he does not suffer from a severe degree of hydrocele, varicocele, varicose veins or piles ;
- (h) that his limbs, hands and feet are well formed and developed and that there is free and perfect motion of all his joints ;
- (i) that he does not suffer from any inveterate skin disease ;
- (j) that there is no congenital malformation or defect ;
- (k) that he does not bear traces of acute or chronic disease pointing to an impaired constitution ; and
- (l) that he bears marks of efficient vaccination.

When any defect is found it must be noted and the medical examiners should state their opinion as to whether or not it is likely to interfere with the efficient performance of the duties which will be required of the candidate. If the condition is remediable by operation it should be so stated.

NOTE.—Candidates are warned that there is no right of appeal from a Medical Board, special or standing, appointed to determine their fitness for the above Services. If, however, Government are satisfied on the evidence produced to them of the possibility of an error of judgment in the decision of the first Board, it is open to Government to allow an appeal to a second Board.

4. TIME TABLES.

(A) *Viva Voce.*

The interviews began on the 21st November and ended on the 6th December 1938.

(B) *Written Papers.*

Day.	Hour.	Subject.
Tuesday, 15th November . . .	10 A.M. to 1 P.M. .	Essay.
	2 P.M. to 5 P.M. .	English.
Wednesday, 16th November . . .	10 A.M. to 1 P.M. .	General Knowledge.
	2 P.M. to 5 P.M. .	Elementary Geography.
Thursday, 17th November . . .	10 A.M. to 1 P.M. .	Elementary Mathematics.
	2 P.M. to 5 P.M. .	Statistics.
Saturday, 19th November . . .	10 A.M. to 1 P.M. .	Pure Mathematics.
	2 P.M. to 5 P.M. .	Indian History.
Monday, 21st November . . .	10 A.M. to 1 P.M. .	Applied Mathematics.
	2 P.M. to 5 P.M. .	British History.
Tuesday, 22nd November . . .	10 A.M. to 1 P.M. .	Latin.
		French.
		Sanskrit.
		Arabic.
		Persian.
Wednesday, 23rd November . . .	2 P.M. to 5 P.M. .	Prime Movers.
	10 A.M. to 1 P.M. .	Chemistry.
	2 P.M. to 5 P.M. .	Economic History.
Friday, 25th November . . .	10 A.M. to 1 P.M. .	English Literature (General).
	2 P.M. to 5 P.M. .	Physics.
Saturday, 26th November . . .	10 A.M. to 1 P.M. .	General Economics.
	2 P.M. to 5 P.M. .	Applied Mechanics.

5. QUESTION PAPERS.**ESSAY***Maximum Marks—150.*

Write an essay on *one* of the following subjects :—

- (1) Totalitarian Government.
 - (2) The Fear of Death.
 - (3) Novels Re-read.
 - (4) A Cricket Match.
 - (5) Night in the Jungle.
 - (6) Problems of Government and Administration in India to-day.
-

ENGLISH

*Time allowed—Three hours.**Maximum Marks—150**Answer the separate sections in separate answer books**The number of marks carried by each question is indicated at the end of the question.*

SECTION I

1. The substance of the following passage should be given in about 250 words :—

Comparing the civilization of China with that of Europe, one finds in China most of what was to be found in Greece, but nothing of the other two elements of our civilization, namely, Judaism and science. China is practically destitute of religion, not only in the upper classes, but throughout the population. There is a very definite ethical code, but it is not fierce or persecuting, and does not contain the notion 'sin'. Except quite recently, through European influence, there has been no science and no industrialism.

What will be the outcome of the contact of this ancient civilization with the West? I am not thinking of the political or economic, but of the effect on the Chinese mental outlook. It is difficult to dissociate the two questions altogether, because of course the cultural contact with the West must be affected by the nature of the political and economic contact. Nevertheless, I wish to consider the cultural question as far as I can in isolation.

There is, in China, a great eagerness to acquire Western learning, not simply in order to acquire national strength and to be able to resist Western aggression, but because a very large number of people consider learning a good thing in itself. It is traditional in China to place a high value on knowledge, but in old days the knowledge sought was only of the classical literature. Nowadays it is generally realized that Western knowledge is more useful. Many students go every year to universities in Europe, and still more to America, to learn science or economics or law or political theory. These men, when they return to China, mostly become teachers or civil servants or journalists or politicians. They are rapidly modernizing the Chinese outlook, especially in the educated classes.

The traditional civilization of China had become unprogressive, and has ceased to produce much of value in the way of art and literature. This was not due, I think, to any decadence in the race, but merely to lack of new material. The influx of Western knowledge provides just the stimulus that was needed. Chinese students are able and extraordinarily keen. Higher education suffers from lack of funds and absence of libraries, but does not suffer from any lack of the finest human material. Although Chinese civilization has hitherto been deficient in science, it never contained anything hostile to science, and therefore the spread of scientific knowledge encounters no such obstacles as the Church put in its way in Europe. I have no doubt that if the Chinese could get a stable government and sufficient funds, they would, within the next thirty years, begin to produce remarkable work in science. It is quite likely that they might outstrip us, because they come with fresh zest and with all the ardour of a renaissance. In fact, the enthusiasm for learning in Young China reminds one constantly of the renaissance spirit in fifteenth-century Italy.

It is remarkable, as distinguishing the Chinese from the Japanese, that the things they wish to learn from us are not those that bring wealth or military strength, but rather those that have either an ethical and social value, or a purely intellectual interest. They are not by any means uncritical of our civilization. Some of them told me that they were less critical before 1914, but that the war made them think there must be imperfection in the Western manner of life. The habit of looking to the West for wisdom was, however, very strong, and some of the younger ones thought that Bolshevism could give what they were looking for. That hope also must be suffering disappointment, and before long

they will realize that they must work out their own salvation by means of a new synthesis. The Japanese adopted our faults and kept their own, but it is impossible to hope that the Chinese will make the opposite selection, keeping their own merits and adopting ours.

The distinctive merit of our civilization, I should say, is the scientific method ; the distinctive merit of the Chinese a just conception of the ends of life. It is these two that one must hope to see gradually uniting.

Lao-Tze describes the operation of Tao as 'production without possession, action without self-assertion, development without domination'. I think one could derive from these words a conception of the ends of life as reflective Chinese see them and it must be admitted that they are very different from the ends which most occidentals set before themselves. Possession, self-assertion, domination, are eagerly sought, both nationally and individually. They have been erected into a philosophy by Nietzsche, and Nietzsche's disciples are not confined to Germany.

But, it will be said, you have been comparing Western practice with Chinese theory ; if you had compared Western theory with Chinese practice, the balance would have come out quite differently. There is, of course, a great deal of truth in this. Possession, which is one of the three things that Lao-Tze wishes us to forego, is certainly dear to the heart of the average Chinaman. As a race, they are tenacious of money—not perhaps more so than the French, but certainly more than the English or the Americans. Their politics are corrupt, and their powerful men make money in disgraceful ways. All this it is impossible to deny.

Nevertheless, as regards the other two evils, self-assertion and domination, I notice a definite superiority to ourselves in Chinese practice. There is much less desire than among occidentals to control the destinies of other people. The weakness of China internationally is quite as much due to this virtue as to the vices of corruption and so on which are usually assigned as the sole reason. If any nation in the world could ever be 'too proud to fight', that nation would be China. The natural Chinese attitude is one of tolerance and friendliness, showing courtesy and expecting it in return. If the Chinese chose, they could be the most powerful nation in the world. But they only desire freedom, not domination. It is not improbable that other nations may compel them to fight for their freedom, and if so, they may lose their virtue and acquire a taste for empire. But at present, though they have been an imperial race for two thousand years, their love of empire is extraordinarily slight.

China is much less a political entity than a civilization—the only one that has survived from ancient times. Since the days of Confucius, the Egyptian, the Babylonian, Persian, Macedonian, and Roman empires have perished ; but China has persisted through a continuous evolution. There have been foreign influences—first Buddhism, and now Western science. But Buddhism did not turn the Chinese into Indians, and Western science will not turn them into Europeans. I have met men in China who knew as much of Western learning as any professor among ourselves ; yet they had not been thrown off their balance, nor lost touch with their own people. What is bad in the West—its brutality, its restlessness, its readiness to oppress the weak, its preoccupation with purely material aims—they see to be bad, and do not wish to adopt.

The old indigenous culture of China has become rather dead ; its art and literature are not what they were, and Confucius does not satisfy the spiritual needs of modern men, even if he is Chinese. The Chinese who have had a European or American education realize that a new element is needed to vitalise native traditions, and they look to our civilization to supply it. But they do not wish to construct a civilization just like ours, and it is precisely in this that the best hope lies. If they are not goaded into militarism, they may produce a genuinely new civilization, better than any that we in the West have been able to create,

2. (a) Give the substance of the following in your own words, making clear any underlying significances you may observe.

(b) Examine the poem again with a view to discovering—

(i) Whether it is poetry. If so—of what kind ?

(ii) A suitable title.

(iii) The possible affinities with any poetry known to you whether Indian or English.

To be an orphan,
To be fated to be an orphan,
How bitter is this lot !
When my father and mother were alive
I used to ride in a carriage
With four fine horses.
But when they both died,
My brother and sister-in-law
Sent me out to be a merchant.

In the south I travelled to the ' Nine Rivers '
And in the east as far as Ch'i and Lu.
At the end of the year when I came home
I dared not tell them what I had suffered—
Of the lice and vermin in my head,
Of the dust in my face and eyes.
My brother told me to get ready the dinner,
My sister-in-law told me to see after the horses.
I was always going up into the hall
And running down again to the parlour.
My tears fell like rain.
In the morning they sent me to draw water,
I didn't get back till nightfall.
My hands were all sore
And I had no shoes.
I walked the cold earth
Treading on thorns and brambles.
As I stopped to pull out the thorns,
How bitter my heart was !
My tears fell and fell
And I went on sobbing and sobbing.
In winter I have no great-coat ;
Nor in summer, thin clothes.
It is no pleasure to be alive.
I had rather quickly leave the earth
And go beneath the Yellow Springs.*

The April winds blow
And the grass is growing green.
In the third month—silkworms and mulberries,
In the sixth month—the melon-harvest.
I went out with the melon-cart
And just as I was coming home
The melon-cart turned over.
The people who came to help me were few,
But the people who ate the melons were many.
Please leave me the stalks,
To take home as fast as I can.
My brother and sister-in-law are harsh ;
They will ask me all sorts of questions.
Why does everyone in the village hate me ?
I want to write a letter and send it
To my mother and father under the earth,
And tell them I can't go any longer
Living with my brother and sister-in-law.

* Hades.

SECTION II

3. Write a short but complete paragraph on each of the following topics :—

- (a) The Wardha scheme.
- (b) Bombing.
- (c) Citizenship.

30

4. Form sentences, illustrating the force of the following :—

at beck and call ; hard and fast ; head over ears ; as dull as ditch-water ; bag and baggage ; to turn the other cheek ; to steal a march ; hand over fist ; to talk shop ; to have no truck with.

20

5. Rewrite the following passage in simple modern English prose :—

Ye know not, what hurt ye do learning, that care not for wordes, but for matter, and so make a devorse betwixt the tong and the hart. For mark all aiges : looke upon the whole course of both the Greeke and Latin Tonge, and ye shall surelie find, that, whan apte and good wordes began to be neglected, and properties of those two tonges to be confounded, than also began ill deedes to spring, strange maners to oppresse good orders, newe and fond opinions to strive with olde and trewe doctrine, first in Philosophie, and after in Religion ; right judgement of all things to be perverted, and so vertue with learning is contemned, and studie left of : of ill thoughtes cummeth perverse judgement : of ill deedes springeth lewde taulke. Which fower misorders, as they mar mans life, so destroy they good learning withall.

But behold the goodnesse of God's providence for learning : all olde authors and sectes of Philosophy, which were fondest in opinion and rudest in utterance, as Stoickes and Epicures, first contemned of wise men, and forgotten of all men, be so consumed by tymes, as they be now not onelie out of use, but also out of memorie of man : which thing, I surelie thinke, will shortlie chance to the whole doctrine and all the bookes of phantasticall Anabaptistes and Friers, and of the beastlie Libertines and Monkes.

15

6. Write in straightforward simple prose :—

What is creative expression to-day other than cowardly genuflection before positivist dogmas and social idols ? Progress and evolution as watch-words. Machine-mysticism as an illusion of progress. The hegemony of intellectualism, the dance around money, the principle of causality—all enemies of the absolute. Teuton orderliness. De-personalization. Mass-man. Sport as a substitute for deep emotions. Fear of the symbol. Language as fordian standardization. Literature in terms of honoraria. The urban feeling as antinature primitivism. Sobriety of photographic realism. Anonymity. Fear driving the I to mass-opium. Melioristic world ideals. Aversion to facing the individual conflicts inherent in our irrational being. Utilitarian metaphors. Onslaught against the subjective. Pseudotranquility because of a uniform rhythm. Conversation as neurosis. Snobish 'isms'. American detective stories. Geographical escape as a means for finding literary themata. Normalization. False humanism. Instead of encouraging the revolt of the sunken 'I', Eur-America continues to raise her indigenous pragmatism and objectivism to a canonical mode of thinking. She emphasizes will and behaviourist consciousness as *a priori* requisites for idealistic action. She worships an ephemeral reality.

15

GENERAL KNOWLEDGE.

*Time allowed—Three hours.**Maximum Marks—150**Answer the separate sections in separate answer books.*

SECTION I

1. Give briefly the recent history of *two* of the following :—

Hindu-Muslim Negotiations
 British Foreign Policy
 The Czechoslovak Problem

2. What do you know about :—

The Imperial Council of Agricultural Research
 The Communal Award
 The Indian Broadcasting Co.
 The Pact of Locarno
 The peace Ballot

3. What is :—

Federalism
 a Sudeten German
 a (river) bore
 a P. O. cash certificate
 specific gravity

4. Give the meaning of :—

bacteriology
 genealogy
 magneto
 periscope
 talkies for the deaf

5. Name three countries important for the production of each of the following :—

coffee
 sugar
 tobacco
 timber
 motor cars

6. For what are *five* of the following known ?—

Edward Jenner
 Dadabhai Naoroji
 General Maginot
 Dr. Benes
 Helen Keller
 Asoka
 Hercules
 Pytheas
 Ibn Batuta
 Augustine

7. Where are the following, and for what are they famous ?

Panipat
 Fatehpur Sikri
 Arcot
 Ajanta
 Viscaya

SECTION II

8. (i) Arrange the following events in chronological order : Formation of East India Company, Fire of London, Invention of Printing, Death of Sivaji, Discovery of Sea-route to India by Vasco de Gama.

(ii) Mention any notable events that happened in other parts of the world during the reign of Akbar.

9. From the following list, select the names of 3 poets, 3 painters, 3 musicians, 3 dramatists :—

Congreve, Elgar, Horace, Dante, Velasquez, Racine, Coward, Wagner, Whistler, Beethoven, Keats, Rembrandt.

10. Correct obvious mistakes in the following sentences :—

I wish I could speak like you do.

I shouldn't wonder if it didn't rain tomorrow.

Whatever sum will be received from Germany will be shared among the Allies.

The speaker said that he depreciated the opponent's inflammable utterances.

The Mayor said that under the circumstances he should be happy to wave his chair to the right.

11. Mention a typical incident from *five* of the following :—

The Pilgrim's Progress

Boswell's Life of Johnson

Any of Scott's novels

A play by Bernard Shaw

A Charlie Chaplin Film

The Mahabharata

The 1001 Nights

Don Quixote

The Odyssey

Browning's Dramatic Monologues

12. State the nature and use of the following :—

a pylon

a dictaphone

the clutch of a car

a baton

a totem

13. From what raw materials are the following produced ?—

paper

glass

ink

black-lead pencils

glue

14. Enumerate four of each of the following, confining your answers to India :—

beasts of burden

mineral products

railways

film companies

Lines of steamers leaving Bombay

15. Compare the East Coast and West Coast of India as regards advantages for trade.

ELEMENTARY GEOGRAPHY

*Time allowed—Three hours**Maximum Marks—100**Answer the separate sections in separate answer books**Candidates should attempt Questions Nos. 1 and 6 and not more than two of the remaining questions from each section.**The number of marks carried by each question is indicated at the end of the question.*

SECTION I

1. In the map* of the Eastern Hemisphere provided, mark *any four* of the following :—

- (i) The chief sea-routes in the Indian Ocean, from Bombay to East and South Africa.
- (ii) The principal inland drainage basins.
- (iii) The Pamir Plateau and the mountain systems radiating therefrom.
- (iv) Wallace's Line.
- (v) The Nile and the Niger.
- (vi) The States of the Little Entente.

20

2. Write short notes on *any three* of the following :—

- (i) Midnight Sun.
- (ii) Darjeeling, the Queen of Indian Hill Stations.
- (iii) Industrial possibilities in Bihar.
- (iv) Redistribution of Indian provinces on linguistic basis.

15

3. Explain clearly the relation between—

- (i) pressure and temperature ;
- (ii) pilgrimages and population movements ;
- (iii) climate and civilization.

15

4. Account for the location of *any three* of the following industries :—

- (i) The glass industry at Ferozabad.
- (ii) The silk industry at Lyons.
- (iii) The iron and steel industry at Essen.
- (iv) The shipbuilding industry at Glasgow.

15

5. Explain how far geography controls and influences architecture and the materials for housebuilding in a region.

15

SECTION II

6. Discuss briefly the geographical background of *any two* of the following :—

The German annexation of Austria, Russian sympathies with China, Polish Corridor.

20

7. Account for the origin and importance of *any four* of the following towns :—

Shanghai, Singapore, Sydney, Hankow, Hyderabad (Dn.), Honolulu.

15

8. Write a concise account of the economic geography of *any one* of the following countries, with special reference to its relations with India :—

Afghanistan, Tibet, Siam.

15

9. Explain the importance of Delhi as a railway junction, and illustrate it by a suitable sketch-map. Describe the railway route from Delhi to *any one* of the principal ports of India, with special reference to features of geographical and commercial interest along the route.

15

10. Draw a sketch-map of the Indian Empire, showing the density of population.

15

ELEMENTARY MATHEMATICS.

Time allowed—Three hours

Maximum Marks—100

Answer the separate sections in separate answer books.

Candidates should attempt Questions Nos. 1 to 3 and not more than six of the remaining questions, of which they should choose not less than four from Section II.

The number of marks carried by each question is indicated at the end of the question.

SECTION I.

1. The total expenditure on Education* was Rs. 1,22,26,637 for the year 1934-35, Rs. 1,26,04,048 for the year 1935-36, and Rs. 1,31,65,338 for the year 1936-37. Of this the grants to meet expenditure in respect of Higher Education for these three years were Rs. 1,06,69,353, Rs. 1,08,29,396, and Rs. 1,12,48,794 respectively. From these data, calculate to one place of decimals (a) what percentage of the total expenditure for the three years went towards the cost of Higher Education, (b) the increase per cent., on the year 1935-36 of the expenditure for Higher Education for the year 1936-37. 12

2. (a) If $\frac{x}{2} - 1$ is twice as much as $\frac{x}{3} - 4$, find the value of each. 42. *mark*

(b) Solve the following pair of simultaneous equations :—

$$\frac{y+2z}{2y-z} = \frac{3y-2}{z-7} = 8.$$

(c) Solve :—

$$2x^2 - 12x + 3 = 0.$$

Give the answers correct to two places of decimals. 12

3. A, starting at noon, cycles at 10 miles an hour, and B, starting from the same place one hour later, rides at 7 miles an hour. Draw graphs of their journeys, in the same figure, on squared paper and read off their distances apart at 2-30 p. m. and 3-36 p. m. Also from the graph, determine the times when they are 16 miles and $14\frac{1}{2}$ miles apart. 16

4. How long does it take a train 300 feet long, travelling at 30 miles per hour, to pass another train, 250 feet long, travelling at 20 miles per hour, when—

(i) they are travelling in the same direction ;

(ii) they are travelling in opposite directions ? 10

5. A rectangular piece of ground has an area of one acre and its length is twice its breadth ; find the length and breadth of the plot. Verify your result by multiplying the length by the breadth. 10

6. Three men A, B, and C are partners in a business. A puts in Rs. 5,000 for 3 months, B puts in Rs. 6,500 for 8 months, and C Rs. 3,000 for 11 months. The profits are Rs. 4,200. What amount of the profits will each partner receive ? 10

SECTION II.

7. A person has stock in the 3 per cents. which produces an income of £240 a year. He sells out one-fourth of the stock at $87\frac{1}{4}$, and invests the proceeds in Railway Stock when a £100 share is worth £174 10s. 0d. What dividend per cent. per annum must the Railway Stock produce so that the investor may increase his income by £40 a year by the transaction ? 10

8. Simplify :—

$$\frac{1}{13} \times \left(\frac{1}{5} + \frac{1}{6} + \frac{1}{60} + \frac{13}{42} - \frac{1}{42} \right) \div \left(\frac{3}{22} \text{ of } 2\frac{5}{11} - \frac{1}{4} \right).$$

10

9. Simplify :—

$$\frac{3}{(x-2)^2} - \frac{2}{x^2-5x+6} - \frac{1}{x^2-4}.$$

10

10. Two workmen, *A* and *B*, are paid the same rate of wages per hour. They commence work on the same day, and each on that day works for the same number of hours.

On each succeeding day, *A* works for a quarter of an hour less and *B* works for 20 minutes less than on the day before. At the end of 5 days, the ratio of *A*'s earnings to *B*'s is 31 : 30. How long did they work on the first day ?

10

11. By running 900 yards and walking another 900 yards, a man covered 1,800 yards in 10 minutes 30 seconds. If he had run at a rate 20 per cent. slower and walked at a rate 20 per cent. faster, he would have taken 10 minutes exactly.

Find how long he took to run 100 yards and how long to walk 100 yards.

10

12. A passenger train 90 yards long, travelling at the rate of 80 feet per second, passes a goods train 110 yards long moving on a parallel line of rails.

If the goods train had been travelling twice as fast, the passenger train would have taken 18 seconds longer to pass it. Find the rate at which the goods train was travelling.

10

PURE MATHEMATICS.

Time allowed—Three hours

Maximum Marks—200

Candidates should attempt Questions Nos. 1 and 2 and not more than four of the remaining questions.

The number of marks carried by each question is indicated at the end of the question.

1. Prove that if

$$s = \sin x, c = \cos x,$$

$$(m+n) \int s^m c^n dx = s^{m+1} c^{n-1} + (n-1) \int s^m c^{n-2} dx.$$

Show that the integral

$$f(m, n) = \int_0^{\pi/2} \sin^m x \cos^n x dx$$

satisfies the relation $f(m, n) = f(n, m)$ and that

$$(m+n) f(m, n) = (m-1) f(m-2, n) + (n-1) f(m, n-2).$$

Find the values of $f(m, n)$ in the four cases where m, n are both positive integers and may be odd or even.

Obtain the numerical values in the four cases where

$$m, n = 4, 5; 7, 3; 4, 6; 9, 4. \quad 32$$

2. (a) Obtain the equation of the normal at the point $a \cos \theta, b \sin \theta$ on the ellipse

$$x^2/a^2 + y^2/b^2 = 1.$$

If the normals at the points $PQRS$ on the ellipse concur in the point h, k , show that the centroids of the four triangles like PQR all lie on the conic.

$$\left(\frac{3x}{a} - \frac{2ah}{c^2} \right)^2 + \left(\frac{3y}{b} + \frac{2bk}{c^2} \right)^2 = 1,$$

where $c^2 = a^2 - b^2$.(b) Show that a pair of conjugate diameters divide an ellipse into four equal areas. 32

3. (a) Obtain the partial fraction expression of

$$\frac{(x-1)(x-2)\dots(x-n)}{x(x+1)(x+2)\dots(x+n)}.$$

Deduce or prove otherwise that

$$-\frac{(n+1)!}{(n-1)!} + \frac{(n+2)!}{1!2!(n-2)!} - \frac{(n+3)!}{2!3!(n-3)!} + \dots$$

$$+ (-1)^n \frac{(2n)!}{(n-1)!n!}$$

equals $(-1)^n n(n+1)$.(b) Writing c_r as c_r , find the value of

$$1^3 \cdot c_1^2 + 2^3 \cdot c_2^2 + 3^3 \cdot c_3^2 + \dots + n^3 \cdot c_n^2. \quad 34$$

4. (a) Given that ϵ is a small quantity, show that the equation

$$x^2 - 1 = \epsilon(x+1)^2 + \epsilon^2 x^3$$

has a root approximately equal to

$$1 + 2\epsilon + \frac{5}{2}\epsilon^2;$$

find as far as ϵ^2 the corresponding approximation to the root near -1 ; and also an approximation to the third root.

(b) Solve

$$\frac{1-x+xy}{y(1-x+zx)} = a, \frac{1-y+yz}{z(1-x+xy)} = b, \frac{1-z+zx}{x(1-y+yz)} = c. \quad 34$$

5. (a) Find the real part of

$$\frac{(x+iy)^2}{1+(x+iy)^2}.$$

(b) Obtain the limit as x tends to zero of $(\cos x) \cot^2 x$.

(c) The line joining the orthocentre O and the circumcentre S of a triangle ABC is called the Euler line of ABC . If OS meets AB , AC in B', C' and we indicate the angle $AB'C'$ by B' , show that

$$\tan A (\tan B + \tan B') = 3 + \tan B \tan B'.$$

Deduce that the Euler line of $AB'C'$ is parallel to BC .

34

6. (a) If

$$u = \frac{x^2 - x + 1}{x^2 + x + 1} \text{ and } \tan \theta = \frac{\sqrt{3}}{2x + 1},$$

show that

$$\frac{d^n u}{dx^n} = \frac{4}{\sqrt{3}} \frac{(-1)^n n! \sin \left(\frac{\pi}{n+1\theta - \frac{\pi}{3}} \right)}{(x^2 + x + 1)^{\frac{n+1}{2}}}.$$

(b) Find the asymptotes of the curve

$$x = \frac{t-8}{t^2-4}, \quad y = \frac{3}{t(t^2-4)}.$$

34

7. (a) Integrate

$$\int \frac{dx}{\sin(x-a) \sin(x-b)}, \quad \int \frac{\sin x dx}{\sin(x-a) \sin(x-b)}.$$

(b) Discuss the convergence of

$$\int_0^{\pi/2} \frac{x^t dx}{(\sin x)^t}, \quad \int_0^\infty \frac{x^{p-1} dx}{1+x}.$$

(c) Explain how you would define the uniform continuity of a function $f(x)$ in terms of a non-vanishing lower bound of a set of positive quantities.

Examine the function $y = \frac{1}{x}$ from this point of view for uniform continuity in the range $0 < x \leq 1$.

34

8. (a) Solve

$$\begin{vmatrix} \frac{\partial z}{\partial x} & \frac{\partial z}{\partial y} & 1 \\ 3x^2 & -2z & 2y \\ y^2 & 2xy & 2z \end{vmatrix} = 0.$$

(b) The function $x = \phi(y)$ is the inverse of the function $y = f(x)$.

Express the differential coefficients y', y'', y''' of $f(x)$ in terms of the differential coefficients x', x'', x''' of $\phi(y)$.

Show that

$$2y'y''' - 3y''^2 = \frac{3x''^2 - 2x'x'''}{x'^6}.$$

Deduce that either side equated to zero is the differential equation of a particular family of hyperbolas.

Can you mention any particular function of y', y'' which is exactly equal to the same function of x', x'' ?

34

9. (a) Show how any three chords AA', BB', CC' of a conic may be projected into three equal chords of a circle. Deduce how a conic and any inscribed triangle may be projected into a circle and an equilateral triangle inscribed in it.

(b) A is one of the four common points of two given conics S_1, S_2 and B is a fixed general point in the plane. An arbitrary secant through A meets S_1 in C_1 and S_2 in C_2 ; then BC_1 meets S_1 in D_1 and AD_1 meets S_2 in D_2 . Show that the line C_2D_2 passes through a fixed point. 34

10. (a) Given three skew lines λ and three skew lines μ such that every λ intersects every μ , show that every transversal of the three λ 's intersects every transversal of the three μ 's.

(b) Simplify the relation

$$\begin{vmatrix} a_1b_1 & a_1 & b_1 & 1 \\ a_2b_2 & a_2 & b_2 & 1 \\ a_3b_3 & a_3 & b_3 & 1 \\ a_4b_4 & a_4 & b_4 & 1 \end{vmatrix} = 0,$$

showing that it expresses the equality of a certain function of a_1, a_2, a_3, a_4 and the same function of b_1, b_2, b_3, b_4 ; it being supposed that no two a 's are equal, and also that no two b 's are equal. 34

11. (a) If a line $P_1 P_2$ is perpendicular to its conjugate with respect to an ellipsoid, show that it is also perpendicular to its conjugates with respect to all confocal ellipsoids. Can you infer any interesting property of the line $P_1 P_2$?

(b) Show that through six arbitrary points in space there passes a unique cubic curve.

(c) Given three arbitrary circles in space, show that there exists a single circle meeting each of the given circles in a pair of points. 34

12. (a) If $\sum_{n=1}^{\infty} a_n$ is bounded, and $b_{n-1} > b_n \rightarrow 0$, show that $\sum a_n b_n$ converges.

(b) With

$$u_{2n-1} = -\frac{1}{\sqrt{n}} \text{ and } u_{2n} = \frac{1}{\sqrt{n}} + \frac{1}{n}$$

show that $\sum u_n$ and $\sum u_n^2$ both diverge, and $\|(1+u_n)$ converges.

(c) Discuss the convergence of the series whose n th terms are given by

$$(i) \frac{(-1)^n (\log n)^4}{\sqrt{n}}, \quad (ii) a^{\log n}, \quad (iii) b^{\frac{1}{n}} - 1,$$

where a, b are positive constants.

APPLIED MATHEMATICS.

*Time allowed—Three hours.**Maximum Marks—200.**Candidates must not attempt more than six questions.**All the questions carry equal marks.*

1. Define the pitch of the resultant wrench corresponding to an arbitrary system of forces.

Wrenches of pitch a, b, c act on the lines

$$(i) \ y+g=0, z-h=0,$$

$$(ii) \ z+h=0, x-f=0,$$

$$(iii) \ x+f=0, y-g=0,$$

respectively. Show that the pitch of the resultant wrench whose axis is given by the direction cosines l, m, n is

$$al^3 + bm^3 + cn^3 + 2fmn + 2gnl + 2hlm.$$

Hence determine the relative intensities of the three wrenches for which the pitch of the resultant wrench is a maximum.

2. A weightless rod, of length $2l$, rests in a given horizontal position with its ends on the curved surfaces of two horizontal smooth circular cylinders, each of radius a , which have their axes parallel and at a distance $2c$. The rod is acted on at its centre by a given force P and a couple. Find the couple when there is equilibrium and prove that the magnitude of the couple will be least when P acts vertically, provided that

$$c < l \sin \varnothing + \frac{1}{2}a\sqrt{2} \sec \frac{1}{2}\varnothing,$$

where $\varnothing$ is the angle between the rod and the axes of the cylinder.

3. Three given forces P, Q, R act on a body in one plane at three given points A, B, C and are in equilibrium. When the body is disturbed, the forces continue to act at these points parallel to directions fixed in space and their magnitudes are unaltered. Find the condition of stability.

4. A uniform heavy chain of length $2a$ is suspended from two points in the same horizontal line; if one of these points be moveable, find the equation of the locus of the vertex of the catenary formed by the string.

Determine the area cut off from this locus by a horizontal line through the fixed point.

5. A uniform beam is supported at its extremities and at two other points dividing the beam into three equal spans, all the four points being on the same level. Prove that the pressures on the supports are in the ratio $4 : 11 : 11 : 4$.

6. Find the attraction of a uniform thin straight rod AB at any external point P .

A thin wire in the form of a circle of radius a touches all the sides of a closed polygon constructed of the same kind of wire. Find the attraction of the polygon at a point on the circle and also the resultant force exercised by the polygon on the circle.

7. In a spherical distribution of matter the potential is

$$f(r) \text{ for } 0 \leq r \leq a.$$

Prove that

$$[r^2 df/dr]_0^a + af(a) = 0.$$

Obtain the gravitational potential energy of a sphere of radius a in which the density at a distance r from the centre is $\varnothing(r)$.

8. A fluid rests in equilibrium in a field of force where $X = y^2 + z^2 - xy - xz$, $Y = z^2 + x^2 - zy - xy$, $Z = x^2 + y^2 - xz - yz$ show that the curves of equal pressure and density are a set of circles.

9. Show that the depth of the centre of pressure of the area included between the arc and the asymptote of the curve

$$(r-a) \cos \theta = b \text{ is } \frac{a}{4} \frac{3\pi a + 16b}{3\pi b + 4a},$$

the asymptote being in the surface and the plane of the curve vertical.

10. An isosceles triangular prism floats with its base not immersed and its edges horizontal. Obtain the states of equilibrium and examine their stability.

11. A chain of length l is coiled at the edge of a table. One end is fastened to a particle whose mass is the same as that of the whole chain. The other end is put over the edge. Prove that immediately after leaving the table the particle is moving with velocity

$$\frac{1}{2}\sqrt{\left(\frac{5}{6}gl\right)}$$

Determine also the direction of motion of the particle at that instant.

12. Two particles of masses m, m' lying on a smooth horizontal table are connected by an inelastic string extended to its full length, and passing through a small ring on the table. The particles are at distances a, a' from the ring and are projected with velocities v, v' at right angles to the string. Prove that, if

$$mv^2 a^2 = m'v'^2 a'^2,$$

their second apsidal distances from the ring will be a, a' respectively.

13. A planet of mass M revolving in a circular orbit of radius a is struck by a comet of mass m approaching its perihelion; the directions of motion of the comet and the planet being inclined at an angle of 60° . The bodies coalesce and proceed to describe an ellipse whose semi-major axis is

$$\frac{(M+m)^2 a}{M\{m + (4 - \sqrt{2})m\}}.$$

Prove that the original orbit of the comet was a parabola; and if the ratio of m to M is small, show that the eccentricity of the new orbit is

$$(2 - \sqrt{2})m/M.$$

14. An inclined plane of mass M is capable of moving freely on a smooth horizontal plane. A perfectly rough sphere of mass m is placed on its inclined plane and rolls down under the action of gravity. If x' be the horizontal space advanced by the inclined plane and x the part of the plane rolled over by the sphere, prove that

$$(M+m)x' = mx \cos a,$$

$$x = \frac{5}{2}(M+m)gt^2 \sin a / \{7M + 2m + 5m \sin^2 a\}.$$

15. Three uniform rods AB, BD, DC , of equal mass, freely jointed at B and D are at rest forming the opposite sides and a diagonal of a square $ABCD$. A blow J is applied at A in the direction DA . Prove that the kinetic energy imparted is

$$\frac{185}{114} \frac{J^2}{m},$$

m being the mass of a rod.

CHEMISTRY.

Time allowed—Three hours.

Maximum Marks—200.

Candidates should attempt Questions Nos. 1 and 2 and not more than three of the remaining questions.

All the questions carry equal marks.

1. Explain the changes involved in the reaction between an iodide and oxidising agents during a volumetric analysis.

2 grams of a mixture of potassium chloride and chlorate were acidified with hydrochloric acid in aqueous solution, and to this potassium iodide was added in excess. The solution was diluted to 250 c.c. and 10 c.c. of it were decolourized by 10.5 c.c. of a .2N sodium thiosulphate solution. Calculate the percentage of potassium chlorate in the mixture of salts.

2. 0.428 gram of an organic liquid, of the empirical formula $C_4H_7O_2$, when dissolved in 50 c.c. of absolute alcohol, caused an elevation of $0.077^\circ C$. in its boiling point. (Ebullioscopic constant for alcohol is 1560.)

This substance was added to an alcoholic solution of sodium and treated with ethyl monochloracetate. The resulting product, on being boiled with dilute sulphuric acid, gave a solid $C_6H_8O_4$, which, on being heated with acetyl chloride, gave a neutral product $C_6H_8O_3$. What was the original substance?

3. Give an account of the different processes that lead to the preparation of iron in pure condition.

How are the more important salts of iron obtained? Compare their properties with those of cobalt.

4. Discuss the position of hydrogen in the periodic table.

Briefly enumerate the conditions under which hydrogen can be used as a reducing agent. Give examples.

5. Give a clear but concise account of (a) the Michael condensation, (b) Dieckman reaction, and (c) Grignard's reagent and its uses.

6. How are four of the following prepared?—

(a) Aceto-acetic ester.

(b) Indigo.

(c) Sulphonal.

(d) *m*-nitraniline.

(e) Adrenaline.

7. How are unsaturated dibasic acids prepared? Enumerate the properties and reactions of this class of compounds.

What formula has been assigned to glutaconic acid?

8. Write notes on three of the following:—

(a) Solubility product.

(b) The Gibbs-Helmholtz Equation.

(c) Pinacone-pinacoline Rearrangement.

(d) Mutarotation.

PHYSICS.

Time allowed—Three hours.

Maximum Marks—200.

Candidates should attempt Questions Nos. 1 and 2 and not more than four of the remaining questions.

The number of marks carried by each question is indicated at the end of the question.

1. Write an essay on only one of the following topics. The essay should not exceed 1,500 words :—

(a) Broadcasting, (b) Light as wave and light as quanta of energy, (c) How are the power resources of a country in coal, petrol, or water power harnessed and distributed, (d) On fundamental constituents of matter, (e) On engines which convert heat to mechanical work. 50

2. Prove the following numerical relationships :—

(a) 1 horse-power=746 watts.

(one pound = 453.6 grm. ; 1 foot=30.48 cm.)

(b) 1 kilowatt hour=857 calories.

(c) Pressure of one atmosphere=
nearly 10^6 dynes/cm².

(d) One electron-volt=8,100 wave number units ($=\text{cm}^{-1}$)=23
kilocalories per grm. molecule.

(e) The mass of the electron=nearly $\frac{1}{2}$ million electron-volts. 30

3. What is a perfect fluid ? Show that since matter is composed of discrete atoms, there can be no such state of matter as a perfect fluid.

Deduce an expression for the viscosity of a gas from kinetic considerations 30

4. Define Kelvin's absolute scale of temperature, and show how from observations of the Joule-Kelvin Effect of a gas, we can find out the melting point of ice on the absolute scale. 30

5. What are the principles for finding out the wave-length of (a) visible light, (b) X-rays, (c) gamma rays ? Discuss methods based on wave conception as well as on quantum conceptions. 30

6. Describe the construction and use of any three of the following machines and instruments :—

(a) A compound-wound dynamo, (b) an electro-magnet, (c) a cathode ray oscillograph, (d) a dead beat galvanometer, (e) a Geiger counter, (f) a quadrant electrometer. 30

7. Deduce an expression for the velocity of sound in air, and describe a method for finding out the amplitude of vibrations of air particles due to a sound wave. 30

8. Give an account of Bohr's theory of electron composition of atoms, and show how it explains the periodic classification as well as the spectra of elements. 30

ENGLISH LITERATURE (GENERAL).

*Time allowed—Three hours.**Maximum Marks—200.**Candidates should attempt two questions from each Section.**All the questions carry equal marks.*

SECTION I.

1. To what extent is it correct to describe Chaucer as a dramatist before the drama was born ?

Or,

Account for the comparative barrenness of English literature in the fifteenth century.

2. Write a note on Spenser's powers of (a) narration, and (b) description, and indicate how far the Spenserian stanza is suitable for these purposes.

3. Write a short essay on the influence of Seneca on Elizabethan Tragedy.

Or,

Discuss the influence of Marlowe and Kyd on Shakespeare.

4. Write a short essay on one of the following subjects :—

- (i) Shakespeare's use of prose.
- (ii) The fusion of main and sub-plots in Shakespeare's plays.
- (iii) Shakespeare's fight with the literary pirates.

SECTION II.

5. Survey the development of English prose in the seventeenth century, and assign to Taylor and Milton their proper place in it.

Or,

Discuss whether the writings of Sir Thomas Browne exhibit a sense of humour.

6. Sir Henry Wotton referred to 'a certain Doric delicacy' in Milton's songs and odes. Amplify and illustrate this criticism.

Or,

Discuss Milton's Puritanism in his early poems and in *Paradise Lost*.

7. Estimate the importance of *The Spectator* as a fore-runner of the English Novel.

Or,

Write a note on English verse-satire from 1660 to 1740.

8. Contrast Fielding's criticism of life with that of Richardson, bringing out their different moral standards.

Or,

Discuss Johnson's critical creed as illustrated by his *Lives of the Poets*.

SECTION III.

9. To what extent do the critical writings of Wordsworth help us to appreciate his poetry ?

Or,

Write a note on Coleridge's success in inducing 'that willing suspension of disbelief for the moment which constitutes poetic faith'.

10. Write a short essay on one of the following subjects :—

- (i) Shelley's treatment of the theme of love.
- (ii) Keats's sensuousness.
- (iii) The Byronic hero.

11. Discuss the development of the English historical novel from 1810 to 1860.

12. Bring out Tennyson's powers as a metrical artist.

Or,

Give an account of the Renaissance of English drama in the closing years of the nineteenth century.

INDIAN HISTORY.

Time allowed—Three hours.

Maximum Marks—200.

Candidates should attempt Question No. 1 and not more than four of the remaining questions, taking at least one from each group.

All the questions carry equal marks.

Answer separate sections in separate answer books.

SECTION I.

1. Give some account of the important principalities of northern India in the 12th century A. D., and indicate their position carefully on the map* provided.

Or,

Describe the chief kingdoms of northern and central India at the accession of Akbar the Great, and indicate them in outline on the map* provided.

Or,

Briefly sketch the history of the wars that led to absorption of Burma in the Indian Empire, and draw a map showing the territories successively annexed.

GROUP A.

2. 'Asoka's interpretation of Gautama's message was certainly in an Indian sense religious, though it was only a great humanitarian movement based upon the teaching of profound psychological truths.' (*Havell.*) Carefully discuss with reference to the text of Asoka's edicts.

3. How far, in your opinion, would it be correct to say that the Turki Kushans (like the Moghul Emperors) were thoroughly aryanized in their religious outlook and their principles of administration?

4. Give some account of the life and teachings of Ramanuja and Sankara Acharya.

5. What are the principal reasons for assigning the Rashtrakutas a place of honour in the history of India? How far did they deserve the praise bestowed upon them by their Arab visitors?

SECTION II.

GROUP B.

6. Who were the Mongols? Carefully estimate the effect of their invasions on the fortune of the Empire of Delhi during the period of the Slave Kings and the Khiljis.

7. 'A critical examination of the social and political conditions of his age will prove that Mohammad bin Tughlaq was really saner than his critics. Ziauddin Barni is entirely mistaken in describing him as a mixture of opposites.' Discuss.

8. Carefully examine the work of Sher Shah Sur as a precursor of Akbar the Great.

9. Attempt a critical estimate of the character of Jehangir as revealed to us in his autobiography.

10. Give an account of Aurangzeb's war with the Rajput States, and estimate its effect on the position and power of the Moghul Empire.

GROUP C.

11. Critically examine the following statements of Warren Hastings: 'Yet under all these difficulties, such have been the exertions of the Government, since I was placed at the head of it, that in no part of the Company's annals has it known an equal state of wealth, strength, prosperity or splendid reputation'.

12. Carefully explain and comment upon the fundamental principles of the Charter Act of 1833.

13. Attempt a critical and impartial analysis of the causes of the Mutiny of 1857.

14. Give some account of the functions and powers of the Secretary of State in Council as constituted by the Act of 1858 and subsequent statutes.

15. Describe in outline the financial relations of the Central and Local Governments from the Act of 1833 to Lord Mayo's Resolution of 1870.

16. What do you understand by Lord Lawrence's policy of 'masterly inactivity'? How far, in your opinion, has it been justified by subsequent events?

BRITISH HISTORY.

*Time allowed—Three hours.**Maximum Marks—200.**Candidates should attempt Question No. 1 and not less than two questions from each of the following sections and not more than five in all.**All the questions carry equal marks.**Answer separate sections in separate answer books.*

SECTION I.

1. *Either,*

On the outline map* of Great Britain, provided, illustrate the changes caused by the Industrial Revolution, showing the principal new centres of industry, the distribution of population in the nineteenth century, and the effect of the Reform Act of 1832. Explain these changes in your answer book.

Or,

Explain the difference between the Old and the New British Empire. On the map* of the World, provided, show the territorial composition of each.

2. How far is it true to say that Wolsey laid the foundation of modern British foreign policy? Explain 'Wolsey's foreign policy in detail, and show how it was maintained or modified by the Tudor monarchs after his fall.

3. 'The Age of Queen Elizabeth is marked by the full impact of the Renaissance upon the English people.'

Develop and illustrate this judgment.

4. 'The civil war during the seventeenth century in England was a conflict of extremists and its most valuable ultimate result was to inculcate in Englishmen the wisdom of political moderation'.

Discuss this view.

5. Describe the expansion of the English people oversea until 1713.

6. Explain the origin and development of the modern British political party system and the composition and policy of the respective parties.

SECTION II.

7. 'No war during the eighteenth century was fought for a glorious cause.' Examine in the light of this statement the wars in which the British people were engaged.

8. Explain the necessity, nature, and influence of the Methodist movement in England in the eighteenth century.

9. To what extent do you consider that the French Revolution was due to the social and political example of the English people? How did the French Revolution affect social and political development in England?

10. Describe the Eastern Question in Europe as it presented itself between 1815 and 1880. Explain particularly the part taken by the British Government in that question between 1815 and 1841.

11. Explain the principal grounds of dissatisfaction of the people of southern Ireland with British policy towards Ireland between 1800 and 1880.

12. Define the chief social evils which ensued upon the industrialization of England in the nineteenth century, and explain the principal parliamentary measures adopted in order to limit those evils.

GENERAL ECONOMICS.

Time allowed—Three hours.

Maximum Marks—200.

Candidates should attempt Questions Nos. 1 and 2 and not more than three of the remaining questions.

All the questions carry equal marks.

1. 'It is by the marginal firm, as by the marginal farm, that prices in industry or agriculture are determined.' Examine this statement with reference to the laws of increasing and diminishing returns.

Or,

Explain the different methods of estimating the national income of a country, and discuss the difficulties of estimating it in India.

2. Examine the relative importance of the various causes which lead to unequal distribution of wealth in modern communities.

3. Form an estimate of the contribution of J. S. Mill to economic thought.

4. What is rationalization? What are its effects on the volume of employment in industry?

5. Explain Marshall's conception of consumer's surplus, and discuss how far it can be measured.

6. Explain the principal aspects of the legislation passed recently in some provinces of India to relieve agriculturists from debt, and give your views on the necessity of further legislation for this purpose.

7. Examine the purchasing power parity theory of foreign exchange ratios. To what extent and why has it proved inadequate in explaining fluctuations in foreign exchanges in the post-war world?

8. Discuss the extent to which a proper organization of, and control over, credit can mitigate the severity of industrial fluctuations.

9. Discuss how far the State should appropriate the economic rent of agricultural land, urban sites, and mines.

10. What functions should trade unions perform? How far do trade unions in India perform them?

11. 'We cannot have more than approximate justice in taxation'. Examine this statement with reference to the tax system of India.

ECONOMIC HISTORY.

Time allowed—Three hours.

Maximum Marks—100.

Candidates should attempt Questions Nos. 1 and 2 and not more than three of the remaining questions.

All the questions carry equal marks.

1. Trace the history of the financial relations between the Provinces and the Centre since 1870. What changes have been introduced recently by the Government of India Act, 1935, in these relations ?

2. Examine the contents and ramifications of the doctrine of *laissez-faire*, with special reference to (a) the labour legislation, (b) the Poor Laws, and (c) the fiscal policy of England during the 17th, 18th and 19th centuries.

3. Discuss the causes and consequences of the decline of handicrafts in India.

4. Compare and contrast the position of the agriculturist under the Mogul and British rules. Was the agriculturist better off under the Mogul rule than he is under the British ?

5. Write notes on *any three* of the following : (i) The ' Drain ' ; (ii) Permanent Settlement ; (iii) ' Less Eligibility ' ; (iv) the Meston Award ; (v) the Old Colonial Policy ; (vi) the Acts of Settlement.

6. Trace the growth of the Co-operative movement in India since 1904. To what causes do you attribute its recent decline ?

7. What were the chief influences responsible in India and England respectively for the introduction of Factory legislation ? Give a brief account of Factory legislation in each of the two countries.

8. Compare and contrast the First with the Second Enclosure Movement, and discuss the consequences of each.

9. Discuss the gradual decline of Status and the emergence of Contract between the manorial period and the period of the Industrial Revolution.

10. Discuss the economic background of *any two* of the following well-known works : (i) *The Deserted Village* ; (ii) *The Essay on Population* ; (iii) *The Wealth of Nations* ; (iv) *Oliver Twist* ; (v) *Past and Present*.

STATISTICS.

*Time allowed—Three hours.**Maximum Marks—100.**Candidates should attempt Questions Nos. 1 to 3 and not more than three of the remaining questions.**All the questions carry equal marks.*

1. Calculate the mean, the median, and the standard deviation of the following distribution :—

Height of boys in centimeters.	Number.
100—104	4
105—109	14
110—114	60
115—119	138
120—124	206
125—129	298
130—134	380
135—139	450
140—144	500
145—149	430
150—154	260
155—159	128
160—164	66
165—169	28
170—174	12
	2974

2. Draw a graph of the following time series, and comment on their relationship :—

Imports and Shipping—India.

Year.	Value of imports (in crores of rupees).	Net tonnage of shipping entered (with cargoes) in foreign trade. (tons 000.)
Pre-war average (1909-10—1913-14)	145.9	8,116
War average (1914-15—1918-19).	147.8	5,749
Post-war average (1919-20—1923-24)	254	7,504
1924-25	246.6	8,614
1925-26	226.2	8,302
1926-27	231.2	8,345
1927-28	249.8	8,877
1928-29	253.3	9,517
1929-30	240.8	9,648
1930-31	164.8	9,012
1931-32	126.4	8,371
1932-33	132.6	7,903
1933-34	115.4	8,464
1934-35	132.3	8,899
1935-36	134.4	9,278
1936-37	125.3	9,433
1937-38	173.5	9,040

What additional statistical processes do you regard as necessary for a detailed analysis of the series and of the relationship between them ?

3. The following table gives the towns, the infant mortality in those towns, and the percentage of population overcrowded :—

Town.	A.	B.	C.	D.	E.	F.	G.	H.	I.	K.	L.
Infant mortality .	109	122	96	142	151	124	125	102	109	156	122
Percentage of population over-crowded . .	14.9	6.3	5.8	12.2	33.2	13.3	14.6	8.8	14.9	39.8	6.3

Calculate the degree of association between infant mortality and over-crowding. What further information is required before the existence or non-existence of causation could be deduced ?

4. State carefully the difficulties that are recounted in an attempt to make international comparisons of real wages.

5. What do you understand by ' the wealth of India ' and ' the national income of India ' ? State briefly the material available for their estimation. How are the main components dealt with in order to avoid duplication in arriving at the totals ?

6. Describe in detail the elements other than the imports and exports of merchandise that enter into India's balance of international payments, and show how they are estimated.

7. Discuss the problem of obtaining a perfect formula for an index number of prices. Apart from the problem of formulæ, there are a number of questions regarding the data on which index numbers are to be based. What are these ? What is meant by the reversibility of an index number ?

8. How would you construct a business barometer for India ? How far would it be an indicator of approaching changes in trade and in business conditions generally ?

9. Show that the variance of the sum of n quantities equals the sum of the variances of its components if the latter are free to vary independently.

In a sample enquiry in country A on social conditions the mean value of a variable x is ' a '. What can be said as to the mean value of x for the population as a whole ?

10. Examine briefly the ' t ' test of R. A. Fisher, explaining its salient features.

11. Find the mean and the standard deviation of the binomial distribution. Show that when dealing with small ratios (e.g., death rates) the standard error of the deaths in a group is equal approximately to the square root of the number of expected deaths.

LATIN.

*Time allowed—Three hours.**Maximum Marks—200.**The number of marks carried by each question is indicated at the end of the question.*

1. Translate into English :—

(a) Fama Agricolae ad posteros transmissa—Si quis piorum manibus locus, si, ut sapientibus placet, non cum corpore extinguuntur magnae animae, placide quiescas nosque, domum tuam, ab infirmo desiderio et muliebribus lamentis ad contemplationem virtutum tuarum voces, quas neque lugeri neque plangi fas est. Admiratione te potius quam temporalibus laudibus, et aemulatione decoremus. Is verus honos : ea coniunctissimi cuiusque pietas . . . Quidquid ex Agricola amavimus, quidquid mirati sumus manet mansurumque est in animis hominum, in aeternitate temporum, fama rerum. Nam multos veterum velut inglorios et ignobiles oblivio obruet ; Agricola posteritati narratus et traditus superstes erit.

[Tacitus Agricola. 46.] 35

(b) Cicero Attico Sal.—Properantibus tabellariis alienis hanc epistolam dedi. Eo brevior est. Tullia mea venit ad me pr. Idus Junias dequetua erga se observantia benevolentiaque mihi plura exposuit litterasque reddidit trinas. Ego autem ex ipsius virtute, humanitate, pietate non modo eam voluptatem non cepi quam capere ex singulari filia debui, sed etiam incredibili sum dolore adfectus tale ingenium in tam misera fortuna versari idque accidere nullo suo delicto, summa culpa mea. Itaque a te neque consolationem iam, nec consilium expecto teque omnia temptasse intelligo.

[Cicero. Ad Att. XI. 17.] 25

(c) In Sextum,

Ad natalicias dapes vocabar,
Essem cum tibi, Sexte, non amicus.
Quid factum est, rogo ; quid repente factum est
Post tot pignora nostra, post tot annos
Quod sum praeteritus vetus sodalis ?
Sed causam scio. Nulla venit a me
Hispani libra tibi pustulati ¹,
Nec levis toga, nec rudes lacernae,
Non est sportula quae negotiatur.
Poscis munera, Sexte, non amicos.
Jam dices mihi : ' Vapulet vocator '.

¹ *Pustulati*=pure silver.

[Martial. VII. 86.] 20

(d) Cernis ut in duris (et quid bove firminus ?) arvis

Fortia taurorum corpora frangat opus :
Quae numquam vacuo solita est cessare novali
Fructibus assiduis lassa senescit humus :
Occidet ad Circi si quis certamina semper,
Non intermissis cursibus, ibit equus,
Me quoque debilitat series immensa malorum
Ante meum tempus cogit et esse senem.

[Ovid. Ep. ¹ IV.] 20

2. Translate into Latin :—

When the emperor Severus had halted in Trace to celebrate with military games the birthday of his younger son, Geta, a young barbarian, Maximin by name, of gigantic stature earnestly solicited that he might be allowed to contend for the prize of wrestling. He was matched with the stoutest followers of the camp ; sixteen of whom he successively laid on the ground. Next day, when the Emperor was out riding, Maximin ran up to his horse and followed him on foot without the least appearance of fatigue in a long and rapid course. ' Tracian ', said Severus with astonishment ' art thou disposed to wrestle after this race ? ' ' Most willingly, Sire ' replied the unwearied youth, and almost in a breath overthrew some of the strongest soldiers in the army. 50

3. Sum up the characteristics of the GOLDEN and SILVER age of Roman literature. 25

4. *Either,*

Cicero (De Leg. I. 2. 5) says ; ' Abest historia a literis nostris '. Quintilian (X. 1. 101) says ; ' Historia non cesserit Graecis '. Criticize those statements.

Or,

Write an account of the Roman Drama and Roman Theatre. 25

GREEK.

No paper set in this subject as no candidate offered it.

FRENCH.

*Time allowed—Three hours.**Maximum Marks—200.**Candidates should attempt all questions.**The number of marks carried by each question is indicated at the end of the question.***1. Translate into English :—**

Ils montèrent les six marches du perron et furent reçus dans le vestibule par deux grands valets de pied de l'air le plus digne et le plus imposant. Ce vestibule, autrefois, était une immense pièce glaciale et nue dans ses murs de pierre ; ces murs, aujourd'hui, étaient recouverts d'admirables tapisseries qui représentaient des sujets mythologiques. C'est à peine si le curé les regarda, ces tapisseries ; et ce fût assez pour s'apercevoir que les déesses qui se promenaient à travers ces verdure portaient des costumes d'une antique simplicité.

L'un des valets de pied ouvrit à deux battants la porte du grand salon. C'était là que, d'ordinaire, se tenait la vieille marquise, à droite de la haute cheminée, et à gauche se trouvait le fauteuil. Plus de fauteuil ! Le vieux meuble de l'Empire, qui était le fond de l'arrangement du salon, avait été remplacé par un merveilleux meuble de tapisserie de la fin du siècle dernier. Puis un tas de petits fauteuils et de petits poufs, de toutes les couleurs et de toutes les formes, étaient jetés ça et là avec une apparence de désordre qui était le comble de l'art.

30

2. Translate into English :—

O malheureux mortels ! ô terre déplorable !
 O de tous les mortels assemblage effroyable !
 D'inutiles douleurs éternel entretien !
 Philosophes trompés qui criez ' Tout est bien ' ;
 Accourez, contemplez ces ruines affreuses,
 Ces débris, ces lambeaux, ces cendres malheureuses,
 Ces femmes, ces enfants l'un sur l'autre entassés,
 Sous ces marbres rompus ces membres dispersés ;
 Cent mille infortunés que la terre dévore,
 Qui, sanglants, déchirés, et palpitants encore,
 Enterrés sous leurs toits, terminent sans secours
 Dans l'horreur des tourments leurs lamentables jours !
 Aux cris demi-formés de leurs voix expirantes,
 Au spectacle effrayant de leurs cendres fumantes,
 Direz-vous, ' C'est l'effet des éternelles lois
 Qui d'un Dieu libre et bon nécessitent le choix ? '

from ' Poème sur le Désastre de Lisbonne '.

30

3. Translate into French :—

The same day at half-past seven John came to fetch the curé at the vicarage and the two took the road to the Hall. For a month past a regular army of workmen had taken over Longueval : The inns and public houses of the village were making a fortune.

Huge furniture vans had brought loads of furniture and furnishing from Paris. Forty-eight hours before the arrival of Mrs. Scott, Miss Marbeau the postmistress, and Mrs. Lormier the Mayoress had sneaked into the Hall ; their accounts made heads swim. The old furniture had vanished, relegated to the attics ; one walked in the midst of a positive heap of marvels, and the stables, and the coach-houses !

A special train had brought some ten carriages from Paris, and what carriages ! Some twenty horses, and what horses !

The Abbé Constantin thought he knew what the height of luxury was. He dined once a year with his Bishop, Monseigneur Foubert, a pleasant and rich prelate, who entertained fairly lavishly. Till then the Abbé thought there was nothing in the world more sumptuous than the episcopal palace of Souvigny.

50

4. Write in French (not more than 200 words)—

Either,

(a) an account of any French play of the 17th century,

Or,

(b) a description of any incident in French history,

Or,

(c) an account of any novel by Balzac, Anatole France, Alphonse Daudet or Victor Hugo.

40

5. Give some account of the work and influence of *any two* of the following :—

Rabelais, Voltaire, J. J. Rousseau, Madame de Staël, Taine, de Musset, Corneille, Lamartine.

30

6. Give some account of the French philosophers of the 18th century.

Or,

Who were the leaders of the French Romantic movement ? Describe the development of the movement.

20

SANSKRIT.

Time allowed—Three hours

Maximum Marks—200

All the questions carry equal marks.

1. Translate into English either A or B :—

A

(i) अथ मधुमदपल्लवितमालवीकपोलकोमलातपे मुकुलितेऽङ्घ्रि कमलिनीमीलनादिव लोहिततमे रवौ लम्बमाने, रविरथतुरगमार्गानुसारेण यममहिष इव धावति नभसि तमसि, क्रमेण च गृह्तापसकुटीरकपटलावलम्बिषु रक्तातपच्छेदैः सह संदृतेषु चल्कलेषु, कलिकल्मषमुषि पुष्पेति गगनमग्निहोत्रधामधूमे, सनियमे यजमानजने मौनप्रतिनि, विहारवेलाविलोले पर्यटति पत्नीजने, विकीर्यमाणहरितश्यामाकशालि-पूलिकासु दुग्धासु होमकपिलासु हूयमाने वैतानतनूनपाति, पूतविष्टरोपविष्टे कृष्णाजिनजटिले जटिनि, जपति बटुजने, ब्रह्मासनाध्यासिनि ध्यायति योगिगणे, तालध्वनिधावमानानन्तान्तेवासिनि अलसवृद्धश्रोत्रियानुमतेन गलदूग्धप्रन्थदण्डकोदूगारिणि संध्यं समवधारयति मूर्खविटबटुसमाजे, समुन्मज्जति च ज्योतिषि तारकाख्ये, खे प्राप्तं प्रदोषारम्भे, भवनमागत्योपविष्टः स्निग्धैर्बन्धुभिश्च सार्धं तथैव गोष्ठ्या तस्थौ ।

(ii) शैलानामवरोहतीव शिखरादुन्मज्जतां मेदिनी

पर्याभ्यन्तरलीनतां विजहति स्कन्धोदयात्पादपाः ।

संतानात्तनुभावनष्टसलिला व्यक्ति भजन्त्यापगाः

केनाप्युत्तिपतेव पश्य भुवनं मत्पार्श्वमानीयते ॥

B

(i) इन्द्रविजयोपाख्याने ।

महर्षिर्वचनं श्रुत्वा तानुवाच महाद्युतिः ।

अवश्यं भगवन्तो मे माननीयास्तपस्विनः ॥

ब्रवीमि यदहं देवास्तत्सर्वं क्रियतामिह ।

ततः सर्वं करिष्यामि यदूचुर्मां द्विजर्षभाः ॥

न शुष्केण न चार्द्रेण नाश्मना न च दारुणा ।

न शस्त्रेण न वज्रेण न दिवा न तथा निशि ॥

बभ्यो भवेयं विप्रेन्द्रा शक्रस्य संह दैवतैः ।

एव मे रोचते संधिः शाक्रेण सह नित्यदा ॥

बाढमित्येव ऋषयस्तमूचुर्भरतर्षभ ।

एवं कृते तु संधाने वृत्रः प्रमुदितोऽभवत् ॥

युक्तः सदाभवन्नापि शक्रोऽमर्षसमन्वितः ।

वृत्रस्य वधसंयुक्तानुपायाननुचिन्तयन् ॥

रन्ध्रान्वेषी समुद्विग्नः सदाभूद्बलवृत्रहा ।

स कदाचित्समुद्रान्ते तमपश्यन्महासुरम् ॥

संध्याकाल उपावृत्ते मुहूर्ते रम्यदारुणे ।

ततः संचिन्त्य भगवान्वरदानं महात्मनः ॥

संधेयं वर्तते रौद्रा न रात्रिर्दिवसं न च ।

वृत्रश्चावश्यबभ्योऽयं मम सर्वहरो रिपुः ॥

यदि वृत्रं न हन्यद्य वञ्चयित्वा महासुरम् ।

महाबलं महाकायं न मे श्रेयो भविष्यति ॥

(ii) मतिभेदतमस्तिरोहिते गह्वरे कृत्यविधौ विवेकिनाम् ।

सुकृतः परिशुद्ध आगमः कुरुते दीप इवार्थदर्शनम् ॥

स्यूद्दणीयगुणैर्महात्मभिश्चरिते वर्त्मनि यच्छ्रुतां मनः ।

विधिहेतुरहेतुरागसां विनिपातोऽपि समः समुन्नतेः ॥

2. Translate into Sanskrit either A or B :—

A

The Mahābhārata is the result of the greatest of the efforts thus made to conserve in a collected form all the ancient beliefs and traditions of the race. The name Mahābhārata itself shows that the movement which culminated in

the compilation of this great work had behind it a vivid consciousness of the unity of the Bhārata or Indian people. For this reason one finds in this work a great effort made to present a complete embodiment of the ideals to be found in the social organism, religion, ancient history, mythology and ethics, of the Indian people. Hence if we want to follow Indian mythology from its dim beginnings to its perfect maturity through all its intermediate phases we cannot have a better guide than the Mahābhārata. For, in India, mythology is not a mere subject of antiquarian research and disquisition ; here it still permeates the whole life of the people as a controlling influence.

B

In this time of loneliness and failure there came to him the great temptation, symbolically described as presented to him by Māra, the evil one, in the form of material temptation and assault. Unvanquished, however, Gautama wandered along the banks of the river Nairanjara and took his seat under a banyan tree, and there received a simple meal from the hands of Sujātā, daughter of a neighbouring villager, who at first mistook him for a sylvan deity. During the day he sat there, still assailed by doubt and the temptation to return to his home. But, as the day wore on, his mind seemed to grow clearer and clearer, his doubts vanished, a great peace came over him as the significance of all things made itself apparent. So day and night passed till by the dawn came perfect knowledge. Gautama became Buddha, the enlightened. With perfect enlightenment there came upon the Buddha a sense of great isolation ; how could it be possible to share this wisdom with men less wise, less earnest than himself ? Was it likely that he could persuade any of the truth of a doctrine of self-salvation by self-restraint and love, without any reliance upon such rituals or theologies as men everywhere and at all times lean upon ?

3. Explain, in Sanskrit, in your words, *any two* of the following stanzas :—

- (a) कायेन वाचा मनसापि शश्वद् यत्संभृतं वासवधैर्यलोपि ।
आपाद्यते न व्ययमन्तरायैः कश्चिन्महर्षेस्त्रिविधं तपस्तन ॥
- (b) यदैव पूर्वे जनने शरीरं सा दत्तरोषात्सुदती ससर्ज ।
तदाप्रभृत्येव विमुक्तसङ्गः पतिः पशुनामपरिग्रहोऽभूत् ॥
किरातार्जुनीये ।
- (c) कर्तुं यच्च प्रभवति महीमुच्छिलीन्ध्रामवन्ध्यां
तच्छ्रुत्वा ते श्रवणसुभगं गर्जितं मानसोत्काः ।
आ कैलासाद्विसृज्यसल्यच्छेदपाथेयवन्तः
संपत्स्यन्ते नभसि भवतो राजहंसाः सहायाः ॥
मेघदूते ।
- (d) लाक्षागृहानलविषाणसभाप्रवेशैः
प्राणेषु वित्तनिचयेषु च नः प्रहृत्य ।
आकृष्टपाण्डवबधूपरिधानकेशाः
स्वस्था भवन्ति मयि जीवति धार्तराष्ट्राः ॥
वेणीसंहारे ।

4. *Either,*

Relate, in Sanskrit, the plot of *any one* of the following plays : Vikramorvaśīya, Svapnavāsavadatta, Uttararāmacarita, Ratnāvali.

Or,

Compare and contrast the dramatic and poetic genius of Kālidāsa and Bhavabhūti.

5. *Either,*

Discuss the authenticity of the thirteen anonymous plays attributed to Bhāsa, examining in particular the Prakrit argument.

Or,

Sketch the position of Pañchatantra in the Fable Literature of the world, mentioning any fable you know of which a parallel version exists, and showing how to distinguish between the original and the derivative.

ARABIC.

Time allowed—Three hours

Maximum Marks—200

Candidate should attempt Questions Nos. 1, 2 and 3 and not more than two of the remaining questions.

The number of marks carried by each question is indicated at the end of the question.

1. Translate into Arabic the following passage :—

Saláh-ud-Dín had given away everything before his death, and the money for his burial had to be borrowed, even to the straw for the bricks that made the grave. A striped cloth covered the bier. No poet was allowed to sing a dirge, no preacher to make oration. When the multitude, who thronged about the gate, saw the bier, a great wailing went up, and so distracted were the people that they could not form the words of prayer but only cried and groaned. All eyes were wet, and there were few that did not weep aloud. Then every man went home and shut his door and the empty, silent streets bore witness to a great sorrow. The next day the people thronged to his tomb, praying, reciting the Koran, and invoking the blessing of God upon him who slept beneath.

40

2. Translate into English :—

يقال انه لما اشتدت علة الرائق التي توفى فيها ركان في حبسه جماعة من الكتاب العمال دخل ابن ابي دؤاد عليه و سأل عما يجد فشكا الرائق شدة ما به اليه فقال : يا امير المؤمنين ان في حبسك جماعة رداءهم عدد كثير من العيال وهم في ضرر يؤس و امرت بالافراج عنهم لرجوت لك الفرج من هذه الشدة فقال له اصبت و امر بذلك فانفرج عنهم فلما اسبم حض ابن ابي دؤاد عنده على رسمه فقال له الرائق اني وجدت البارة بعض الخف فقال ابن ابي دؤاد : وفق الله لامير المؤمنين فلقد رفعت البار حة الوف من الايدي بالدعاء له كانت ترفع من قبل بالدعاء عليه ، ثم امر الرائق بتسليم ضياعهم اليهم و اعاده ما أخذ من امرهم و خرج الامر بذلك على يد ابن ابي دؤاد و ام يكن قد بقى للرائق اجل فمضى لسبيله و استصحب أجر ذلك الفعل معه و فا 40 ابن ابي دؤاد بهذه المذقة بقية ال هر *

3. Write a note in Arabic of about 300 words on one of the following subjects :—

- (i) Chivalry among the ancient Arabs.
- (ii) The chief sources of information about the Jáhiliyya period.
- (iii) Modern means of transport in the Arab countries and its effect on the characteristics of the Arabs.

60

4. Translate the following with explanatory notes where necessary, name the metre, and scan the first line :—

أشباب الصغير و اننى الكبير مرر الليالى و عثر العشى
اذا ليلة هزمت يومها أتى بعد ذلك يوم نقى
نروح و نغدو لحاجتنا و حاجة من عاش لا تنقضى
تموت مع المرء حاجاته و تبقى له حاجة ما بقى

5. Examine the extent to which Islam favoured the growth of Arabic literature by placing new problems before it.

30

6. Write an account of the life and work of Ibn Khaldún.

30

7. (i) Which particles are called الحروف المشبهة بالفعل , and why ? Give examples to show their government.

(ii) What is الإلام للاستغانة ? Write a note on its use, and give examples.

30

8. Write out and give the numerical values of the ا ب ج د .

30

9. Name three outstanding Arab poets of the ' Abbásid period, with approximate dates, and characterize the work of one of them.

30

10. What is Shari'a ? Give an account of the principles on which it is based.

30

PERSIAN.

*Time allowed—Three hours**Maximum Marks—200**Candidates should attempt Questions Nos. 1, 2 and 3 and not more than two of the remaining questions.**The number of marks carried by each question is indicated at the end of the question.***1. Translate into Persian :—**

The Mongols who were both great fighters and nomads invaded Anatolia from the north-east and passed on to the west. They did not establish anything worthy of the name of a State. The Seljuks came armed with experience in State-building from Persia. Their State also did not last more than two hundred years. The Byzantines had the example of Rome, they had the learning of old Greece, a very remarkable ability for organization, but they never managed to establish anything like the old Roman peace and order. The Ottomans could not succeed if they possessed only the physical virtues of the fighting nomad and his special but simple outlook in State-building ; their task demanded a very keen and comprehensive mind and the practical ability to create a lasting and workable political system.

40

2. (a) Translate into English :—

ازین در طبقه عامه ملت بیشتر از طبقات دیگر باید منظور نظر ارباب سخن و واعظین و مخصوصاً شعرا و ادبا باشند و من چنین تصور می کنم که در عالم ملامی نیست که بقدر ملت ایران مجذوب شعر باشد و شعر در طبیعت ایرانی جاذبه مخصوصی دارد که کمتر نظیر آن در سایر اقوام دیده شده است ، ازین نقطه نظر شعرائی که اصلاح حال طبقه عامه ملت را در نظر دارند موجب بر دیگران می باشند و میان ایشان و سائرین که جز مدح و اخذ صله هنری دیگر ندارند همان فرق است که میان زاهد خود پرست و عالم 20 دانش پرور *

(b) Translate into English, adding necessary explanatory notes :—

شلم را باد به نقش دم طاؤس نگاشت
 غنچه را بانگ به شکل سر بیغا آورد
 لاله از دامن کوه آتش موسی بنمود
 شلم بیرون ز گریبان ید بیضا آورد
 بلبل آشفته ازان گشت چو رامق که صبا
 سخنی از دهن غنچه عذرا آورد
 از پی خسرو گل بلبل شیرین گفتار
 نغمه بارید و صوت نکبسا آورد
 بلبل پرده سرا صوت چکارک بنواخت
 مطرب زهره نوا نغمه علقا آورد
 بوم افتاده ز پا شوق تو ام دست گرفت
 بر سر کوی تو ام بی سر و بی پا آورد

30

3. Write an essay of about 300 words in Persian on one of the following :—

- The advantages and disadvantages of Teheran as the site of the capital of Iran.
- Whether Firdausi or Hafiz is the truer representative of the Iranian genius.
- The value of the Trans-Iranian Railway.

50

4. Describe briefly the province of Khurásán, and give reasons for its importance in Iranian history. 30

5. Name four famous Persian works of history (not Indian) with their authors, and give an account of *one* of them. 30

6. Give an account of the principal compositions of Nizami or Jami. 30

7. (a) Write etymological notes on :—

خندق ، انجمن ، فاليز ، بينق ، دستاويز

(b) Scan the second line of Question 2 (b) above, and name the metre.

(c) Define and illustrate :—

استعاره ، لف و نشر ، استخدام ، ايطا 30

8. Show, with examples, how compound words are formed in Persian, and discuss the value of this for the development of modern Persian vocabulary. 30

APPLIED MECHANICS.

*Time allowed—Three hours.**Maximum Marks—200**5 questions only are to be attempted.**The number of marks carried by each question is indicated at the end of the question.*

1. Investigate expressions for combined torsion and bending in a shaft when taking account of end thrust. In a propeller shaft, 8 inches internal and 16 inches external diameter, there is a twisting moment of 200 ft. tons, a bending moment of 50 ft. tons, and an end thrust of 35 tons. Calculate the maximum intensity of compressive stress. 40

2. A rivet $\frac{7}{8}$ th inch diameter area 0.6 square inches, is subjected to a shearing load of 3 tons and to a tension of 1.2 tons along the axis. Find the values and directions of the principal stresses. 35

3. A cylindrical steel chimney is 120 feet high and 8 feet in diameter. The wind pressure on a vertical plane is 30 lb. per square foot and the wind co-efficient for a cylinder is 0.6. The chimney weighs 35,000 lb., and is bolted to the foundation by 16 bolts arranged in a circle 12 feet diameter. Find the diameter of the bolts if the stress in them is not to exceed 8,000 lb. per square inch. (The stress in any bolt due to the over-turning movement may be taken to be proportional to the distance of the bolt from a tangent to the bolt circle.) 40

4. The load per foot run of the span of a suspension bridge is to be $\frac{3}{4}$ ton, and the span is to be 100 feet. If the maximum allowable stress in the cable is not to exceed $5\frac{1}{2}$ tons per square inch, what will be the cross sectional area required? Take the dip of the cable as being 12 feet; calculate the maximum pull in the cable.

The suspension cable and back-stays are attached to saddles free to move horizontally on the piers. What is the tension in the back stay and the vertical pressure on the pier if the back stays have an inclination of 45 degrees to the horizontal? 35

5. State Clapeyron's Theorem of Three Moments.

A continuous beam 50 feet long on four supports at the same level has a left hand span 20 feet and others each 15 feet. The left hand span has a load of 2 tons per foot run and the others 1 ton per foot run.

Find the bending moments and reactions at the supports. Draw the B. M. diagram, marking in the principal dimensions and maximum bending moments. 40

6. A segmental arched rib, span 80 feet, rise 20 feet, is hinged at the crown and springings, and carries concentrated loads of 2 tons and 3 tons at points distant horizontally 20 feet and 50 feet respectively from the left hand end. Find the reactions at the springings, and estimate the bending moment in the rib immediately under each load. The concentrated loads only need be considered. 40

7. A reinforced concrete beam, having tensile reinforcement only, is 12 inches wide and 18 inches deep from the top to the centre of the reinforcement. Stresses of 600 lb. per square inch push in the concrete and 16,000 lb. per square inch pull in the steel are to be attained simultaneously. Find the sectional area of steel required, the position of the neutral axis, and the moment of resistance of the section.

Take the ratio of E for steel to E for concrete as 15.

(It is expected that this question will be worked from first principles.) 40

PRIME MOVERS.

*Time allowed—Three hours.**Maximum Marks—100**Answer not more than 7 of the following questions.**All questions carry equal marks.*

1. Describe, with sketches, the plant and its layout for providing and cooling the condenser water of an electric generating station where the supply of water is limited.

2. Describe the difference in operation between a Pressure and a Suction Gas Producer.

One pound of carbon converted into carbon-dioxide yields 8,130 C. H. Us., and 2,450 C. H. Us. when carbon-monoxide is formed. When a producer is working it supplied carbon-monoxide, and the heat evolved in the generator has to be prevented from becoming a loss. By what method in the operation of the producer is the heat of formation of the carbon-monoxide utilized and passed on to the consuming device as useful heat energy?

3. Describe in detail the working of a steam engine Indicator, and explain fully how you would take diagrams thereon and the points you would look for in comparing your diagram with that which you would expect to get from the same engine working under perfect conditions.

4. Sketch and describe the action and purpose of a 'Pop' type safety valve.

Or,

Sketch and describe the action of any kind of float or bucket type steam-trap with which you are acquainted.

5. Explain Constant volume, Constant pressure, and Constant temperature cycles, as applied to the internal combustion engine. Which of these are applicable to the practical internal combustion engine and in what types of engines can they be applied? Show that the constant volume cycle is, for the same compression ratio, more efficient than the constant pressure cycle, but explain how, in practice, it is possible to overcome this and the constant pressure cycle can be made to give the greater efficiency. Given a certain heat—

at constant volume = 1691 B. T. Us. per lb., and

at constant pressure = 2375 B. T. Us. per lb.

In the example heat is to be considered to be supplied for one-eighth of the working stroke of the constant pressure cycle engine. In both cases the compression ratio will be taken as 5.

6. An internal combustion engine consumes .4 lb. of fuel per brake horse power hour. The calorific value of the fuel is 19,000 B. T. Us. per pound. What is the brake thermal efficiency?

Assuming your own figures for the mechanical efficiency of a 4-cycle solid injection diesel engine, determine the indicated thermal efficiency, and state approximately the various percentage losses and where they are dissipated.

7. In a high pressure steam turbine the direction of the steam may be either axial flow or radial flow. Discuss the relative advantages and disadvantages of each type considered in the first case as a 500 kW set and in the other case as a 50,000 kW set.

Or,

Explain the difference between a Reaction and an Impulse turbine. These types are sometimes combined in one machine. Why? What do you understand by 'Bleeder steam' turbine work, and for what purpose is it usually adopted? In large machines a high vacuum is essential for economic operation but in a small unit of the impulse type of say 10 h. p. it would not be of much importance when considered with regard to the steam consumption per h. p. hour. Why is this?

8. Sketch and describe a fan brake dynamometer. The formula for determining the brake horse power when using such a brake may be given as $b. h. p. = N^3 C$, where N is the revolutions per minute of the fan and C is a constant. Explain the general derivation of this formula.

Or,

Sketch and describe any form of dynamometer other than an electrical type suitable for testing an engine of about 35 b. h. p. over a test run of six hours, and evolve a formula for the contrivance described.

9. In a modern steam turbine and internal combustion engine the upper and lower limits of temperature are respectively about—

For the turbine	745°C	..	..	315°C.
For I. C. engine	3075°C	..	..	773°C.

What are the Carnot cycle efficiencies for these prime mover plants when the boiler efficiency in connection with the steam turbine is 82 per cent. ? In actual practice the thermal efficiency for good turbine plants is 28 per cent. and for internal combustion engines 40 per cent. approximately. Explain why in each case the practical efficiencies are so much below those obtained in the ideal engine.

6. TABLE OF RESULTS.

**RESULTS OF THE COMBINED COMPETITIVE
EXAMINATION HELD IN NOVEMBER 1938 FOR
RECRUITMENT TO THE INDIAN AUDIT AND
ACCOUNTS, ETC., SERVICES.**

Table of Results of the Combined Competitive Examination for recruitment to the Indian Audit and Accounts Service; the Indian Railway Accounts Service; the Postal Superintendents (Class II) Service; and the of State Rail

Rank in order of merit.			Roll No.	Name.	Province or State.	Community.	Compulsory Subjects.					
Indian Audit and Accounts and allied Services and Imperial Customs Service.	Postal Superintendents (Class II) Service.	T. (T.) and C. D. of the S. R. E. of State Railways.					Essay.	English.	General Knowledge.	Elementary Geography.	Elementary Mathematics.	Viva Voce.
							150	150	150	100	100	200
1	1	1	13	Arddhendu Bakshi . . .	Bengal . . .	Hindu . . .	118	74	112	54	92	100
2	2	2	165	Dharam Prakash Anand . . .	Punjab . . .	Hindu . . .	104	72	115	47	90	140
3	3	3	28	Madan Mohan Lal Hooja . . .	Bengal . . .	Hindu . . .	103	72	123	53	86	140
4	4	4	257	Mohit Kumar Mukerji . . .	Bhopal State . . .	Hindu . . .	90	55	119	59	84	160
5	5	5	179	Kuldip Singh Bhandari . . .	Punjab . . .	Sikh . . .	71	76	110	52	91	60
6	6	6	125	K. V. Kasturi Rangan . . .	Madras . . .	Hindu . . .	70	63	110	51	94	80
7	7	7	29	Manindra Nath Datta . . .	Bengal . . .	Hindu . . .	87	56	109	55	84	100
7	7	7	109	A. P. Balakrishnan Nayar . . .	Madras . . .	Hindu . . .	70	69	116	43	66	170
9	9	9	53	Birender Lall . . .	Bihar . . .	Hindu . . .	98	61	106	50	70	150
10	10	10	178	Krishan Lal Bhola . . .	Punjab . . .	Hindu . . .	80	79	127	57	99	70
11	11	11	137	S. R. Krishnamurthi . . .	Madras . . .	Hindu . . .	87	57	97	53	87	100
12	12	12	127	M. Krishnamoorthi . . .	Madras . . .	Hindu . . .	103	89	119	60	88	100
13	13	13	40	Satyendra Mohan Ghosh . . .	Bengal . . .	Hindu . . .	84	49	103	42	81	100
14	14	14	149	U. Sundar Kini . . .	Madras . . .	Hindu . . .	98	48	96	59	85	130
15	15	15	291	S. Govinda Menon . . .	Travancore State . . .	Hindu . . .	56	42	96	63	66	90
16	16	16	202	Shrichand J. Chabra . . .	Sind . . .	Hindu . . .	108	64	86	55	65	50
17	17	17	32	N. K. Bhattacharyya . . .	Bengal . . .	Hindu . . .	82	60	104	58	78	120
17	17	17	187	Rabindra Nath Madhok . . .	Punjab . . .	Hindu . . .	76	71	121	53	82	80
19	19	19	23	K. G. Basu . . .	Bengal . . .	Hindu . . .	118	64	100	53	56	70
19	19	19	166	Diljit Singh Virk . . .	Punjab . . .	Sikh . . .	59	62	118	62	47	120
21	21	21	164	Dev Paul Qanungo . . .	Punjab . . .	Hindu . . .	94	58	92	52	69	60
22	22	22	39	Santosh Kumar Chatterjee . . .	Bengal . . .	Hindu . . .	103	59	102	56	61	80
23	23	23	78	J. E. A. Brown . . .	Bombay . . .	Anglo-Indian . . .	83	44	115	53	67	155
23	23	23	186	Prem Nath Gupta . . .	Punjab . . .	Hindu . . .	63	44	96	45	..	160
23	23	23	236	Santosh Kumar Chaudhri . . .	U. P. . .	Hindu . . .	80	45	107	48	98	150
26	26	26	12	Amalendra Narayan Biswas . . .	Bengal . . .	Hindu . . .	87	64	104	55	61	110
27	..	..	282	Jatindra Nath Mukherjee . . .	Bengal . . .	Hindu . . .	82	57	97	40	32	110
28	27	27	140	S. R. N. Badri Rao . . .	Madras . . .	Hindu . . .	108	55	111	37	46	80
29	28	28	197	Vidya Parkash Malhotra . . .	Punjab . . .	Hindu . . .	70	62	92	44	..	60
30	29	29	150	V. Subramanian . . .	Madras . . .	Hindu . . .	95	45	86	47	..	80
31	..	..	284	Maharaj Krishan Chopra . . .	Punjab . . .	Hindu . . .	91	57	104	59	84	50
32	30	30	188	Raj Bahadur Sachdeva . . .	Punjab . . .	Hindu . . .	84	62	111	47	48	120
33	31	31	36	S. K. Mukherjee . . .	Bengal . . .	Hindu . . .	76	57	83	40	71	100
33	31	31	192	Ram Nath Vasudeva . . .	Punjab . . .	Hindu . . .	84	68	101	39	79	80
35	33	33	203	Ali Irtiza Osmany . . .	U. P. . .	Muslim . . .	74	53	96	37	43	90
36	34	34	70	Sudhangsu Kumar Chakraborty . . .	Bihar . . .	Hindu . . .	62	56	102	44	96	70
36	34	34	142	S. Srinivasan . . .	Madras . . .	Hindu . . .	60	69	85	53	71	70
36	34	34	160	Banwari Lal Kukar . . .	Punjab . . .	Hindu . . .	72	50	92	39	73	100
36	34	34	213	Fahimuddin . . .	U. P. . .	Muslim . . .	92	49	79	38	60	130
40	38	38	113	C. Parthasarthy . . .	Madras . . .	Hindu . . .	94	68	102	59	56	70

and Accounts Service, the Imperial Customs Service, the Military Accounts Department and Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment ways, 1938.

Optional Subjects.																			Total marks.	
Pure Mathematics.	Applied Mathematics.	Chemistry.	Physics.	English Literature (General).	Indian History.	British History.	General Economics.	Economic History.	Statistics.	Latin.	Greek.	French.	Sanskrit.	Arabic.	Persian.	Applied Mechanics.	Prime Movers.	Total.	Handwriting deductions.	Final Total.
200	200	200	200	200	200	200	200	100	100	200	200	200	200	200	200	200	100	Maximum Marks 1,450.		
..	..	..	..	142	120	134	..	..	..	..	..	..	..	..	..	..	..	946	..	946
..	..	..	135	..	133	102	..	..	..	..	..	..	..	..	..	..	..	938	..	938
..	..	..	..	..	122	93	..	..	..	100	..	..	..	..	..	..	..	894	..	894
..	..	..	..	..	101	79	..	..	..	..	..	..	..	..	..	..	..	872	..	872
..	..	125	..	..	101	79	..	..	..	..	..	..	..	..	..	..	..	844	..	844
..	..	..	..	134	..	112	..	..	..	..	..	..	..	..	138	..	..	841	..	841
..	..	120	..	..	140	113	..	..	..	..	..	..	..	..	..	..	..	833	..	833
..	..	..	..	..	130	98	114	..	..	..	..	..	..	..	..	..	..	833	..	833
..	..	..	..	125	77	97	..	..	..	..	..	..	..	..	..	..	..	828	..	828
..	..	..	..	..	104	105	84	..	..	..	..	..	..	..	..	..	..	822	..	822
..	..	..	..	114	107	89	..	..	..	..	..	..	..	..	..	..	..	811	..	811
..	..	..	..	..	129	119	82	..	..	..	..	..	..	..	..	..	..	810	..	810
..	..	..	..	105	..	89	52	..	..	..	..	..	..	..	..	..	..	807	..	807
..	..	..	133	..	124	91	..	..	..	..	..	..	..	..	..	..	..	806	..	806
..	..	66	..	..	123	101	..	..	..	..	..	..	..	..	..	..	..	801	..	801
..	..	..	..	..	132	110	146	..	..	..	..	..	..	..	..	..	..	798	..	798
..	..	..	..	..	135	106	129	..	..	..	..	..	..	..	..	..	..	794	..	794
..	..	..	..	..	109	112	71	..	..	..	..	..	..	..	..	..	..	809	15	794
..	..	..	..	129	105	..	92	..	..	..	..	..	..	..	..	..	..	788	..	788
..	..	..	..	94	136	97	..	..	..	..	..	..	..	..	..	..	..	788	..	788
..	..	..	..	..	117	114	89	..	..	..	..	..	..	..	..	..	..	783	..	783
..	..	..	..	130	140	88	..	..	..	..	..	..	..	..	..	..	..	782	..	782
..	..	..	..	..	133	112	76	..	..	..	..	..	..	..	..	..	..	778	..	778
..	..	..	..	..	95	75	91	..	..	..	..	..	..	..	..	..	..	778	..	778
..	99	..	..	..	..	56	..	..	..	..	..	..	..	..	..	146	69	778	..	778
..	..	90	..	..	..	97	63	..	..	..	..	..	..	..	..	..	..	774	..	774
..	..	..	..	..	..	96	98	101	..	..	..	..	..	..	..	..	..	773	5	768
..	..	..	..	..	131	79	145	..	..	..	..	..	..	..	..	..	..	764	..	764
..	..	..	..	..	102	86	139	..	..	..	..	..	..	..	..	..	..	755	..	755
153	124	..	..	..	..	..	107	..	43	..	..	..	..	..	..	..	..	754	..	754
67	169	..	..	..	98	..	..	..	67	..	..	..	..	..	..	..	..	750	..	750
..	..	..	..	91	128	86	..	..	..	..	..	..	..	..	..	..	..	749	..	749
..	..	..	..	93	..	81	103	..	..	..	..	..	..	..	..	..	..	743	..	743
..	..	..	..	..	107	103	106	..	..	..	..	..	..	..	..	..	..	743	..	743
..	..	..	..	102	100	..	..	..	..	..	..	..	90	..	..	..	..	736	..	736
..	..	..	..	..	119	91	..	..	..	..	..	..	..	..	133	..	..	733	..	733
..	..	120	..	..	108	75	..	..	..	..	..	..	..	..	..	..	..	733	..	733
..	..	..	..	128	..	96	101	..	..	..	..	..	..	..	..	..	..	733	..	733
..	..	..	..	88	110	109	..	..	..	..	..	..	..	..	..	135	..	733	..	733
..	..	..	..	86	..	64	..	..	..	..	..	..	..	..	..	..	..	731	..	731
..	..	..	..	..	124	78	80	..	..	..	..	..	..	..	..	..	..	781	..	781

Table of Results of the Combined Competitive Examination for recruitment to the Indian Audit the Indian Railway Accounts Service; the Postal Superintendents (Class II) Service; and the of State Rail

Rank in order of merit.			Roll No.	Name.	Province or State.	Community.	Compulsory Subjects.					
Indian Audit and Accounts and allied Services and Imperial Customs Service.	Postal Superintendents (Class II) Service.	T. (T.) and C. D. of the S. R. E. of State Railways.					Essay.	English.	General Knowledge.	Elementary Geography.	Elementary Mathematics.	Viva Voce.
							150	150	150	100	100	200
41	39	39	215	Gopeshwar Nath	U. P.	Hindu	79	40	94	50	94	70
42	40	40	180	Madan Mohan Bhalla	Punjab	Hindu	50	62	85	33	68	90
43	41	41	100	M. P. Pande	C. P.	Hindu	64	48	85	50	78	60
44	42	..	281	Ghulam Rasul Bhatti	Punjab	Muslim	71	41	99	47	81	60
45	43	42	161	Ch. Abdul Aziz	Punjab	Muslim	76	44	87	36	50	80
46	44	43	250	Hari Krishna	Delhi	Hindu	83	51	98	56	78	70
47	45	44	148	T. R. Venkataraman	Madras	Hindu	83	43	90	39	..	70
48	46	45	233	Syed Mahmood Hamid	U. P.	Muslim	47	30	81	54	62	150
49	47	46	181	Manohar Lal Batra	Punjab	Hindu	66	62	97	42	..	80
49	47	46	209	Chandra Prakash	U. P.	Hindu	94	40	91	41	..	80
51	49	48	141	S. Sampathu Ayyangar	Madras	Hindu	68	43	94	48	90	75
52	50	49	112	C. G. Ramanathan	Madras	Hindu	104	50	89	49	73	70
53	51	50	207	Bijan Bihari Lal	U. P.	Hindu	86	51	86	36	91	80
54	..	..	278	Hari Krishan	Punjab	Hindu	87	42	76	47	92	80
55	52	51	174	Kanwal Kishore Andley	Punjab	Hindu	78	51	95	46	78	60
56	53	52	287	K. N. Krishnan	Madras States	Hindu	40	48	93	41	94	100
57	54	53	1	Abdul Magni	Assam	Muslim	79	70	118	49	74	40
..	..	54	85	P. D. Malgonkar	Bombay	Hindu	94	50	91	46	84	70
58	55	54	211	Deep Chand Srivastava	U. P.	Hindu	91	49	99	33	54	90
59	56	..	124	K. Subrahmanyam	Madras	Hindu	68	46	89	34	83	80
60	57	56	224	Narandra Nath Pant	U. P.	Hindu	86	48	97	41	54	155
61	58	57	11	Akber Kabeer	Bengal	Muslim	79	63	105	49	47	120
61	58	57	138	S. Krishnaswami	Madras	Hindu	68	51	101	51	..	60
61	58	..	159	Arjan Das	Punjab	Hindu	63	46	96	41	..	80
64	61	59	80	Leslie Radcliffe Wynne	Bombay	Anglo-Indian	67	47	110	52	53	150
65	62	60	251	Jagan Nath Sharma	Delhi	Hindu	63	35	99	40	74	100
66	63	61	175	Kanwar Krishan Suri	Punjab	Hindu	64	65	79	26	91	70
67	64	62	145	T. C. Kulathu	Madras	Hindu	71	46	89	35	..	45
68	65	..	136	S. M. Y. Sastry	Madras	Hindu	63	53	110	57	45	60
68	65	63	182	Mirza Mohd. Taqi	Punjab	Muslim	90	58	108	45	60	80
70	67	64	275	Bashir Ahmad	Punjab	Muslim	90	39	85	34	59	100
71	68	65	163	Charat Chand Dilwali	Punjab	Hindu	58	45	95	46	..	80
71	68	65	237	Sasanka Bhushan Roy	U. P.	Hindu	59	36	89	45	..	100
73	70	..	101	M. P. Shrivastava	C. P.	Hindu	87	45	91	66	..	80
73	70	67	189	Raj Kumar Khanna	Punjab	Hindu	82	41	103	47	68	100
75	72	68	152	Iqbal Ahmad Sethi	N.-W. F. P.	Muslim	62	39	94	55	30	100
76	73	69	123	K. Sambasiva Rao	Madras	Hindu	54	30	88	48	..	50
76	73	69	286	C. Vembu	Pudukotah State. Madras	Hindu	22	47	89	45	..	70
78	75	..	122	K. R. Manickam	Madras	Hindu	90	54	84	34	44	60
79	76	71	45	Sudhindra Nath Roy	Bengal	Hindu	80	45	83	35	..	70

and Accounts Service, the Imperial Customs Service, the Military Accounts Department and Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment - ways, 1938—*contd.*

Optional Subjects.																		Total marks.		
Pure Mathematics.	Applied Mathematics.	Chemistry.	Physics.	English Literature (General).	Indian History.	British History.	General Economics.	Economic History.	Statistics.	Latin.	Greek.	French.	Sanskrit.	Arabic.	Persian.	Applied Mechanics.	Prime Movers.	Total.	Handwriting deductions.	Final Total.
200	200	200	200	200	200	200	200	100	100	200	200	200	200	200	200	200	100	Maximum Marks 1,450.		
..	..	80	151	..	..	72	..	..	..	..	..	..	..	..	..	..	..	730	..	730
..	..	..	..	124	123	93	..	..	..	..	..	..	..	..	..	..	..	728	..	728
..	..	..	..	..	95	87	..	..	..	..	..	..	158	..	..	..	..	725	..	725
..	..	..	..	..	125	58	..	..	..	..	..	..	..	..	142	..	..	724	..	724
..	..	..	..	..	103	80	..	..	..	..	..	..	..	..	167	..	..	723	..	723
..	..	..	..	..	109	101	76	..	..	..	..	..	..	..	..	..	..	722	..	722
98	150	..	..	..	..	..	93	..	55	..	..	..	..	..	..	..	..	721	..	721
..	..	..	..	..	117	59	..	..	..	..	..	..	..	..	119	..	..	719	..	719
91	129	..	..	..	..	81	..	69	..	..	..	..	..	..	..	..	..	717	..	717
91	166	88	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	717	..	717
..	..	..	96	..	..	37	113	..	..	..	..	..	..	..	..	..	..	714	..	714
..	..	92	..	..	112	73	..	..	..	..	..	..	..	..	..	..	..	712	..	712
..	..	94	..	..	116	71	..	..	..	..	..	..	..	..	..	..	..	711	..	711
..	..	..	..	..	99	72	..	..	..	..	..	..	115	..	..	..	..	710	..	710
..	..	..	..	..	94	90	117	..	..	..	..	..	..	..	..	..	..	709	..	709
..	..	..	78	..	128	86	..	..	..	..	..	..	..	..	..	..	..	708	..	708
..	..	..	..	86	118	72	..	..	..	..	..	..	..	..	..	..	..	706	..	706
..	..	..	..	..	104	66	98	..	..	..	..	..	..	..	..	..	..	703	..	703
..	..	..	..	..	119	69	99	..	..	..	..	..	..	..	..	..	..	703	..	703
..	..	114	..	..	125	63	..	..	..	..	..	..	..	..	..	..	..	702	..	702
..	..	62	..	..	..	60	98	..	..	..	..	..	..	..	..	..	..	701	..	701
..	..	..	..	..	78	93	66	..	..	..	..	..	..	..	..	..	..	700	..	700
58	134	..	..	..	..	..	107	70	..	..	..	..	..	..	..	..	..	700	..	700
107	92	..	..	..	119	..	..	..	56	..	..	..	..	..	..	..	..	700	..	700
..	..	..	..	..	103	70	45	..	..	..	..	..	..	..	..	..	..	697	..	697
..	..	..	..	..	126	90	68	..	..	..	..	..	..	..	..	..	..	695	..	695
..	..	..	..	104	..	62	..	..	..	..	..	..	..	..	130	..	..	691	..	691
106	173	..	..	..	..	58	..	..	59	..	..	..	..	..	..	..	..	685	..	685
..	..	..	..	..	100	90	102	..	..	..	..	..	..	..	..	..	..	684	..	684
..	..	..	..	..	82	76	85	..	..	..	..	..	..	..	..	..	..	684	..	684
..	..	..	..	..	95	45	..	..	..	..	..	..	..	..	135	..	..	682	..	682
43	193	66	..	..	..	..	..	..	50	..	..	..	..	..	..	..	..	676	..	676
98	111	..	88	..	..	..	..	..	55	..	..	..	..	..	..	..	..	676	..	676
37	..	114	..	..	101	..	..	..	53	..	..	..	..	..	..	..	..	674	..	674
..	..	64	93	..	..	76	..	..	..	..	..	..	..	..	..	..	..	674	..	674
..	..	..	..	104	111	79	..	..	..	..	..	..	..	..	..	..	..	674	5	669
108	152	..	..	..	..	..	99	..	39	..	..	..	..	..	..	..	..	668	..	668
108	134	..	..	..	..	..	93	..	60	..	..	..	..	..	..	..	..	668	..	668
..	..	..	..	..	119	83	97	..	..	..	..	..	..	..	..	..	..	665	..	665
86	116	..	..	..	103	..	..	..	46	..	..	..	..	..	..	..	..	664	..	664

Table of Results of the Combined Competitive Examination for recruitment to the Indian Audit the Indian Railway Accounts Service ; the Postal Superintendents (Class II) Service ; and the of State Rail

Rank in order of merit.			Roll No.	Name.	Province or State.	Community.	Compulsory Subjects.					
Indian Audit and Accounts and allied Services and Imperial Customs Service.	Postal Superintendents (Class II) Service.	T. (T.) and C. D. of the S. R. E. of State Railways.					Essay.	English.	General Knowledge.	Elementary Geography.	Elementary Mathematics.	Viva Voce.
							150	150	150	100	100	200
..	..	72	15	B. Chatterjee . . .	Bengal . .	Hindu .	64	48	76	47	68	70
80	77	73	51	Amrit Lal Subharwal . .	Bihar . .	Hindu .	55	45	97	55	38	160
81	78	74	280	Balkrishna Mahadeo Sapre .	Bombay .	Hindu .	96	40	84	42	70	50
..	..	74	288	K. R. Seshamani . . .	Cochin State .	Hindu .	75	40	90	40	47	50
..	..	76	119	K. J. Mohan Rao . . .	Madras . .	Hindu .	70	54	73	40	..	40
82	79	77	201	G. Parmanand Singh Mansukha- ni.	Sind . .	Sikh . .	39	60	96	35	53	70
82	79	77	273	Venkatramana Doraiswamy Ayyar	Madras . .	Hindu .	78	45	95	42	83	60
..	..	79	118	K. Janakiraman . . .	Madras . .	Hindu .	82	54	112	39	54	60
84	81	79	195	Tek Chand . . .	Punjab . .	Hindu .	42	63	99	32	91	80
84	81	79	261	Kashi Nath Koul . . .	Kashmir State	Hindu .	78	40	64	25	..	90
86	83	82	144	S. V. Ramaswamy . . .	Madras . .	Hindu .	84	52	74	45	..	60
87	84	83	89	S. R. Tilak . . .	Bombay . .	Hindu .	91	51	106	53	54	50
87	84	83	172	Hari Chand Khosla . . .	Punjab . .	Hindu .	54	50	101	41	..	60
87	84	83	289	M. S. Samuel . . .	Travancore State.	Indian Xian.	84	44	79	43	46	70
90	87	86	199	Zahoor-ul-Hasan . . .	Punjab . .	Muslim .	94	49	83	35	64	100
91	88	87	146	T. K. Raghvachari . . .	Madras . .	Hindu .	67	52	113	47	..	70
91	88	87	223	Mohammad Zaki . . .	U. P. . .	Muslim .	70	31	78	29	37	100
93	90	89	249	Brij Lal Verma . . .	Delhi . .	Hindu .	72	40	82	36	71	70
94	91	90	267	Jagdish Gopal Anand . .	Kapurthala State.	Hindu .	74	29	70	30	..	50
95	92	91	222	Mohammed Ahsan Farooqi .	U. P. . .	Muslim .	74	43	80	38	58	60
95	92	91	255	Shanti Swaroop Mathur . .	Delhi . .	Hindu .	74	35	75	41	89	140
97	94	93	191	Ram Lal Kakar . . .	Punjab . .	Hindu .	59	35	90	37	..	60
98	95	94	254	Parshotam Chand . . .	Delhi . .	Hindu .	84	40	93	54	52	40
99	96	95	21	Durgadas Majumdar . . .	Bengal . .	Hindu .	68	45	98	39	42	50
100	97	96	130	N. Varadachari . . .	Madras . .	Hindu .	58	30	58	41	..	50
101	98	97	6	Sudhindra Kumar Ghose . .	Assam . .	Hindu .	108	55	102	43	33	70
102	99	98	56	H. E. Connor . . .	Bihar . .	Anglo-Indian	62	62	93	36	39	50
103	100	99	198	Vir Bhan Amar . . .	Punjab . .	Sikh . .	83	45	85	31	55	45
104	101	100	26	Krishna Kishore Kar . . .	Bengal . .	Hindu .	78	43	86	34	32	80
104	101	100	212	Dhirendra Nath Mukerji . .	U. P. . .	Hindu .	67	51	100	38	49	75
106	..	..	283	Jagdish Chand Jhanji . . .	Punjab . .	Hindu .	36	37	90	34	98	80
107	103	102	162	Chaudhri Ali Ahmad . . .	Punjab . .	Muslim .	80	46	81	25	85	90
108	104	103	114	C. Ramanathan . . .	Madras . .	Hindu .	62	50	117	45	..	80
..	105	..	277	S. Devanath . . .	Madras . .	Hindu .	15	44	75	45	..	40
109	106	104	3	Prasun Kumar Sen . . .	Assam . .	Hindu .	79	50	78	46	82	100
110	107	105	210	Chiranjil Lal Mohta . . .	U. P. . .	Hindu .	94	34	96	47	93	50
111	108	106	72	Sudhir Kumar Dutt . . .	Bihar . .	Hindu .	83	51	85	46	79	100
111	108	106	200	Des Raj Narang . . .	Sind . .	Sikh . .	76	41	82	35	..	65
113	110	108	184	Mohd. Buland Akhtar . . .	Punjab . .	Muslim .	67	44	89	46	39	120
114	111	109	147	T. K. Subramanian . . .	Madras . .	Hindu .	44	40	92	53	..	40

and Accounts Service, the Imperial Customs Service, the Military Accounts Department and Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment ways, 1938—*contd.*

Optional Subjects.																		Total marks.		
Pure Mathematics.	Applied Mathematics.	Chemistry.	Physics.	English Literature (General).	Indian History.	British History.	General Economics.	Economic History.	Statistics.	Latin.	Greek.	French.	Sanskrit.	Arabic.	Persian.	Applied Mechanics.	Prime Movers.	Total.	Handwriting deductions.	Final Total.
200	200	200	200	200	200	200	200	100	100	200	200	200	200	200	200	200	100	Maximum Marks 1,456.		
..	..	..	..	..	96	106	..	52	36	..	..	..	..	..	..	..	..	663	..	663
..	..	..	..	..	83	80	40	..	..	..	..	..	..	..	..	..	..	662	..	662
..	..	..	..	..	106	75	97	..	..	..	..	..	..	..	..	..	..	660	..	660
..	..	..	..	..	124	80	114	..	..	..	..	..	..	..	..	..	..	660	..	660
116	162	..	..	..	..	70	..	..	43	..	..	..	..	..	..	..	..	668	10	658
..	..	..	..	99	121	82	..	..	..	..	..	..	..	..	..	..	..	655	..	655
..	..	..	84	..	92	76	..	..	..	..	..	..	..	..	..	..	..	655	..	655
..	..	..	..	..	105	56	89	..	..	..	..	..	..	..	..	..	..	651	..	651
..	..	..	..	87	89	68	..	..	..	..	..	..	..	..	..	..	..	651	..	651
93	145	..	..	..	..	67	..	..	49	..	..	..	..	..	..	..	..	651	..	651
97	94	..	..	..	86	..	..	..	58	..	..	..	..	..	..	..	..	650	..	650
..	..	50	126	..	..	67	..	..	..	..	..	..	..	..	..	..	..	648	..	648
102	110	..	..	..	..	76	..	..	62	..	..	..	..	..	..	..	..	656	8	648
..	..	..	..	104	109	69	..	..	..	..	..	..	..	..	..	..	..	648	..	648
..	..	..	..	..	95	64	58	..	..	..	..	..	..	..	..	..	..	647	..	647
93	60	..	..	..	82	..	..	..	62	..	..	..	..	..	..	..	..	646	..	646
..	..	..	..	..	112	73	..	..	..	..	..	..	..	..	116	..	..	646	..	646
..	..	..	..	67	130	75	..	..	..	..	..	..	..	..	..	..	..	643	..	643
129	130	..	..	..	..	71	..	59	..	..	..	..	..	..	..	..	..	642	..	642
..	..	..	..	84	84	..	..	..	..	..	..	..	..	..	115	..	..	641	..	641
..	..	30	..	..	115	42	..	..	..	..	..	..	..	..	..	..	..	641	..	641
97	..	..	..	..	108	75	..	77	..	..	..	..	..	..	..	..	..	638	..	638
..	..	..	..	..	124	68	81	..	..	..	..	..	..	..	..	..	..	636	..	636
..	..	82	101	..	109	..	..	..	..	..	..	..	..	..	..	..	..	634	..	634
96	167	..	..	..	..	70	..	..	56	..	..	..	..	..	..	..	..	626	..	626
..	..	..	..	..	77	59	74	..	..	..	..	..	..	..	..	..	..	621	..	621
..	..	..	..	82	117	79	..	..	..	..	..	..	..	..	..	..	..	620	..	620
..	..	..	..	..	81	97	..	..	..	..	..	..	..	..	105	..	..	627	10	617
..	..	..	..	..	89	70	104	..	..	..	..	..	..	..	..	..	..	616	..	616
..	..	..	..	96	83	57	..	..	..	..	..	..	..	..	..	..	..	616	..	616
..	..	..	..	57	94	88	..	..	..	..	..	..	..	..	..	..	..	614	..	614
..	..	..	..	..	62	44	..	..	..	..	..	..	..	100	..	..	..	613	..	613
37	60	..	..	..	..	98	..	62	..	..	..	..	..	..	..	..	..	611	..	611
112	126	..	..	..	..	..	92	..	60	..	..	..	..	..	..	..	..	609	..	609
..	..	..	..	..	77	45	..	33	18	..	..	..	..	..	..	..	..	608	..	608
..	..	46	..	..	..	59	..	60	25	..	..	..	..	..	..	..	..	604	..	604
..	..	..	72	..	48	37	..	..	..	..	..	..	..	..	..	..	..	601	..	601
84	83	..	..	..	..	80	..	..	60	..	..	..	..	..	..	..	..	606	5	601
..	..	..	..	70	72	52	..	..	..	..	..	..	..	..	..	..	..	599	..	599
99	119	..	..	..	..	63	..	..	46	..	..	..	..	..	..	..	..	596	..	596

Table of Results of the Combined Competitive Examination for recruitment to the Indian Audit and Accounts Service; the Indian Railway Accounts Service; the Postal Superintendents (Class II) Service; and the State Rail

Rank in order of merit.			Roll No.	Name.	Province or State.	Community.	Compulsory Subjects.					
Indian Audit and Accounts and allied Services and Imperial Customs Service.	Postal Superintendents (Class II) Service.	T. (T.) and C. D. of the S. R. E. of State Railways.					Essay.	English.	General Knowledge.	Elementary Geography.	Elementary Mathematics.	Viva Voce.
							150	150	150	100	100	200
115	112	110	177	Krishan Lal Anand	Punjab	Hindu	66	48	85	39	89	30
116	113	111	193	Ram Prashad Pathak	Punjab	Hindu	79	42	82	46	..	100
117	114	112	128	M. R. Devadas	Madras	Hindu	64	44	93	51	..	70
118	115	113	87	Shridhar Govind Pradhan . .	Bombay	Hindu	43	29	87	36	71	160
118	115	113	92	E. C. Sanker	Burma	Hindu	62	44	79	42	27	70
120	117	115	4	Rabindra Kumar Nath	Assam	Hindu	62	45	95	39	..	60
121	118	116	59	Kailash Bihary Srivastava . .	Bihar	Hindu	64	52	83	26	49	60
122	119	117	60	Kailash Roy	Bihar	Hindu	67	40	88	30	77	75
122	119	117	235	Syed Mushtaq Ahmad	U. P.	Muslim	62	21	102	31	69	100
..	..	119	143	S. Sundarresan	Madras	Hindu	75	40	85	54	..	80
124	121	119	221	Md. Abdul Qadir	U. P.	Muslim	59	32	63	35	63	100
125	122	121	20	Dhirendra Nath Roy	Bengal	Hindu	72	36	74	34	81	40
126	123	122	196	Ved Parkash Sud	Punjab	Hindu	48	38	87	56	..	90
127	124	123	266	Inder Singh Brar	Fa'ridkote State	Sikh	70	38	83	32	..	60
128	125	124	232	Saiyed Irahad Ahmad	U. P.	Muslim	50	26	65	34	31	70
129	126	125	95	A. T. Bhanagay	C. P.	Hindu	80	44	96	40	38	76
130	127	126	156	Krishnalal Mukherjee	Orissa	Hindu	52	32	74	43	71	100
131	128	127	117	K. Chinnikrishna	Madras	Hindu	58	29	98	38	..	80
132	129	128	279	Sundaram Nageswaran	Madras	Hindu	75	38	87	39	..	60
133	130	129	183	Mittre Prakash Gupta	Punjab	Hindu	91	36	81	39	..	60
134	131	130	151	Feroz Khan	N.-W. F. P. . .	Muslim	40	32	64	28	41	125
135	132	131	79	K. S. Gokhale	Bombay	Hindu	59	45	95	46	42	45
136	133	132	126	M. Dayananda Bhat	Madras	Hindu	66	40	77	45	..	40
137	134	133	16	Babesh Chandra Chakrabarti .	Bengal	Hindu	71	57	87	34	52	50
138	135	..	46	Susil Mohan Chakrabarti . . .	Bengal	Hindu	78	44	77	33	10	50
139	136	134	240	Shabih Ahmad	U. P.	Muslim	62	44	71	36	36	Abs.
140	137	135	8	A. K. Das Gupta	Bengal	Hindu	47	35	78	43	..	75
141	138	136	19	Debendra Nath Mittre	Bengal	Hindu	54	43	55	33	..	40
142	139	137	38	Sailendra Nath Chatterji . . .	Bengal	Hindu	23	29	82	27	61	80
143	140	..	22	Himansu Kumar Banerji	Bengal	Hindu	82	46	64	36	78	40
143	140	138	86	P. V. Guniahastri	Bombay	Hindu	54	29	73	27	60	50
143	140	138	133	R. Mahadevan	Madras	Hindu	56	50	73	43	49	65
146	143	140	260	Champa Lal Jain	Gwalior State .	Hindu	36	29	78	43	93	40
147	144	141	121	K. Ramachandra Rao	Madras	Hindu	56	58	96	29	..	75
148	145	142	30	Manindra Kumar Chakrabarti .	Bengal	Hindu	50	28	79	40	74	30
149	146	143	91	V. P. Shastry	Bombay	Hindu	83	28	88	44	..	60
150	147	144	37	Sailendra Kumar Lahiri	Bengal	Hindu	50	41	69	29	24	80
151	148	145	48	W. Ferris	Bengal	Anglo-Indian	62	41	74	29	76	60
152	149	..	285	A. Sankaranarayana Iyer . . .	Travancore State.	Hindu	66	43	71	31	..	40
153	150	146	107	Wasudeo Narayan Pandit . . .	C. P.	Hindu	35	23	58	24	38	40

Table of Results of the Combined Competitive Examination for recruitment to the Indian Audit and Accounts Service; the Indian Railway Accounts Service; the Postal Superintendents (Class II) Service; and the State Railways Accounts Service.

Rank in order of merit.				Name.	Province or State.	Community.	Compulsory Subjects.					
Indian Audit and Accounts and allied Services and Imperial Customs Service.	Postal Superintendents (Class II) Service.	T. (T.) and C. D. of the S. R. E. of State Railways.	Roll No.				Essay.	English.	General Knowledge.	Elementary Geography.	Elementary Mathematics.	Viva Voce.
							150	150	150	100	100	200
153	150	148	206	Benoy Bhushan Das . . .	U. P. . .	Hindu . .	71	39	73	18	69	40
155	152	148	219	Khwaja Said-ur-Rahman Ghori . .	U. P. . .	Muslim . .	64	34	66	29	17	50
156	153	149	27	Kahitis Chandra Sen . . .	Bengal . .	Hindu . .	70	49	87	34	39	Abs.
157	154	150	103	N. S. Kshirsagar . . .	C. P. . .	Hindu . .	38	28	66	48	..	60
158	155	151	245	Vasudeva Prasad Rastogi . .	U. P. . .	Hindu . .	70	37	87	35	..	Abs.
..	..	152	105	S. R. Waradpande . . .	C. P. . .	Hindu . .	23	34	72	37	..	40
159	156	153	62	Ram Nandan Prasad Singh . .	Bihar . .	Hindu . .	75	37	72	47	18	Nil
160	157	154	33	Praphulla Kumar Sinha . . .	Bengal . .	Hindu . .	70	32	59	23	..	60
161	158	155	76	C. D. Deshmukh . . .	Bombay . .	Hindu . .	51	36	86	49	..	50
162	159	156	88	S. J. Oka . . .	Bombay . .	Hindu . .	70	45	67	25	..	45
..	..	157	94	S. R. J. Daniel . . .	Burma . .	Indian Xian .	99	38	81	32	95	Abs.
163	160	158	158	Abdul Majid Qureshy . . .	Punjab . .	Muslim . .	43	28	81	44	68	Abs.
164	161	159	2	Kartik Chandra Banerjee . .	Assam . .	Hindu . .	40	33	31	21	..	40
165	162	160	253	Khalique Ahmad Faruqi . .	Delhi . .	Muslim . .	11	28	Abs.	Abs.	Abs.	Abs.

and Accounts Service the Imperial Customs Service, the Military Accounts Department and Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment ways, 1938—concl.

Optional Subjects.																		Total marks.		Final Total.
Pure Mathematics.	Applied Mathematics.	Chemistry.	Physics.	English Literature (General).	Indian History.	British History.	General Economics.	Economic History.	Statistics.	Latin.	Greek.	French.	Sanskrit.	Arabic.	Persian.	Applied Mechanics.	Prime Movers.	Total.	Handwriting deductions.	
200	200	200	200	200	200	200	200	100	100	200	200	200	200	200	200	200	100	Maximum Marks 1,450.		
..	..	16	..	..	78	44	..	..	..	..	..	..	..	..	..	..	..	448	..	448
..	..	..	..	..	74	25	..	..	..	..	..	..	..	..	88	..	..	447	..	447
..	..	..	..	Abs.	71	89	..	..	..	..	..	..	..	..	..	..	..	439	..	439
57	47	..	52	..	..	..	..	..	39	..	..	..	..	..	..	..	..	435	..	435
68	134	Abs.	..	..	..	..	..	Abs.	..	..	..	..	..	..	..	..	..	431	..	431
85	30	..	..	..	..	68	..	..	39	..	..	..	..	..	..	..	..	428	..	428
..	..	..	..	..	72	23	83	..	..	..	..	..	..	..	..	..	..	427	5	422
64	38	..	..	..	46	..	..	..	29	..	..	..	..	..	..	..	..	421	..	421
13	18	..	..	..	80	..	..	..	27	..	..	..	..	..	..	..	..	410	..	410
44	27	..	..	..	32	..	..	..	28	..	..	..	..	..	..	..	..	383	..	383
..	..	Abs.	..	..	Abs.	Abs.	..	..	..	..	..	..	..	..	..	..	..	345	..	345
..	..	Abs.	..	..	Abs.	Abs.	..	..	..	..	..	..	..	..	..	..	..	264	..	264
4	Nil	..	38	..	..	..	..	..	15	..	..	..	..	..	..	..	..	222	..	222
..	..	..	..	..	Abs.	Abs.	Abs.	..	..	..	..	..	..	..	..	..	..	39	..	39

Abs. denotes absence from the examination.

H. HAMILL,
Secretary,
Federal Public Service Commission.

7. REVIEW OF THE INDIAN AUDIT AND ACCOUNTS, ETC., SERVICES EXAMINATION HELD IN NOVEMBER 1938.

The written examination was held from the 15th November to the 26th November, 1938, and the *viva voce* test from the 21st November to the 6th December, 1938. Out of a total of 750 candidates, who had applied for admission to the combined competitive examination, 289 candidates were permitted to take the examination. The number of candidates, who actually appeared at the examination, was 174, of whom 165 competed for the Indian Audit and Accounts and allied Services and the Imperial Customs Service, 162 for the Postal Superintendents (Class II) Service and 160 for the Transportation (Traffic) and Commercial Departments of the Superior Revenue Establishment of State Railways.

2. The following is a summary of the reports of the examiners :—

(1) ESSAY.

Most of the essays were of indifferent quality ; many candidates showing no knowledge of the technique of essay arrangement and a general lack of the ability to think. Fresh and original thought was absent ; its place being taken by the incessant reproduction of clichés. Most of the essays indicated that the candidates had not previously thought of the subject on which they chose to write. A fair number knew something about the present critical situation but seemed to have collected their facts from cram books rather from an intelligent reading of the newspapers. Average percentage 48.

(2) GENERAL KNOWLEDGE.

SECTION I.

The general standard was good, candidates showing a remarkably accurate and detailed knowledge of world affairs, celebrated personalities (past and present) and of history. Many otherwise good papers were marred by untidiness. One candidate thought that a periscope was a ship to destroy submarines.

SECTION II.

Most candidates found some portions of the paper which they were able to tackle with ease. Questions 10 and 12, demanding some knowledge of English idiom, baffled most of those who tried them. Average percentage in the whole paper 60.

(3) ENGLISH.

SECTION I.

Candidates generally failed to secure good marks, showing inability to treat the second question. Not one candidate gave evidence of knowing anything at all about prosody. There was an almost complete absence of cultural knowledge.

SECTION II.

The examiner found a fair number of candidates that were in his opinion unfit for the Third Division of the Ministerial Examination. Average percentage in the whole paper 31.

(4) ELEMENTARY GEOGRAPHY.

SECTION I.

The work was fairly satisfactory, but the map work was poor.

SECTION II.

The examiner thought that most of the candidates had crammed their knowledge of the subject. They showed a fair knowledge of fact but little power of applying that knowledge. Of the candidates who could produce a reasonable outline map of India, few could make up their minds what to put in it and how to bring out significant facts. Several of the questions were unnumbered. Average percentage 42.

(5) ELEMENTARY MATHEMATICS.

SECTION I.

The general standard was very good, but some did not show sufficient rough work to make clear how they had reached their conclusions. Candidates should learn to arrange their answers so that when a problem can be solved on one page, the examiner has not to turn over to another page for part of the solution.

SECTION II.

The general standard was from moderate to good. Average percentage 65.

(6) PURE MATHEMATICS.

The work of the candidates was from moderate to good. Most of them preferred the questions to which the answer was given, and quite a number of them tried to fit the answer into a solution that would not yield it. Neatness and elegance were rare. Average percentage 38.

(7) APPLIED MATHEMATICS.

The questions on statistics were neglected. Not a single candidate attempted question 2. Average percentage 47.

(8) CHEMISTRY.

The examiner complains of the superficiality of the knowledge displayed and too much reliance on memory work. Average percentage 35.

(9) PHYSICS.

The descriptive essays were poor. Average percentage 43.

(10) ENGLISH LITERATURE—GENERAL.

The work was on the whole satisfactory ; several of the candidates attempting to justify their opinions by quotations from the writers whom they criticised. Average percentage 49.

(11) INDIAN HISTORY.

SECTION I.

The examiner complains of the candidates' map work.

SECTION II.

The questions demanded a certain amount of discussion and historical criticism, but candidates evaded this requirement and gave instead detailed narrations of the events and circumstances under question. Most of the answers were very similar, few departing in any way from the stereotyped style of answer. 7, 8 and 13 were the favourite questions. Average percentage 50.

(12) BRITISH HISTORY.

SECTION I.

The general standard of work was good ; 25 per cent. of the scripts submitted being very good. Generally the answers were remarkably free from spelling mistakes, though one candidate confounded the "Prince of Wales" with the "Prince of Whales". The knowledge of historical geography displayed was not satisfactory.

SECTION II.

The candidates in this section wrote round rather than on the questions set. Average percentage 37.

(13) ECONOMIC HISTORY.

The general standard was fair ; but the knowledge of the subject was not sufficiently detailed. Average percentage 58.

(14) GENERAL ECONOMICS.

The work was on the whole good. Average percentage 44.

(15) STATISTICS.

The answers were disappointing ; several avoiding the three compulsory questions designed to test statistical accuracy. Average percentage 44.

(16) LATIN.

There was one candidate, who showed a fair knowledge of Latin. Percentage 50.

(17) FRENCH.

There was only one candidate and he had apparently not studied French Literature and History. His work on the other questions was moderately good. Percentage 34.

(18) SANSKRIT.

The work varied from a 33 per cent. to a 79 per cent. standard. Average percentage 50.

(19) ARABIC.

Candidates showed a fair knowledge of the subject and one of them wrote good Arabic. Average percentage 60.

(20) PERSIAN.

Half the candidates showed a thorough acquaintance with both Persian and English. Question 4 gave most difficulty, the answers to this and to question 7 being disappointing. No candidate attempted question 8 which required an ability to apply the rules of Persian grammar when studying particular Persian texts. Average percentage 61.

(21) APPLIED MECHANICS.

One candidate offered the subject and did well. Percentage 73.

(22) PRIME MOVERS.

The standard of knowledge displayed was fair, but the sketches were not good. Average percentage 48.

