MINISTRY OF RAILWAYS

(Railway Board)

NOTIFICATION

New Delhi, the 30th January, 2010

Engineering Services Examination Rules, 2010

No. 2009/E.(GR) I/18/I.—The Rules for a Combined Competitive Engineering Services Examination to be held by the Union Public Service Commission in 2010 for the purpose of filling vacancies in the following Services/Posts are, with the concurrence of the Ministries/Departments concerned, published for general information.

CATEGORY I—CIVIL ENGINEERING

Group-A Services/Posts

(i) Indian Railway Service of Engineers.

(ii) Indian Railway Stores Service (Civil Engineering Posts).

(iii) Central Engineering Service.

(iv) Indian Defence Service of Engineers (Civil Engineering Posts).

(v) Indian Ordnance Factories Service (Engineering Branch) (Civil Engineering Posts)

(vi) Central Water Engineering Gr. 'A' (Civil Engineering Posts).

(vii) Central Engineering Service (Roads), Group-A (Civil Engineering Posts).

(viii) Assistant Executive Engineer (Civil Engg. Posts) (in Border Roads Engineering Service Gr. 'A').

(ix) Assistant Executive Engineer (Civil) in P & T Building works (Gr. 'A') Service.

CATEGORY II—MECHANICAL ENGINEERING

Group-A Services/Posts

(i) Indian Railway Service of Mechanical Engineers.

(ii) Indian Railway Stores Service (Mechanical. Engineering Posts).

(iii) Central Water Engineering Gr. 'A' Service (Mechanical Engineering Posts).

(iv) Central Power Engineering Service (Mechanical Engineering Posts).

(v) Indian Ordnance Factories Service (Engineering Branch) (Mechanical Engineering Posts).

(vi) Indian Naval Armament Service (Mechanical Engineering Posts).

(vii) Assistant Executive Engineer Group'A'. (Mechanical Engineering Posts) In the Corps of EME, M/o Defence.

(viii) Assistant Naval Store Officer Grade-I (Mechanical Engineering Posts) in Indian Navy.

(ix) Central Electrical and Mechanical Engineering Service (Mechanical Engineering Posts).

(x) Assistant Excutive Engineer Group 'A' in the Geological Survey of India.

(xi) Indian Inspection Service, Group. 'A' (Mechanical Engineering Posts).

(xii) Indian Supply Service Group 'A' (Mechanical Engineering Posts).

(xiii) Indian Defence Service of Engineers (Mechanical Engineering Posts).

(xiv) Central Engineering Service (Roads), Group 'A' (Mechanical Engg. Posts).

CATEGORY III—ELECTRICAL ENGINEERING

Group-A Services/Posts

(i) Indian Railway Service of Electrical Engineers.

(ii) Indian Railway Stores Service (Electrical Engineering Posts).

(iii) Central Electrical and Mechanical Engineering Service (Electrical Engineering Posts).

(iv) Indian Naval Armament Service (Electrical Engineering Posts).

(v) Indian Ordnance Factories Service (Engineering Branch) (Electrical Engineering Posts).

(vi) Central Power Engineering Service (Electrical Engineering Posts).

(vii) Indian Defence Service of Engineers (Electrical Engineering Posts).

(viii) Assistant Executive Engineer Group 'A' (Electrical Engineering Posts) in the Corps of E.M.E., Ministry of Defence.

(ix) Assistant Naval Store Officer Grade-I (Electrical Engineering Posts) in Indian Navy.

(x) Indian Supply Service, Group 'A' (Electrical Engineering Posts).

CATEGORY IV—ELECTRONICS AND TELE-COMMUNICATION ENGINEERING

Group-A Services/Posts

(i) Indian Railway Service of Signal Engineers.

(ii) Indian Railway Stores Service (Telecommunication/Electronics Engineering Posts).

(iii) Indian Ordnance Factories Service (Engineering Branch) (Electronics Engineering Posts).

(iv) Indian Naval Armament Service (Electronics Engineering Posts).

(v) Central Power Engineering Service (Electronics and Telecommunication Engineering Posts).

(vi) Assistant Executive Engineer Group 'A' (Electronics and Telecommunication Engineering Posts) in the Corps of E.M.E., Ministry of Defence.

(vii) Engineer GCS Group 'A' in the Wireless Planning Coordination Wing/Monitoring Organisation (M/o Communications & IT, Department of Telecommunications).

(viii) Assistant Naval Store Officer Grade-I (Electronics and Telecom Engineering Posts) in Indian Navy.

(ix) Indian Inspection Service Group 'A' (Electronic and Telecommunication Engineering Posts).

(x) Indian Supply Service, Group 'A' (Electronics and Telecommunication Posts).

(xi) Indian Telecommunication Service, Group 'A'

1. The examination will be conducted by the Union Public Service Commission in the manner prescribed in Appendix-I to these Rules.

The dates on which and the places at which the examination will be held shall be fixed by the Commission.

2. A candidate may compete in respect of any one of the categories of Services/Posts viz., Civil Engineering or Mechanical Engineering or Electrical Engineering or Electronics and Telecommunication Engineering. A candidate who qualifies on the result of the written part of the examination will be required to indicate clearly in the detailed application form the Services/Posts for which he/she wishes to be considered in the order of preference. The candidate is advised to indicate as many preferences as he/she wishes to so that having regard to his/her rank in order of merit due consideration can be given to his/her preferences when making appointment.

N.B. (i) Candidates are advised to indicate all the Services/Posts for which they are eligible in terms of the Rules in the order of preference in their detailed application form. In case a candidate does not give any preference for any Service/Post or does not include certain Services/Posts in his/her application form, it will be assumed that he/she has no specific preference for those Services/Posts and in that event he/she shall be allocated to any of the remaining Services/Posts in the order as appearing in the notification and in which there are vacancies after allocation of candidates according to the Services/Posts of their preference.

(ii) No request for addition/alteration in the preferences indicated by a candidate in his/her detailed application form will be entertained by the Commission.

(iii) Departmental candidates are the candidates admitted to the examination under age relaxation [Vide Rule 5(b)]. Such candidates may give their preferences for the Services/Posts in other Ministries/Departments also.

(iv) Candidates admitted to the examination under the proviso to Rule 6 will be considered only for the posts mentioned in the said proviso and their preference for the Services and Posts, if any, will be ignored.

(v) The candidates will be allotted to various Services/Posts strictly in accordance with their merit position, preferences exercised by them and number of vacancies, subject to their medical fitness.

3. The number of vacancies to be filled on the results of the examination will be specified in the Notice issued by the Commission.

Reservation will be made for candidates belonging to the Scheduled Castes, the Scheduled Tribes, the Other Backward Classes and physically disabled categories in respect of vacancies as may be fixed by the Government.

4. A candidate must be either :

(a) a citizen of India, or

(b) a subject of Nepal, or

(c) a subject of Bhutan, or

(d) a Tibetan refugee who came over to India before the 1st January, 1962 with the intention of permanently settling in India, or

(e) a person of Indian origin who has migrated from Pakistan, Burma, Sri Lanka, the East African countries of Kenya, Uganda, the United Republic of Tanzania, Zambia, Malawi, Zaire and Ethiopia or Vietnam with the intention of permanently settling in India :

Provided that a candidate belonging to categories (b), (c), (d) and (e) above shall be a person in whose favour a certificate of eligibility has been issued by the Government of India.

A candidate in whose case a certificate of eligibility is necessary, may be admitted to the examination but the offer of appointment may be given only after the necessary eligibility certificate has been issued to him/her by the Government of India.

5. (a) A candidate for this examination must have attained the age of 21 years and must not have attained the age of 30 years on the 1st August, 2010 i.e., he/she must have been born not earlier than 2nd August, 1980 and not later than 1st August, 1989.

(b) The upper age-limit of 30 years will be relaxable upto 35 years in the case of Government servants of the following categories, if they are employed in a Department/Office under the control of any of the authorities mentioned in column 1 below and apply for admission to the examination for all or any of the Service(s)/Post(s) mentioned in column 2, for which they are otherwise eligible.

(i) A candidate who holds substantively a permanent post in the particular Department/Office concerned. This relaxation will not be admissible to a probationer appointed against a permanent post in the Department/Office during the period of his probation.

(ii) A candidate who has been continuously in a temporary service on a regular basis in the particular Department/Office for at least 3 years on the 1st August, 2010.

Column 1	Column 2
Railway Department	I.R.S.E.
	I.R.S.M.E.
	I.R.S.E.E.
	I.R.S.S.F.
	I.R.S.S.
Central Public Works Department Military Engineer Services	C.E.S. Group 'A' C.E. & (a) M.E.S.Group 'A' Indian Defence Service of Engineers (IDSE)
	(b) M.E.S. Group 'A' (QS & C)
The Corps of Electronics and Mechanical Engineering Ministry of Defence	AEE, Gp. 'A' (Mech. Engg. Posts) in the Corps of EME, Min. of Defence, AEE, Gp. 'A' (Electrical Engg. Post) in the Corps of EME, Min. of Defence, AEE, Gp. 'A' (Electronics and Telecommunication Engs. Post) in the Corps of EME, Min. of Defence
Directorate General Ordnance Factories	I.O.F.S. Group 'A'
Central Water Commission	C.W.E. Service (Group 'A')
Central Electricity Authority	C.P.E. Service (Group 'A')
Wireless Planning and Coordination Wing/ Monitoring Organisation	Engineer Gr. 'A'
Ministry of Telecommunication and Information Technology, Deptt. of Telecommunication and Deptt. of Posts	Indian Telecommunication Service Group 'A' Assistant Executive Engg. (Civil) in P&T Building Works (Gr. 'A') Service
Indian Navy	Indian Naval Armament Service, Assistant Naval Store Officer Grade-I
Geological Survey of India	Assistant Executive Engineer Gr. 'A'
Directorate General of Suplies and Disposals	I.S.S. Group 'A', I.I.S Group 'A'

Note.— The period of apprenticeship if followed by appointment against a working post on the Railways may be treated as Railway Service for the purpose of age concession.

(c) The upper age-limit prescribed above will be further relaxable :

(i) Up to maximum of five years if a candidate belongs to a Scheduled Caste or a Scheduled Tribe.

(ii) Up to maximum of three years in the case of candidates belonging to Other Backward Classes who are eligible to avail of reservation applicable to such candidates.

(iii) Up to maximum of five years if a candidate had ordinarily been domiciled in the State of Jammu and Kashmir during the period from the 1st January, 1980 to the 31st day of December, 1989.

(iv) Up to maximum of three years, in the case of Defence Services personnel, disabled in operations during hostilities with any foreign country or in a disturbed area, and released as a consequence thereof.

(v) Up to maximum of five years in the case of Ex-servicemen including Commissioned Officers and ECOs/SSCOs, who have rendered at least five years Military Service as on 1st August, 2010 and have been released (i) on completion of assignment (including those whose assignment is due) to completed within one year from 1st August, 2010 otherwise than by way of dismissal or discharge on account of misconduct or inefficiency, or (ii) on account of physical disability attributable to Military Service, or (iii) on invalidment.

(vi) Up to maximum of five years in the case of ECOs/ SSCOs who have completed an initial period of assignment of five years of Military Service as on 1st August, 2010 and whose assignment has been extended beyond five years and in whose case the Ministry of Defence issues a certificate that they can apply for civil employment and they will be released on three months notice on selection from the date of receipt of offer of appointment.

(vii) Up to a maximum of 10 years in the case of blind, deaf-mute and Orthopaedically handicapped persons.

Note I: Candidates belonging to the Scheduled Castes and the Scheduled Tribes and Other Backward Classes who are also covered under any other clauses of Rule (5)(c) above, viz., those coming under the category of Ex-servicemen, persons domiciled in the State of J&K, blind, deaf-mute and orthopaedically handicapped etc. will be eligible for grant of cumulative relaxation under both the categories.

Note II: The term ex-servicemen will apply to the persons who are defined as Ex-servicemen in the Ex-servicemen (Re-employment in Civil Services and Posts) Rules, 1979, as amended from time to time.

Note III : The age concession under Rule 5(c)(v) and (vi) will not be admissible to Ex-Servicemen and Commissioned Officers including ECOs/SSCOs, who are released on own request.

Note IV : Notwithstanding the provision of age relaxation under Rule 5(c)(vii) above, a physically

handicapped candidate will be considered to be eligible for appointment only if he/she (after such physical examination as the Government or appointing authority, as the case may be, may prescribe) is found to satisfy the requirements of physical and medical standards for the concerned Service/ Posts to be allocated to the physically handicapped candidate by the Government.

N.B.–The candidature of a person who is admitted to the examination under the age concession mentioned in Rule 5(b) above shall be cancelled if, after submitting his application he resigns from service or his services are terminated by his department/office either before or after taking the examination. He will, however, continue to be eligible if he is retrenched from the service or post after submitting his application.

A candidate who after submitting his application to the department is transferred to other department/office will be eligible to compete under departmental age concession provided his application has been forwarded by his parent department.

SAVE AS PROVIDED ABOVE THE AGE LIMITS PRESCRIBED CAN IN NO CASE BE RELAXED

The date of birth accepted by the Commission is that entered in the Matriculation or Secondary School Leaving Certificate or in a certificate recognised by the Indian University as equivalent to Matriculation or in an extract from a Register or Matriculates maintained by a University and that extract must be certified by the proper authority of the University or in the Higher Secondary or an equivalent examination certificate.

No other document relating to age like horoscope affidavits, birth extracts from Municipal Corporation Service records and the like will be accepted.

The expression Matriculation/Higher Secondary Examination Certificate in this part of the instruction include the alternative certificates mentioned above.

Note 1 : Candidates should note that only the date of birth as recorded in the Matriculation/Secondary Examination Certificate or an equivalent certificate on the date of submission of application will be accepted by the Commission and no subsequent request for its change will be considered or granted.

Note 2 : Candidate should also note that once a date of birth has been claimed by them and entered in the records of the Commission for the purpose of admission to an Examination, no change will be allowed subsequently (or at any other Examination of the Commission) on any ground whatsoever.

6. A candidate must have—

(a) obtained a Degree in Engineering from a University incorporated by an Act of the Central or State Legislature in India or other Educational Institutes established by an Act of Parliament or declared to be deemed as University under Section 3 of the University Grants Commission Act, 1956; or

(b) passed Sections A and B of the Institution Examinations of the Institution of Engineers (India); or

(c) obtained a Degree/Diploma in Engineering, from such foreign University/College/ Institution and under such conditions as may be recognised by the Government for the purpose from time to time; or

(d) passed Graduate Membership Examination of the Institution of Electronics and Telecommunication Engineers (India); or

(e) passed Associate Membership Examination Parts II and III/Sections A and B of the Aeronautical Society of India; or

(f) passed Graduate Membership Examination of the Institution of Electronics and Radio Engineers, London held after November, 1959 :

Provided that a candidate for the posts of Indian Naval Armament Service (Electronics Engg. Posts) and Engineer group A in may possess any of the above qualifications or the qualification mentioned below namely:

M.Sc. degree or its equivalent with Wireless Communication Electronics, Radio Physics or Radio Engineering as a special subject.

Note 1 : A candidate who has appeared at an examination the passing of which would render him educationally qualified for this examination, but has not been informed of the result, may apply for admission to the examination. A candidate who intends to appear, at such a qualifying examination may also apply. Such candidates will be admitted to the examination, if otherwise eligible, but their admission would be deemed to be provisional and subject to cancellation, if they do not produce proof of having passed the requisite qualifying examination along with the detailed application from which will be required to be submitted by the candidates who qualify on the result of the written part of the examination.

Note 2 : In exceptional cases the Commission may treat a candidate who has not any of the qualifications prescribed in this rule, as educationally qualified provided that he has passed examinations conducted by other institutions the standard of which in the opinion of the Commission justifies his admission to the examination.

Note 3 : A candidate who is otherwise qualified but who has taken a degree from a foreign University

which is not recognised by Government, may also apply to the Commission and may be admitted to the examination at the discretion of the Commission.

7. Candidates must pay the fee prescribed in the Commission's Notice.

8. All candidates in Government service, whether in permanent or in temporary capacity or as work charged employees, other than casual or daily rated employees or those serving under Public Enterprises will be required to submit an undertaking that they have informed in writing, their Head Office/Department that they have applied for the Examination.

Candidates should note that in case a communication is received from their employer by the Commission withholding permission to the candidates applying for appearing at the examination, their application will be liable to be rejected/candidature will be liable to be cancelled.

9. The decision of the Commission as to the acceptance of the application of a candidate and his eligibility or otherwise for admission to the examination shall be final.

The candidates applying for the examination should ensure that they fulfil all the eligibility conditions for admission to the Examination. Their admission at all the stages of examination for which they are admitted by the Commission viz. Written Examination and Interview Test will be purely provisional, subject to their satisfying the prescribed eligibility conditions. If on verification at any time before or after the Written Examination or Interview Test it is found that they do not fulfil any of the eligibility conditions, their candidature for the examination will be cancelled by the Commission.

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

11. A Candidate who is or has been declared by the Commission to be guilty of :—

(i) obtaining support for his candidatures by any means; or

(ii) impersonating; or

(iii) procuring impersonation by any person; or

(iv) submitting fabricated documents or documents which have been tampered with; or

(v) making statements which are incorrect or false or suppressing material information; or

(vi) resorting to any other irregular or improper means in connection with his candidature for the examination; or

(vii) using unfair means during the examination; or

(viii) writing irrelevant matter including obscene language or pornographic matter in the script(s); or

(ix) misbehaving in any other manner in the examination hall; or

(x) harassing or doing bodily harm to the staff employed by the Commission for the conduct of their examination; or

(xi) being in possession of or using any cellular/mobile phone/pager or any electronic equipment or device or any, other equipment capable of being used as a communication device during the examination; or

(xii) violating any of the instructions issued to candidates alongwith their admission certificate permitting them to take the examination; or

(xiii) attempting to commit or as the case may be abetting the commission of all or any of the acts specified in the foregoing clauses.

May in addition to rendering himself liable to criminal prosecution be liable—

(a) to be disqualified by the Commission from the examination for which he is a candidate; and/or

(b) to be debarred either permanently or for a specified period—

(i) by the Commission from any examination or selection held by them;

(ii) by the Central Government, from any employment under them; and

(c) if he is already in service under the Government, to disciplinary action under the appropriate rules:

Provided that no penalty under this rule shall be imposed except after—

(i) giving the candidate an opportunity of making such representation in writing as he may wish to make in that behalf; and

(ii) taking the representation if any submitted by the candidate, within the period allowed to him, into consideration.

12. Candidates who obtain such minimum qualifying marks in the written examination as may be fixed by the Commission in their discretion shall be summoned by them for an interview for a personality test:

Provided that candidates belonging to the Scheduled Castes or the Scheduled Tribes or the Other Backward Classes may be summoned for an interview for a Personality Test by the Commission by applying relaxed standards if the Commission are of the opinion that sufficient number of candidates from these communities are not likely to be summoned for interview for a personality test on the basis of the general standard in order to fill up the vacancies reserved for them.

13. (i) After interview, the candidates will be arranged by the Commission in the order of merit as disclosed by the aggregate marks finally awarded to each candidate. Thereafter, the Commission shall, for the purpose of

recommending candidates against unreserved vacancies, fix a qualifying mark (hereinafter referred to as general qualifying standard) with reference to the number of unreserved vacancies to be filled up on the basis of the examination. For the purpose of recommending reserved category candidates belonging to the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes against reserved vacancies, the Commission may relax the general qualifying standard with reference to number of reserved vacancies to be filled up in each of these categories on the basis of the examination:

Provided that the candidates belonging to the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes who have not availed themselves of any of the concessions or relaxations in the eligibility or the selection criteria, at any stage of the examination and who after taking into account the general qualifying standards are found fit for recommendation by the Commission shall not be recommended against the vacancies reserved for the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes.

(ii) While making service allocation, the candidates belonging to the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes recommended against unreserved vacancies may be adjusted against reserved vacancies by the Government if by this process they get a service of higher choice in the order of their preference.

(iii) The Commission may further lower the qualifying standards to take care of any shortfall of candidates for appointment against unreserved vacancies and any surplus of candidates against reserved vacancies arising out of the provisions of this rule, the Commission may make the recommendation in the manner prescribed in sub-rules (iv) and (v).

(iv) While recommending the candidates, the Commission shall, in the first instance, take into account the total number of vacancies in all categories. This total number of recommended candidates shall be reduced by the number of candidates belonging to the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes who acquire the merit at or above the fixed general qualifying standard without availing themselves of any concession or relaxation in the eligibility or selection criteria in terms of the proviso to sub-rule (i). Along with this list of recommended candidates, the Commission shall also declare a consolidated reserve list of candidates, which will include candidates from general and reserved categories ranking in order of merit below the last recommended candidate under each category. The number of candidates in each of these categories will be equal to the number of reserved category candidates who were included in the first list without availing of any relaxation or concession in eligibility or selection criteria as per proviso to sub-rule (i). Amongst the reserved categories, the number of candidates from each of the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes categories in the reserve list will be equal to the respective number of vacancies reduced initially in each category.

(v) The candidates recommended in terms of the provisions of sub-rule (iv), shall be allocated by the Government to the services and where certain vacancies still remain to be filled up, the Government may forward a requisition to the Commission requiring it to recommend, in order of merit, from the reserve list, the same number of candidates as requisitioned for the purpose of filling up the unfilled vacancies in each category.

14. The minimum qualifying marks as specified under rules 12 and 13 may be relaxable at the discretion of the Commission in favour of physically handicapped candidates in order to fill up the vacancies reserved for them :

Provided that where a physically handicapped candidate obtains the minimum qualifying marks in his own merit in the requisite number for General or the Scheduled Castes or the Scheduled Tribes or the Other Backward Classes category candidates, then, the extra physically handicapped candidates, i.e., more than the number of vacancies reserved for them, shall not be recommended by the Commission on the relaxed standards.

15. The form and manner of communication of the result of the examination to individual candidates shall be decided by the Commission in their discretion and the Commission will not enter into correspondence with them regarding the result.

16. Subject to other provisions contained in these rules, successful candidates will be considered for appointment on the basis of the order of merit assigned to them by the Commission and the preferences expressed by them for various Services/Posts at the time of their application.

17. Success in the examination confers no right to appointment unless the Government is satisfied after such an enquiry as may be considered necessary, that the candidate having regard to his character and antecedents, is suitable in all respects for appointment to the service.

18. To be passed as fit for appointment, 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 prescribe is found not to satisfy these requirements will not be appointed.

THE ATTENTION OF THE CANDIDATES IS INVITED TO THE REGULATION RELATING TO THE PHYSICAL EXAMINATION PUBLISHED HEREWITH. IT WILL BE SEEN THEREFROM THAT THE PHYSICAL STANDARDS PRESCRIBED VARY FOR DIFFERENT SERVICES. THE CANDIDATES ARE THEREFORE ADVISED TO KEEP THESE STANDARDS IN VIEW WITH SPECIFIC REFERENCE TO SERVICES FOR WHICH THEY HAVE COMPETED/EXPRESSED PREFERENCES TO THE UNION PUBLIC SERVICE COMMISSION.

THE CANDIDATES SHOULD NOTE THAT THEY WILL RECEIVE SEPARATE INTIMATION REGARDING MEDICAL EXAMINATION FROM THE MINISTRY OF RAILWAYS (RAILWAY BOARD). IF NO COMMUNICATION IS RECEIVED WITHIN 15 DAYS OF THE DECLARATION OF THE FINAL RESULT, PLEASE CONTACT MINISTRY OF RAILWAYS (RAILWAY BOARD).

The candidates may also please note that :

(i) Every candidate, finally qualified, will have to undergo a medical examination as and when decided by Ministry of Railways (Railway Board) irrespective of the fact that he/she has appeared for such medical examination in the past and found fit or unfit on the basis of earlier examination;

(ii) The medical examination will be conducted at various Railway Hospitals, the date and place will be at the discretion of the Ministry of Railways (Railway Board). The findings of the Railway Medical Board will be taken as final and binding for all allotment purposes;

(iii) A sum of Rs. 100 Rupees (One Hundred Only) in cash, is required to be paid by them to the Medical Board;

(iv) No travelling allowance will be paid for the journey performed in connection with the medical examination; and

(v) the fact that a candidate has been physically examined will not mean or imply that he will be considered for appointment.

Note .—In order to prevent disappointment, candidates are advised to have themselves examined by a Government Medical Officer of the standing of a Civil Surgeon, before applying for admission to the examination.

Particulars of the nature of the medical test to which candidates will be subjected before appointment and of the standards required are given in Appendix II. For the disabled/Ex-Defence Services personnel the standards will be relaxed consistent with requirements of each service.

19. For being considered against the vacancies reserved for them, the physically disabled persons should have disability of Forty per cent (40%) or more. However, such candidates shall be required to meet one or more of the following physically requirements/abilities which may be necessary for performing the duties in the concerned Services/Posts :—

CODE	PHYSICAL REQUIREMENTS
F	1. Work performed by manipulating (with Fingers).
PP	2. Work performed by pulling & pushing.
L	3. Work performed by lifting.
KC	4. Work performed by kneeling and crouching.
B	5. Work performed by bending.
S	6. Work performed by sitting (on bench or chair).
ST	7. Work performed by standing.
W	8. Work performed by walking.
SE	9. Work performed by seeing.
H	10. Work performed by hearing/speaking.
RW	11. Work performed by reading and writing.

The functional classification in their case shall be, one or more of the following, consistent with the requirements of the concerned Services/Posts :-

FUNCTIONAL CLASSIFICATION

CODE	FUNCTIONS	
BL	1. both legs affected but not arms.	
BA	2. both arms affected	a. impaired reach b. weakness of grip.
BLA	3. both legs and both arms affected.	
OL	4. one leg affected (R or L)	a. impaired reach b. weakness of grip c. at axic.
OA	5. one arm affected (R or L)	a. impaired reach b. weakness of grip c. at axic.
BH	6. stiff back and hips (cannot sit or stoop).	
MW	7. muscular weakness and limited physical endurance.	
B.	8. the blind.	
PB	9. partially blind.	
D	10. the deaf.	
PD	11. partially deaf.	

20. No person :—

(a) who has entered into or contracted a marriage with a person having a spose living, or

(b) who having a spouse living has entered into or contracted a marriage with any person, shall be eligible for appointment to service :

Provided that Central Government may if satified that such marriage is permissible under the personal law applicable to such person and other party to the marriage and there are other grounds for so doing exempt any person from the operation of this rule.

21. Candidates are informed that some knowledge of Hindi prior to entry into service would be of advantage in passing departmental examinations which candidates have to pass after entry into service.

22. Brief particulars relating to the Services/Posts to which recruitment is being made. Through this examination are given in Appendix III.

MAMTA KANDWAL, Dy. Director

APPENDIX I

1. The examination shall be conducted according to the following plan :—

Part I.—The written examination will comprise two sections—Section I consisting only of objective type of questions and Section II of conventional papers. Both Sections will cover the entire syllabus of the relevant engineering disciplines viz. Civil Engineering, Mechanical

Engineering, Electrical Engineering and Electronics and Telecommunications Engineering. The Standard and syllabi prescribed for these papers are given in Schedule to the Appendix. The details of the written examination i.e. subject are given in para 2 below.

Note 1— There will be penalty (Negative Marking) for wrong answers marked by a candidate in the objective type question papers.

(i) There are four alternative for the answers to every question. For each question for which a wrong answer has been given by the candidate, one-third (0.33) of the marks assigned to that question will be deducted as penalty.

(ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happen to be correct and there will be same penalty as above for that question.

(iii) If a question is left blank i.e. no answer is given by the candidate, there will be no penalty for that question.

Part II—Personality test carrying a maximum of 200 marks of such of the candidates who qualify on the basis of the written examination.

2. The following will be the subjects for the written examination :—

Subject	Duration	Maximum Marks
(1)	(2)	(3)
Category-I CIVIL ENGINEERING		
Section-I—Objective Papers		
General Ability Test (Part A : General English) (Part B : General Studies)	2 hrs.	200
Civil Engineering Paper-I	2 hrs.	200
Civil Engineering Paper-II	2 hrs.	200
Section II—Conventional Papers		
Civil Engineering Paper-I	3 hrs.	200
Civil Engineering Paper-II	3 hrs.	200
	TOTAL	1000
Category-II MECHANICAL ENGINEERING		
Section-I—Objective Papers		
General Ability Test (Part A : General English) (Part B : General Studies)	2 hrs.	200
Mechanical Engineering Paper-I	2 hrs.	200
Paper-II		
Mechanical Engineering	2 hrs.	200
(1)	(2)	(3)
Section II—Conventional Papers		
Mechanical Engineering Paper-I	3 hrs.	200
Mechanical Engineering Paper-II	3 hrs.	200
	TOTAL	1000
Category-III ELECTRICAL ENGINEERING		
Section I—Objective Papers		
General Ability Test (Part A : General English) (Part B : General Studies)	2 hrs.	200
Electrical Engineering Paper-I	2 hrs.	200
Electrical Engineering Paper-II	2 hrs.	200
Section II—Conventional Papers		
Electrical Engineering Paper-I	3 hrs.	200
Electrical Engineering Paper-II	3 hrs	200
	TOTAL	1000
Category-IV ELECTRONICS AND TELECOMMUNICATION ENGINEERING		
Section-I—Objective Papers General Ability Test (Part A : General English) (Part B : General Studies)	2 hrs.	200
Electronics and Telecommunication Engineering Paper-I	2 hrs.	200
Electronics and Telecommunication Engineering Paper-II	2 hrs.	200
Section II—Conventional Papers		
Electronics and Telecommunication Engineering Paper-I	3 hrs.	200
Electronics and Telecommunication Engineering Paper-II	3 hrs.	200
	TOTAL	1000

Note.– Candidates are advised to read carefully special instructions to candidates for conventional type tests and objective type tests given in Appendix-IV (Part A and Part B) including the procedure regarding filing in the Answer Sheet of objective type tests in the Examination Hall published in the Employment News/Rozgar Samachar dated 30-01-2010.

3. In the Personality Test special attention will be paid to assessing the candidate's capacity for leadership, initiative and intellectual curiosity, tact and other social qualities, mental and physical energy, powers of practical application and integrity of character.

4. Conventional papers must be answered in English. Question paper will be set in English only.

5. Candidates must write the papers in their own hand. In no circumstances will they be allowed the help of a scribe to write the answers for them.

6. The Commission have discretion to fix minimum qualifying marks in any or all the papers of the examination. The Objective Type papers as contained in Section-I of the Plan of the Examination will be evaluated first and evaluation of the Conventional Type papers contained in Section-II of the Plan of Examination will be done only of those candidates who obtain the minimum qualifying marks in Objective Types papers, as fixed by the Commission.

7. Marks will not be allotted for mere superficial knowledge.

8. Deduction upto five per cent of the maximum marks for the written papers will be made for illegible handwriting.

9. Credit will be given for orderly, effective and exact expression combined with due economy of words in the conventional papers of the examination.

10. In the question papers, wherever required, SI units will be used.

NOTE :—Candidates will be supplied with standard tables/charts in SI units in the Examination hall for reference purpose, wherever considered necessary.

11. Candidates are permitted to bring and use battery operated pocket calculators for conventional (essay) type papers only. Loaning or inter-changing of calculators in the Examination Hall is not permitted.

It is also important to note that candidates are not permitted to use calculators for answering objective type papers (Test booklets). They should not therefore, bring the same inside the Examination Hall.

12. Candidates should use only International form of Indian numerals (e.g., 1, 2, 3, 4, 5 etc.) while answering question papers.

SCHEDULE TO APPENDIX I.

Standard and Syllabi

The standard of paper in General Ability Test will be such as may be expected of an Engineering/Science Graduate. The standard of papers in other subjects will approximately be that of an Engineering Degree Examination of an Indian University. There will be no practical examination in any of the subjects.

General Ability Test

Part A : General English : The question paper in General English will be designed to test the candidates's understanding of English and workman like use of words.

Part B : General Studies : The paper in General Studies will include knowledge of current events and of such matters of everyday observation and experience in their scientific aspects as may be expected of an educated person. The paper will also include questions on History of India and Geography of a nature which candidates should be able to answer without special study.

CIVIL ENGINEERING

(for both objective and conventional type papers)

PAPER I

1. Building Materials

Timber : Different types and species of structural timber, density-moisture relationship, strength in different directions, defects, influence of defects on permissible stress, preservation, dry and wet rots, codal provisions for designs. Plywood.

Bricks : Types, Indian Standards classification, absorption, staturation factor, strength in masonry, influence of mortar strength on masonry strength.

Cement : Compounds of, different types, setting times, strength.

Cement Mortar : Ingredients, proportions, water demand, mortars for plastering and masonry.

Concrete : Importance of W/C Ratio, strength ingredients including admixtures, workability, testing for strength elasticity, non-destructive testing, mix design methods.

2. Solid Mechanics

Elastic constants, stress, plane stress, Mohr's circle of stress, strains, plane strain, Mohr's circle of strain combined stress; Elastic theories of failure; Simple bending, shear; Torsion of circular and rectangular sections and simple members.

3. Structural Analysis

Analysis of determinate structures—different methods including graphical methods.

Analysis of indeterminate skeletal frames—moment distribution, slope-deflection, stiffness and force methods, energy methods. Muller-Breslaie principle and application.

Plastic analysis of indeterminate beams and simple frames—shape factors.

4. Design of Steel Structures

Principles of working stress method/Design of connections, simple members, Built-up sections and frames. Design of Industrial roofs. Principles of ultimate load design. Design of simple members and frames.

5. Design of Concrete and Masonry Structures

Limit state design for beding, shear, axial compression and combined forces. Codal provisions for slabs, beams walls and footings. Working stress method of design of R.C. members.

Principles of prestressed concrete design, materials, methods of prestressing, losses. Designs of simple members and determinate structures. Introduction of prestressing of indeterminate structures.

Design of brick masonry as per I.S. Codes.

6. Construction Practice, Planning and Management

Concerting Equipment :

Weight Batcher, mixer vibrator, batching plant, concrete pump.

Cranes, hoists, lifting equipment. Earthwork Equipment :

Power shovel, hoe, dozer, dumper, trailers and tractor, rollers, sheep foot rollers pumps.

Construction, Planning and Management :

Bar chart, linked bar chart, work-break down structures. Activity-on-arrow diagrams; Critical path, probabilistic activity durations. Event-based networks, PERT network; Time-cost study, crashing; resource allocation.

PAPER-II

1. (a) Fluid Mechanics, Open Channel, Flow, Pipe Flow

Fluid Properties, Perssure, Thrust, Buoyancy; Flow kinematics; Integration Flow equations; Flow measurement; Relative Motion, Moment of momentum; Viscosity, Boundary layer and control. Drag, Lift : Dimentional Analysis. Modelling Cavitation; Flow Oscillations; Momentum and Energy principles in open channel flow. Flow controls. Hydraulic jump. Flow section and properties; Normal flow. Gradually varied flow: Surges, Flow development and losses in pipe flows, Measurement, Siphons, Surges and Water hammer. Delivery of Power, Pipe networks.

(b) Hydraulic Machines and Hydropower

Centrifugal pumps, types, performance parameters, scaling pumps in parallel. Reciprocating pumps, air vessels, performance parameters. Hydraulic ram. Hydraulic turbines types, performance parameters/controls, choice, power houses, classification and layout, storage, pondage, control of supply.

2. (a) Hydrology

Hydrological cycle, precipitation and related data analysis, PMP unit and synthetic hydrographs; Evaporation and transpiration; Floods and their management, PMF; Streams and their gauging: River morphology; Routing of floods; Capacity of Reservoirs.

(b) Water Resources Engineering

Water resources of the globe; Multipurpose uses of Water: Soil-Plant-Water relationship, irrigation systems, water demand assessment; Storages and their yields; Ground water yield and well hydraulics; Water-logging, drainage design; Irrigation revenue; Design of rigid boundary canals, Lacey's and Tractive force concepts in canal design, lining of canals; Sediment transport in canals; Non-overflow and overflow sections of gravity dams and their design. Energy dissipators and tailwater rating; Design of headworks distribution works, falls, cross-drainage works, outlets; River raining.

ENVIRONMENTAL ENGINEERING

3. (a) Water Supply Engineering

Sources of Supply, yields, design of intakes and conductors; Estimation of demand; Water quality standards. Control of Water-borne diseases; Primary and secondary treatment detailing and maintenance of treatment units; Conveyance and distribution systems of treated water, leakages and control; Rural water supply; Institutional and industrial water supply.

(b) Waste Water Engineering

Urban rain water disposal : Systems of sewage collection and disposal; Design of sewers and sewerage systems; pumping. Characteristics of sewage and its treatment. Disposal of products of sewage treatment, stream flow rejuvenation; Institutional and industrial sewage management; Plumbing Systems; Rural and semi-urban sanitation.

(c) Solid Waste Management

Source, classification, collection and disposal; Design and Management of Landfills.

(d) Air and Noise Pollution and Ecology

Sources and effects of air pollution, monitoring of air pollution; Noise pollution and Standards; Ecological chain and balance. Environmental assessment.

4. (a) Soil Mechanic's

Properties of soils, classification and inter-relationship. Compaction behaviour, methods of compaction and their choice; Permeability and seepage, flownets. Inverted filters; Compressibility and consolidation; Shearing resistance. Stresses and failure; Soil testing in laboratory and in situ; Stress path and applications; Earth pressure, theories. Stress distribution in soils; Soil exploration, samplers, load tests penetration tests.

(b) Foundation Engineering

Types of foundations. Selection criteria, bearing capacity, settlement, laboratory and field tests; Types of piles and their design and layout. Foundations on expansive soils, swelling and its prevention foundation on swelling soils.

5. (a) Surveying

Classification of surveys, scales accuracy; Measurement of distances—direct and indirect methods; optical and electronic devices; Measurement of directions, prismatic compass, local attraction; Thepdolities-types; Measurement of elevations-Spirit and trigonometric levelling. Relief representation-Contours; Digital elevation modelling concept; Establishment of control by traingulation and traversing—measurements and

adjustment of observations computation of coordinates; Field astoronomy. Concept of global positioning system; Map preparation by plane tabling and by photogrammetry. Remote sensing concepts, map substitutes.

(b) Transportation Engineering

Planning of highway systems, alignment and geometric design horizontal and vertical curves, grade separation; Materials and construction methods for different surfaces and maintenance; Principles of payment design; Drainage, Traffic Surveys; Intersection, Signalling; Mass transit system, accessibility, networking.

Tunnelling, alignment, methods of construction, disposal of muck, drainage lighting and ventilation, traffic control, emergency management.

Planning of railway systems, terminology and designs relating to gauge, track, controls transits, rolling stock, tractive power and track modernisation; Maintenance, Appurtenant works, Constainnerisation.

Harbours—layouts, shipping lanse, anchoring, location identification; Literal transport with erosion and deposition; Sounding methods; Dry and wet docks, components and operations; Tidal data and analysis.

Airports—layout and orientation; Runway and Taxiway; design and drainage management; Zoning laws; Visual aids and air traffic control; helipads, hangers, service equipment.

MECHANICAL ENGINEERING

(For both objective and conventional type papers)

PAPER I

1. Thermodynamics, Cycles and IC Engines, Basic concepts. Open and Closed systems. Heat and work, Zerothe, First and Second Law, Application to non-flow and Flow processes. Entropy, Availability, Irreversibility and TDS relations. Clapeyron and real gas equations, Properties of ideal gases and vapours. Standard vapour. Gas power and Refrigeration cycles. Two stage compressor. C. I. and S. I. Engines. Pre-ignition, Detonation and Diesel-knock, Fuel injection and Carburation. Supercharging Tubro-prop and Rocket engines. Engine Cooling. Emission and Control, Fuel gas analysis. Measurement of Calorific values. Conventional and Nuclear fuels. Elements of Nuclear power production.

2. Heat Transfer and Refrigeration and Airconditioning Modes of heat transfer. One dimensional steady and unsteady condition. Composite slab and Equivalent Resistance. Heat dissipation from extended surfaces. Heat exchangers. Overall heat transfer coefficient. Empirical correlations for heat transfer in laminar and turbulent flows and for free and forced Convection. Thermal boundary layer over a flat plate. Fundamentals of diffusive and convective mass transfer, Block, body and basic concepts in Radiation. Enclosure theory. Shape factor. Net work analysis. Heat pump and Refrigeration cycles and systems. Refrigerants. Condensers. Evaporators and expansion devices. Psychrometry, Charts and application to airconditioning. Sensible heating and cooling. Effective temperature, Comfort indices. Load calculations. Solar refrigeration. Controls, Duct design.

3. **Fluid Mechanics**

Properties and classification of fluids, Manometry. Forces on immersed surfaces. Center of pressure. Buoyancy. Elements of stability of floating bodies. Kinematics and Dynamics, irrotational and incompressible, inviseid flow, velocity potential, Pressure field and Forces on immersed-bodies Berroulli's equations. Fully developed flow through pipes. Pressure drop calculations. Measurement of flow rate and Pressure, drop. Elements of boundary layer theory. Integral approach. Laminar and turbulent flows. Separations, Flow over weirs and notches. Open channel flows. Hydraulic jump. Dimensionless numbers Dimensional analysis. Similitude and modelling. One-dimensional isentronic flow. Normal shock wave. Flow through convergent—divergent ducts. Oblique shock-wave, Ravleigh and Fanno lines.

4. **Fluid Machinery and Stream Generators**

Performance, Operation and control of hydraulic Pump and impulse and reaction Turbines. Specific speed Classification. Energy transfer. Coupling Power, transmission. Steam generators. Fire-tube and water-tube boilers. Flow of steam through nozzles and difusers, Wetness and condensation. Various types of steam and gas turbines Velocity diagrams. Partial admission Reciprocating, Centrifugal and axial flow Compressors, Multi-stage compression, role of Mach Number, Reheat, Regeneration, Efficiency. Governace.

PAPER II

5. **Theory of Machines**

Kinematic and dynamic analysis of planner mechanisms. Cams. Gears and gear trains. Flywheels, Governors, Balancing of rigid rotor and field balancing. Balancing of single and multicylinder engines. Linear vibration analysis of mechanical systems. Critical speeds and whirling of shafts. Automatic Controls.

6. **Machine Design**

Design of Joints : cotters, keys, spines, welded joints, threaded fasteners, joints formed by interference fits.

Design of friction drives: couplings and clutches, belt and chain drives, power screws.

Design of Power transmission systems: gears and gear drives, shaft and axle, wire ropes.

Design of bearings, Hydrodynamic bearings and rolling element bearings.

7. **Strength of Materials**

Stress and strain in two dimensions. Principal stresses and strains, Mohr's construction, linear elastic materials, isotropy and anisotropy, stress-strain relations, uniaxial loading, thermal stresses. Beams: Bending moment and shear force diagram, bending stresses and deflection of beam. Shear stress distribution. Torsion of shafts, helical springs. Combined stresses, thick-and thin walled pressure vessels. Struts and Columns. Strain energy concepts and theories of failure.

8. **Engineering Materials**

Basic concepts on structure of solids. Crystalline materials, Deffects in crystalline materials. Alloys and binary

phase diagrams, structure and properties of common engineering materials. Heat treatment of steels. Plastics, Ceramics and composite materials. Common applications of various materials.

9. Production Engineering

Metal Forming : Basic Principles of Forming, drawing and extrusion; High energy rate forming; Powder metallurgy.

Metal Casting: Die casting, investment casting, Shell Moulding, Centrifugal Casting, Gating and Riser design; melting furnaces.

Fabrication Processes : Principles of Gas, Arc. Shielded are Welding; Advanced. Welding Processes; weldability; Metallurgy of Welding.

Metal Cutting : Turning, Methods of Screw Production. Drilling, Boring. Milling, Gear Manufacturing. Production of flat surfaces Grinding and Finishing Processes. Computer Controlled Manufacturing Systems—CNC, DNC, FMS, Automation and Robotics.

Cutting Tool Materials, Tool Geometry Mechanism of Tool Wear, Tool Life and Machinability; Measurement of cutting forces. Economics of Machining. Unconventional Machining. Processes, Jigs and Fixtures.

Fits and tolerances. Measurement of surface texture. Comparators, Alignment tests and reconditioning of Machine Tools.

10. Industrial Engineering

Production, Planning and Control : Forecasting—Moving average exponential smoothing. Operations scheduling; assembly line balancing Product development. Break-even analysis, capacity planning, PERT and CPM.

Control Operations : Inventory Control—ABC analysis EOO model. Materials requirement planning Job. design. Job standards. Work measurement. Quality management— Quality analysis and control.

Operations Research : Linear programming—Graphical and Simplex methods. Transportation and assignment models. Single server queuing model.

Value Engineering : Value analysis for cost/value.

11. Elements of Computation

Computer Organisation, Flow charting. Features of Common Computer Languages—FORTRAN, d' Base III. Lotus 1-2-3, C and elementary programming.

ELECTRICAL ENGINEERING

(for both objective and conventional type papers)

PAPER I

1. KM Theory

Electric and magnetic fields. Gauss's Law and Awpcris Law, Fields in dielectrics, conductors and magnetic materials. Maxwell's equations. Time varying fields. Plane-Wave propagation in dielectric and conducting media. Transmission lines.

2. Electrical Materials

Band Theory. Conductors, Semi-conductors and Insulators. Super-Conductivity. Insulators for electrical and electronic applications. Magnetic materials. Ferro and feri-magnetism. Ceramics, properties and applications Hall effect and its applications. Special semiconductors.

3. Electrical Circuits

Circuit elements. Kirchoffs Laws Mesh and nodal analysis. Network theorems and applications. Natural response and forced response. Transient response and steady-stat response for arbitrary inputs. Properties of networks in terms of poles and zeros. Transfer function. Resonant circuits. Three-phase circuits Two-port network. Elements of two-element network systhesis.

4. Measurements and Instrumentation

Units and Standards, Error analysis. Measurement of current. Voltage Power, Power-factor and energy. Indicating instruments. Measurement of resistance inductance. Capacitance and frequency. Bridge Measurements. Electronic measuring instrument, digital voltmeter and frequency counters. Transducers and their applications to the measurement of non-electrical quantities like temperature, pressure, flow-rate displacement, acceleration, noise level etc. Data acquisition systems. A/D and D/A Converters.

5. Control Systems

Mathematical modelling of physical systems. Block diagrams and signal flow graphs and their reduction. Time domain and frequency domain analysis of linear dynamical system. Errors for different types of inputs and stability criteria for feedback systems. Stability analysis using Routh-Hurwitz array, Nyquist plot and Bode plot. Root locus and Nicols chart and the estimation of gain and phase margin. Basic concepts of compensator design. State variable matrix and its use in system modelling and design Sampled data system and performance of such a system with the samples in the error channel. Stability of sampled data system. Elements of nonlinear control analysis. Control system component, electromechanical hydraulic pneumatic components.

PAPER II

1. Electrical Machines and power transformers

Magnetic Circuits.— Analysis and Design of Power transformers. Construction and testing. Equivalent circuits, losses and efficiency Regulation. Auto-transformer. 3-phase transformer. Parallel operation.

Basic concepts in rotating machines. EMF, torque, basic machine types. Construction and operation, leakage, losses and efficiency.

D. C. Machines Construction. —Excitation methods, Circuit models. Armature reaction and communication. Characteristics and performance analysis. Generators and motors. Starting and speed control. Testing Losses and efficiency.

Synchronous Machines.—Construction Circuit model. Operating characteristics and performance analysis. Synchronous reactance. Efficiency. Voltage regulation. Salient pole machine. Parallel operation. Hunting. Short circuit transients.

Induction Machines Construction.—Principle of operation. Rotating fields. Characteristics and performance analysis. Determination of circuit model. Circle diagram. Starting and speed control.

Fractional KW motors. — Single-phase synchronous and induction motors.

2. Power Systems

Types of Power Station Hydro, Thermal and Nuclear Stations. Pumped storage plants. Economics and operating factors.

Power transmission lines.— Modelling and performance characteristics. Voltage control. Load flow studies. Optimal power system operation. Load frequency control. Symmetrical short circuit analysis. Z-Bus formulation Symmetrical Components. Per unit representation. Fault analysis. Transient and steady-state stability of power systems. Equal area criterion.

Power system Transients. Power system Protection Circuit breakers Relays. HVDC transmission.

3. Analog and Digital Electronics and Circuits

Semi-conductor device physics, PN junctions and transistors, circuits Models and parameters, FET Zener tunnel, Schottky, photo diodes and their applications, rectifier circuits voltage regulators and multipliers, switching behaviour diodes and transistors.

Small signal amplifiers biasing circuits, frequency response and improvement, multistage amplifiers and feed-back amplifiers, D.C. amplifiers. Oscillators, Large signal amplifiers, coupling methods, push pull amplifiers, operational amplifiers, wave, shaping circuits. Multivibrators and flip-flops and their applications. Digital logic gate families, universal-gates-combinational circuits for arithmetic and logic operation sequential logic circuits. Counters Registers. RAM and ROMs.

4. Microprocessors

Microprocessor architecture.—Instruction set and simple assembly language programming. Interfacing for memory and I/O. Applications of Microprocessors in power system.

5. Communication Systems

Types of modulation; AM, FM and PM. Demodulators. Noise and bandwidth consideration. Digital communication systems. Pulse code modulation and demodulation. Elements of sound and vision broadcasting Carrier communication. Frequency division and time division multiplexing. Telemetry system in power engineering.

6. Power Electronics

Power Semi-conductor devices, Thyristor, Power transistor, GTOs and MOSFETs. Characteristics and operation. AC to DC Converters. 1-phase and 3-phase DC to DC Converters.

AC regulators.—Thyristor controlled reactors, switched capacity networks.

Inverters : Single-phase and 3-phase Pulse width modulation. Sinusoidal modulation with uniform sampling. Switched mode power supply.

ELECTRONICS AND TELECOMMUNICATION ENGINEERING

(For both objective and conventional type papers)

PAPER I

1. Materials and components

Structure and properties of Electrical Engineering materials Conductors, Semi-conductors and Insulators, Magnetic, Ferroelectric, piezoelectric Ceramic, Optical and Superconducting materials. Passive components and characteristics Resistors, Capacitors and Inductors : Ferrites, Quartz crystal. Ceramic resonators, Electromagnetic and electro-mechanical components.

2. Physical Electronics, Electron Devices and ICs

Electrons and holes in semi-conductors. Carrier Statistics, Mechanism of current flow in a semi-conductor, Hall effect. Junction theory; Different types of diodes and their characteristics; Bipolar Junction transistor; Field effect transistors; Power switching devices like SCRs. CTOs, power MOSFETs; Basics of ICs-bipolar, MOS and CMOS types; Basics of Opto-Electronics.

3. Signals and Systems

Classification of signals and systems; System modelling in terms of differential and difference equations; State variable representation; Fourier series; Fourier transforms and their application to system analysis; Laplace transforms and their application to system analysis; Convolution and superposition integrals and their applications; Z-transforms and their applications to the analysis and characterisation of discrete time systems; Random signals and probability. Correlation functions; Spectral density; Response of linear system to random inputs.

4. Network Theory

Network analysis techniques: Network theorems, transient response steady state sipusoidal response; Network graphs and their applications in network analysis; Tellegen's theorem. Two port networks : Z, Y, h and transmission parameters. Combination of two ports analysis of common two ports. Network functions; parts of network functions; obtaining a network function from a given part. Transmission criterion : dalcy and rise time. Elmore's and other definition effect of cascading Elements of network synthesis.

5. Electromagnetic Theory

Analysis of electrostatic and magnetostatic fields; Laplace's and Potson's equations; Boundary value problems and their solutions; Maxwell's equations : application to wave propagation in bounded and unbounded media; Transmission lines : basic theory, standing wave, matching applications microstrip lines; basics of waveguides and resonators; Elements of antenna theory.

6. Electronic Measurement and Instrumentation

Basic concepts standards and error analysis; Measurements of basic electrical quantities and parameters; Electronic measuring instruments and their principles of working, analog and digital, comparison characteristics, applications Transducers; Electronic measurements of non-electrical quantities like temperature, pressure, humidity etc. Basics of telemetry for industrial use.

PAPER II

1. Analog Electronic Circuits

Transistor biasing and stabilization small signal analysis. Power amplifiers Frequency response. Wide banding techniques Feedback amplifiers Tuned amplifier? Oscillators, Rectifiers and power; supplies Op Amp PLL other linear integrated circuits and applications Pulse shaping circuits and waveform generator.

2. Digital Electronic Circuits

Transistor as a switching element; Boolean algebra simplification of Boolean functions, Karnaugh man and applications' IC Logic gates and their characteristics : IC logic families : DTL, TTL, ECL, NMOS PMOS and CMOS gates, and their comparison Combinational logic circuits; Half adder Full adder. Digital compartor. Multiplexer. Demultiplexer; ROM and their applications, Flipflops, R-S, J. K., D and T np-nops; Different types of counters and resisters; Waveform generators. A/D and D/A conveners. Semi-conductor memories.

3. Control Systems

Transient and steady state response of control systems, Effect of feedback on stability and sensivity; Root locus techniques; Frequncy response analysis Concepts of gain and phase margins; constant-M and Consta. N Nichols's Chart; Approximation of transient response from Constant-N nichols Chart; Approximation of transient response from closed loop frequency response; Design of Control systems Compensators; Industrial controllers.

4. Communication Systems

Basic information theory. Modulation and detection in analogue and digital systems; Sampling and data reconstruction Quantization & Coding; Time division and frequency division multiplexing, Equalisation; Optical Communication in free space and fibre optic; Propagation of signals at HF, VHP, UHF and microwave frequency; Satellite Communication.

5. Microwave Engineering

Microwave Tubes and solid state devices, Microwave generation and amplifiers, Waveguides and other Microwave Components and Circuits Microstrip circuits, Microwave Antennas, Microwave Measurements, Masers Lasers; Microwave propagation. Microwave Communication systems-terrestrial and Satellite based.

6. Computer Engineering

Number Systems; Data representation; Programming; Elements of a high level programming language PASCAL/ C. Use of basic data structures; Fundamentals of computer architecture; Processor design; Control unit design; Memory organisation. I/o System Organisation, Micro-processors : Architecture and instruction set of micro-processors 8085 and 8086. Assembly language programming. Micro-processor based system design : typical examples. Personal computers and their typical uses.

APPENDIX II

REGULATIONS RELATING TO THE PHYSICAL EXAMINATION OF CANDIDATES

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, the regulations are also intended to provide guidelines to the medical examiners and a candidate who does not satisfy the minimum requirements prescribed in the regulations cannot be declared Fit by the medical examiners. However, while holding that a candidate is not fit according to the norms laid down in these regulations, it would be permissible for a Medical Board to recommend to the Government of India for reasons specifically recorded in writing that he may be admitted to service without disadvantage to Government.

Note : The Medical Board while conducting medical examination of the candidates who have applied against the posts reserved for physically handicapped category will keep in view the relevant provisions of the Persons with Disabilities (Equal Opportunity, Protection of Right and Full Participation) Act, 1995 wherein the extent of permissible disability has been defined.

2 (a) The Government of India reserve to themselves absolute discretion to reject or accept any candidate after considering the report of the Medical Board.

(b) To be passed as fit for appointment, 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 on his/her appointment.

3. (a) 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 whether correlation figures are considered most suitable as a guide in the examination of the candidates, if there be any disproportion with regard to height, weight and chest girth, the candidates should be Hospitalised for investigation and X-ray of the chest taken before the candidate is declared fit or not by the Board.

(b) However, for certain Services the Minimum standards for height and chest girth, without which candidate cannot be accepted are as follows :—

Name of Services	Height	Chest girth fully expanded	Expansion
Railway Engineering Service (Civil, Electrical, Mechanical and Signal), Central Engineering Service Group A, CES (Roads), Central Electrical & Mechanical Engineering Service Group A in the C.P.W.D. Military Engineer services (IDSE and QS&C) CWES.			
(a) For Male Candidates	152 cm	84 cm	5 cm
(b) For Female Candidates	150 cm	79 cm	5 cm

The minimum height prescribed is relaxable in case of candidate belonging to Scheduled Tribes and to races such as Gorkhas, Garhwalis, Assamese, Nagaland Tribes, etc. whose average height is distinctly lower.

(c) For the Military Engineering Service and Indian Ordnance Factories Service Group A, minimum expansion of 5 centimetres will be required in the matter of measurement of the chest.

4. 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 other sides of the feet, he will stand erect without rigidly and with the heels, caves, buttocks and shoulders touching the standard, the chin will be repressed to bring the vertex of the head level under the horizontal bar and the height will be recorded in centimetres and parts of a centimetres to halves.

5. 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 interior angles of the shoulders blades behind and lies in the same horizontal plane when the tape is taken round the chest. The arms will then be lowered to hang loosly 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 centimetres, 83—89, 86—93.5 etc. In recording the measurements fraction of less than half a centimetre should not be noted.

N.B.—The height and chest of the candidate should be measured twice before coming to a final decision.

6. The candidate will also be weighted and his weight recorded in kilograms—fraction of a Kilogram should not be noted.

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

(i) **General**.—The candidate's eyes will be subjected 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 eye, eyelids or contiguous structure of such a sort as to render or are likely at future date to render him unfit for service.

(ii) **Visual Acuity**.—The examination for determining the acuteness of vision includes two tests—one for distant the other for near vision. Each eye will be examined separately.

There shall be no limit for maximum naked eye vision but the naked eye vision of the candidates shall however, be recorded by the Medical Board or other medical authority in every case as it will furnish the basic information in regard to the conditions of the eye.

The standards for distant and near vision with or without glasses shall be as follows :—

Service	Distant Vision		Near Vision	
	Better Eye (corrected Vision)	Worse Eye	Better Eye (corrected Vision)	Worse Eye
(1)	(2)	(3)	(4)	(5)
A. **Technical**				
1. Railway Engineering Service (Civil, Electrical, Mechanical and Signal)	6/6 or 6/9	6/12 6/9	J/I	J/II
2. Central Engineering Service Group A, Central Electrical and Mechanical Engineering Service Group A Central Water Engineering Service Group A, Central Power Engineering Service Group A, Central Engineering Service (Roads), Group A Engineer Gr. 'A' in the Wireless Planning and Coordination Wing/ Monitoring Organisation Indian Telecommunication Service Gr. 'A', Assistant Executive Engineer, in P&T Building works (Gr. 'A') Service Indian Naval Armament Service, Indian Naval Stores Officer Indian Ordnance Factories Service Group A. Indian Inspection Service, Group 'A'.	6/6 6/9	6/12 or 6/9	J/I	J/II

(1)	(2)	(3)	(4)	(5)
3.	Assistant Executive Engineer (Group 'A') in the Corps of EME Military Engineer Service Group 'A'. (IDSE and QS&C)	6/6 or 6/9	6/18 or 6/9	J/I J/II
B.	**Non-Technical**			
4.	Indian Railway Stores Service and Assistant Executive Engineer Gr. A in G.S.I. Indian Supply Service. Group 'A'	6/9	6/12	J/I J/II

NOTE (1) : (a) In respect of the Technical Service mentioned at A above, the total amount of myopia (including the cylinder) shall not exceed—4,00 D. Total amount of Hypermetropia (including the cylinder) shall not exceed+400D:

Provided that in case a candidate in respect of the Services classified as "Technical" (other than the Services under the Ministry of Railways) is found unfit on grounds of high myopia the matter shall be referred to a special boards of three Opthalmologists to declare whether this myopia is Pathological or not. In case it is not pathological the candidate shall be declared fit provided he fulfils the visual requirements otherwise.

(b) In every case of myopia funds examination should be carried out and the results recorded. In the event of any pathological condition being present which is likely to be progressive and affect the efficiency of the candidate, he shall be declared unfit.

(c) Radial Keratotomy/Laser Correction etc. shall be considered as disqualification for appointment in Railway Technical Services (Civil, Mechanical, Electrical and Electronics). Permitted correction for conforming to prescribed visual standards is spectacles only.

NOTE (2) : The testing of colour vision shall be essential in respect of the Technical Services mentioned at A above.

Colour perception should be graded into higher and lower grade depending upon the size of aperture in the lantern as described in the table below :—

	Grade	Higher Grade of colour perception	Lower Grade of colour perception
1.	Distance between the lamp and the candidate	16 feet	16 feet
2.	Size of aperture	1.3 mm	13 mm
3.	Time of exposure	5 seconds	5 seconds

For the Railway Engineering Services (Civil, Electrical, Signal and Mechanical) and other service connected with the safety of the public, Higher grade of colour vision is essential but for others lower grade of colour vision should be considered sufficient.

The categories of Services/posts which require higher or lower grade colour perception are as indicated below :—

Technical Services or posts requiring higher grade colour Perception :—

(i) Railway Engineering Services.

(ii) Indian Defence Service of Engineer (IDSE).

(iii) Central Engineering Service (Roads).

(iv) Central Power Engineering Service.

(v) Assistant Executive Engineer (Group 'A') in the Corps of EME.

(vi) Indian Inspection Service. Group 'A'.

Technical Service or posts requiring lower grade colour perception :—

(i) Central Engineering Service.

(ii) Central Electrical and Mechanical Engineering Service.

(iii) Indian Naval Armament Service.

(iv) Indian Naval Stores Service.

(v) Indian Ordnance Factory Service.

(vi) Central Water Engineering Service.

(vii) Engineer Group 'A' in Wireless Planning and Coordination Wing/Monitoring Organisation.

(viii) Assistant Executive Engineer Group A in the Geological Survey of India.

Satisfactory colour vision constitutes, recognition with case and without hesitation of Red, Green and Yellow colours. The use of Ishihara's plates, shown in good light and a suitable lantern like Edrige Green's shall be considered quite dependable for resting colour vision. Both the Ishihara's plates and Edrige Green's lantern shall be used for testing colour vision of candidates for appointment to the technical services.

NOTE (3): Field of vision—The field of vision shall be tested in respect of all services by the confrontation method. Where such test gives unsatisfactory or doubtful results the field of vision should be determined on the perimeter.

NOTE (4) : For Night Blindness -Night blindness need not be tested as a routine but only in special cases. No standard test for the testing of night blindness or dark adaption is prescribed. The Medical Board should be given the discretion to improvise such rough test e.g. recording of visual acuity with reduced illumination or by making the candidate recognise various objects in a darkened room after he has been therefor 20 to 30 minutes. Candidates own statements should not always be relied upon but they should be given due consideration.

NOTE (5): For Central Engineering Services/CES (Roads)—Candidates may be required to pass the colour vision test and undergo test for night blindness when considered necessary by the Medical Board for Survey of Indian Group 'A' service the candidate may be required to pass a 'steroscopic fusion' test.

NOTE (6): Ocular conditions, other than visual acuity :—

(a) Any organic disease or a progressive refractive error, which is likely to result in lowering the visual acuity, should be considered as a disqualification.

(b) Squint : For technical services presence of binocular vision is essential. The presence of Squint, even if the vision acuity in each eye is of the prescribed standard should be considered a disqualification in the absence of binocularity. For non-technical service the presence of Squint should not be considered as a disqualification if the visual acuity is of the prescribed standards.

(c) If a person has one eye or if he has one eye which has normal vision and the other eye is ambylyopic or has subnormal vision, the usual effect is that the person lacks stereoscopic vision for perception of depth. Such vision is not necessary for many non-technical posts. The medical board may recommend as fit for non-technical service. Such persons provided the normal eye has—

(i) 6/6 distant vision and J/I near vision with or without glasses, provided the error in any meridian is not more than 4 dioptres for distant vision.

(ii) has full field of vision.

(iii) normal colour vision wherever required :

Provided the board is satisfied that the candidate can perform all the functions for the particular job in question.

The above relaxed standard of visual acuity will not apply to candidates for Posts/Services classified as "TECHNICAL".

NOTE (7) :— Contact lenses—During the medical examination of a candidate, the use of contact lenses is not to be allowed.

NOTE (8) :— It is necessary that when considering eye test the illumination of the type letters for distant vision should have an illumination of 15 foot candles.

NOTE (9) :—It shall be open to Government to relax anyone of the condition in favour of any candidate for special reasons.

8. Blood Pressure

The Board will use its discretion regarding Blood Pressure. A rough method of calculating normal, maximum, systolic pressure is as follows :—

(i) With young subjects 15—25 years of age the average is about 100 plus age.

(ii) With subject over 25 years of age general rule of 110 plus half the age seems quite satisfactory.

N.B.—1. As a general rule any systolic prescription 140 mm and diastolic over 90 mm should be regarded as suspicious and the candidate should be hospitalised by the Board before giving their final opinion regarding the candidate's fitness or otherwise. The hospitalisation report should indicate whether the rise in blood pressure is of a transient nature due to excitement etc. or whether it is due to any organic disease. In all such cases X-ray and electro cardiographic examinations of heart and blood urea clearance test should also be done as routine. The final decision as to the fitness or otherwise of a candidate will, however, rest with the Medical Board only.

2. Method of taking Blood Pressure (II)

The mercury manometer type of instrument should be used as a rule. The measurement should not be taken within fifteen minutes of any exercise of excitement. Provided the patient and particularly his arm is relaxed, he may be either lying or sitting. The arm is supported comfortably at the patient's side in a more or less horizontal position. The arm should be free from clothes to the shoulder. The cuff completely deflated, should be applied with the middle of the rubber over the inner side of the arm and its lower edge an inch or two above the bend of the elbow. The following turns of cloth bandage should spread evenly over the bag to avoid bulging during inflation.

The brachial artery is located by palpitation at the bend of the elbow and the stethoscope is then applied lightly and centrally over it below, but not in contact with the cuff. The cuff is inflated to above 200 mm. Hg. and then slowly deflated. The level at which the column stand when soft successive sounds are heard represents the Systolic Pressure. When more air is allowed to escape the sounds will be heard to increase in intensity. The level at which the column well heard clear sounds change to soft muffled fading sounds' represents the diastolic pressure. The measurements should be taken in a fairly brief period of time as prolonged pressure of the cuff is irritating to the patient and will vitiate the readings. Re-checking if necessary, should be done only a few minutes after complete deflaction or the cuff. (Sometimes as the cuff is deflaled sounds are heard at a certain level they may disappear as pressure, falls and reappear at a still lower level. This "Silent Gap" may cause error in reading.)

9. The urine (passed in the presence of the examiner) should be examined and the results recorded. When a Medical Board finds sugar present in a candidate's urine by the usual chemical tests the Board will proceed with the examination with all its other aspects and will also specially note any signs or symptoms suggestive of diabetes. If except for the Glycosuria the Board finds the candidates conforms to the standards of medical fitness required they may pass the candidate fit subject to the Glycosuria 'being non-diabetic' and the Board will refer the case to a specified specialist in Medicine who has hospital and laboratory facilities at his disposal. The Medical specialist will carry out whatever examinations, clinical and laboratory he considers necessary including a standard blood sugar tolerance test and will submit his opinion to the Medical Board upon which the Medical Board will use its final opinion fit or unfit. The candidates will not be required to appear in person before the Board on the second occasion.

To exclude the effects of medication it may be necessary to retain candidate for several days in hospital under strict supervision.

10. A women candidate who has a result of test is found to be pregnant of 12 weeks standing or over should be declared temporary unfit until the confinement is over. She should be re-examined for a fitness certificate six weeks after the date of confinement subject to the production of a medical certificate of fitness from a registered medical practitioner.

11. 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. In case it is defective the candidate should be got examined by the ear specialist provided that if the defect in hearing is remediable by operation or by use of a hearing aid a candidate cannot be declared unfit on the account provided he/she has no progressive disease in the ear. This provision is not applicable in the case of Railway Services, other than Indian Railway Stores Services, the Military Engineer Services, Central Engineering Service Group A, Central Engineering Service (Roads), Central Electrical Engineering Service Group 'A' and Border Roads Engineering Service Group 'A' The following are the guidelines for the medical examining authority in this regard :—

1	2	3
(1)	Marked for total deafness in one ears other being normal.	Fit for non-technical job if the deafness is upto 30 decibles in higher frequency.
(2)	Perceptive deafness in both ears in which some improvement is possible by a hearing aid.	Fit in respect of both technical and non-technical jobs if the deafness is upon 30 decibles in speech frequencies of 1000 to 4000.
(3)	Perforation of tympanic membrance of Central or marginal type.	(i) One ear normal other ear perforation of tympanic embrance present temporarily unfit. Under improved conditions of Ear Surgery a candidate with marginal or other Perforation in both ears should be given a chance by declaring him temporarily unfit and then he may be considered under 4 (ii) below. (ii) Marginal or attic perforation in both ears unfit. (iii) Central perforation both ears—Temporarily unfit.
(4)	Ears with mastoid cavity sub-normal hearing on one side/on both sides.	(i) Either ear normal hearing other ear, Mastoid cavity—Fit for both technical and non-technical jobs. (ii) Mastoid cavity of both sides Unfit for technical jobs—Fit for non-technical jobs if hearing improves to 30 decibles in either ear with or without hearing aid.
(5)	Persistently discharging ear operated/un-operated.	Temporarily Unfit for both technical and non-technical jobs.
(6)	Chronic inflamatory/ allergic conditions of nose with or without bony deformities of nasal septum.	(i) A decision will be taken as per circumstance of individual cases. If deviated nasal septum is present with Symptoms Temporarily Unfit.
(7)	Chronic inflamatory/ condition of tonsils and/or Larynix.	(i) Chronic inflamatory conditions of tonsils and/or Larynix-Fit. (ii) Hoarseness of voice of severe degree if present then temporarily Unfit.
(8)	Benign or locally malignant tumours of the E.N.T.	(i) Benign Tumoursnant Temporarily Unfit. (ii) Malignant Tumours Unfit.
(9)	Otosclerosis.	If the hearing is within 30 decibles after operation or with the help of hearing aid Fit.
(10)	Congenital defects of ear, nose or throat.	(i) If non-interfering with functions Fit. (ii) Stuttering of severe degree-Unfit.
(11)	Nasal Poly	Temporarily Unfit.

(b) that his/her speech is without impediment;

(c) that his/her teeth are in good order and he/she is provided with dentures where necessary for effective metication (well filled teeth) will be considered as sound;

(d) that the chest is well formed and his chest expansion is sufficient and that his heart and lungs are sound;

(e) that there is no evidence of any abdominal diseases;

(f) that he is not raptured;

(g) that he does not suffer from hydrocele, 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 inverterate skin disease;

(j) that there is no congenital malformation or defect;

(k) that he does not bear traces of acute chronic disease pointing to an impaired constitution;

(l) that he bears marks of efficient vaccination; and

(m) that he is free from communicable disease.

12. Radiographic examination of the chest for detecting any abnormality of the heart and lungs, which may not be apparent by ordinary physical examination will be restricted to only such candidates who are declared finally successful at the concerned Engineering Services Examination.

The decision or the Chairman of the Central Standing Medical Board (conducting the medical examination of the concerned candidate) about the fitness of the candidate shall be final.

13. In case of doubt regarding health of a candidate the Chairman of the Medical Board may consult a suitable Hospital Specialist to decide the issue of fitness or unfitness of the candidate for Government Service e.g. if a candidate is suspected to be suffering from any mental defect or aberration; the Chairman of the Board may consult a Hospital Psychiatrist/Psychologist etc.

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.

14. The Candidates who desire to file an appeal against the decision of the Medical Board are required to deposit an appeal fee of Rs. 100 in such a manner as may be prescribed by the Government of India, Ministry of Railways (Railway Board) in this behalf. This fee will be refundable only to those candidates who are declared fit by the Appellate Medical Board whereas in the case of others it will be forfeited. Alongwith, appeal the candidates must, submit a medical certificate by a registered doctor specifically mentioning that he is aware of the candidate having been declared unfit by a Medical Board. The medical fitness certificate submitted by a candidate is only a prerequisite for appealing against the findings of the First Medical Board. Candidates must have a copy of this certificate when, they present themselves before the Medical Board. The appeals should be submitted within 21 days of the days of communication in which the decision of the first Medical Board is conveyed to the candidate; otherwise request for medical examination by an appellate Medical Board will not be entertained. The medical examination by the Appellate Medical Board will be arranged only a candidate's own cost. No travelling allowance or daily allowance will be admissible for the journeys performed in connection with the medical examination of the Appellate Medical Board. Necessary action to arrange medical examination by the Appellate Medical Board will be taken by the Ministry of Railways (Railway Board) on receipt of appeals accompanied by the prescribed fee within the stipulated time.

15. The decision of the Appellate Medical Board will be final and no appeal shall be against the same.

MEDICAL BOARD'S REPORT

The following intimation is made for the guidance of the Medical Examiner :

1. The standard of physical fitness to be adopted should make due allowance of the age and length of service, if any of the candidate concerned.

No person will be deemed qualified for admission to the Public Service who shall not satisfy ..... Government or the appointing authority as the case may be that he has no disease, constitutional affliction, or bodily infirmity, unfitting him or likely to unfit him for that service.

It should be understood that the question of fitness involves the future as well as the present and that one of the main objects of medical examination is to secure continuous effective service and in the case of candidates for permanent appointment to prevent early pension or payment in case of premature death. It is at the same time to be noted that the question is one of the likelihood of continuous effective service, and that rejection of a candidate need not be advised on account of the presence of a defect which in only a small proportion of cases is found to interfere with continuous effective service.

A lady doctor will be co-opted as member of the Medical Board whenever a woman candidate is to be examined.

The report of the Medical Board should be treated as confidential.

In case where a candidate is declared unfit for appointment in the Government service, the ground for rejection may be communicated to the candidate in broad terms without giving minute details regarding the defects pointed out by the Medical Board.

In case where a Medical Board considers that a minor disability disqualifying a candidate for Government service can be cured by treatment (medical or surgical) a statement to that effect should be recorded by the Medical Board. There is no objection to a candidate being informed of the Board's opinion to this effect by appointing authority and when a cure has been effected it will be open to the authority concerned to ask for another Medical Board.

In the case of candidates who are to be declared "Temporarily Unfit" the period specified for re-examination should not ordinarily exceed six months at the maximum. On re-examination after the specified period these candidates should not be declared temporarily unfit for a further period but a final decision in regard to their fitness for appointment or otherwise should be given.

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It may be noted that a candidate when suffering from a curable disease, can be declared temporarily unfit by the first Medical Board only. The Medical re-examination shall be deemed to be part of the 1st Medical Examination and candidates may, if they desire, appeal against its decision. The appellate Medical Board has to come to a final decision and state clearly whether a candidate is fit or unfit, a candidate cannot be declared temporarily unfit on the basis of the appellate medical examination.

(a) Candidate's statement and declaration.

The candidate must make the Statement required below prior to his Medical Examination and must sign the declaration 'appended thereto'. Their attention is specially directed to the warning contained in the Note below :—

1. State your name in full (in block letters)

_____

_____

_____

2. State your age and birth place.....

_____

_____

2. (a) Do you belong to races such a Gorkhas, Garhwalis, Assamese, Nagaland Tribals etc. whose average height is distinctly lower? Answer 'Yes' or 'No' and if the answer is 'Yes' state the name of the tribe race.....

.....

.....

3. (a) Have you ever had small pox, intermittent or any other fever, enlargement or suppuration of glands, spitting of blood asthma, heart disease, lungs disease, fainting attacks rheumatism appendicitis.....

.....

or

(b) Any other disease or accident requiring confinement to bed and medical or surgical treatment?

.....

.....

.....

(c) Whether underwent myopic correction (Radial Keratotomy/Lasik/Excimer etc. etc.) at any time. If yes details thereof.

.....

.....

4. Have you suffered from any form of nervousness due to over work or any other causes.

.....

.....

5. Furnish the following particulars concerning your family :

Father's age if living and state of health	Father's age at death and causes of death	No. of brothers living their ages and state of health	No. of brothers dead their ages and causes of death
(1)	(2)	(3)	(4)

Mother's age if living and state of health	Mother's age at death and causes of death	No. of sisters living their ages and state of health	No. of sisters dead their ages and causes of death
(5)	(6)	(7)	(8)

6. Have you been examined by a Medical Board before?

.....

.....

7. If answer to the above is 'Yes' please state what Service (s)/post (s) you were examined for ?

8. Who was the examining authority?

9. When and where was the Medical Board held?

.....

.....

10. Result of the Medical Board's examination, if communicated to you or if known:

.....

.....

11. All the above-answers are to the best of my knowledge and belief, true and correct and I shall be liable for action under law for any material infirmity in the information furnished by me or suppression of relevant material information. The furnishing of false information or suppression of any factual information would be a disqualification and is likely to render me unfit for employment under the Government. If the fact that false information has been furnished or that there has been suppression of any factual information comes to notice at any time during my service, my services would be liable to be terminated.

Candidate's Signature

Signed in my presence

Signature of the Chairman of the Board

PROFORMA-I

(b) Report of the Medical Board on (name of candidate) physical examination.....

1. General development..... Good.....

.....Fair.....Poor.....Nutrition.....Thin.....

average .....Obese ..... Height..... (without shoes)..... Weight..... Best Weight.....

When?..... Any recent change in weight.....

Temperature.....

Girth of chest:—

(1) (After full inspiration).....

(2) (After full expiration).....

2. Skin any obvious disease.....

3. Eyes :—

(1) Any disease.....

(2) Night Blindness.....

(3) Defect in colour vision.....

(4) Field of vision.....

(5) Visual acuity.....

(6) Fundus Examination.....

		Length of glasses			
Acuity of vision	Naked	With eye glasses	Sph	Cyl.	Axis
Distant Vision	RE				
	LE				
Near Vision	RE				
	LE				
Hypermatropia (Manifest)	RE				
	LE				

4. Ears: Inspection.....

Hearing : ..... Right Ear.....

Left Ear.....

5. Glands.....Thyroid.....

6. Condition of teeth.....

7. Respiratory System : Does physical examination reveal anything abnormal in the respiratory organs?

.....

.....

If yes, explain fully.....

8. Circulatory system :

(a) Heart : Any organic lesions ?

Rate Standing.....

After hopping 25 times.....

Two minutes after hopping.....

(b) Blood Pressure : Systolic.....

Diastolic.....

9. Abdomen : Girth.....

Tenderness..... Hernia .....

(a) Palpable : Liver.....Spleen.....

Kidneys.....Tumours.....

(b) Haemorhoids .....Fistula .....

10. Nervous System : Indications of nervous or mental disabilities .....

11. Loco-Motor System: Any abnormality.....

12. Genito Urinary System : Any evidence of Hydrocele, Varicocele etc. Urine analysis :

(a) Physical Appearance.....

(b) Sp. Gr.....

(c) Albumien.....

(d) Sugar.....

(e) Casts.....

(f) Cells.....

13. Is there anything in the health of the candidate likely to render him unfit for the efficient discharge of his duties in the Service for which he is a candidate?

NOTE : In the case of a female candidate, if it is found that she is pregnant of 12 weeks standing or over, she should be declared temporarily unfit. *vide* Regulation 9.

14. For which services of following five categories has the candidate been examined and found in all respect qualified for the efficient and continuous discharge of his duties and for which of them is he considered unfit :

(i) Railway Engineering Services Gr. A (Civil, Electrical, Mechnical and Signal), CES (Gr. A), CE & MES (Gr. A), CWES Gr. A, CES (Roads) Group 'A' and MES Gr. A.

Assistant Executive Engineer, P&T Building (Group 'A') Services

(ii) CPES Gr. 'A' INAS Gr. A, INSO Gr. 'A', Post of Engineer Gr. 'A' (WP&C/Monitoring Organisation).

(iii) Assistant Executive Engineer (GroupA) in the corps of EME, Ministry of Defence.

(iv) IOFS Gr. A.

(v) IRSS Gr. 'A' and Assistant Executive Engineer Gr. 'A' in G.S.I.

(vi) I.T.S. Gr. 'A'

NOTE : (I) The Board should record their findings under one of the following three categories :

(i) Fit.....

(ii) Unfit on account of.....

(iii) Temporarily unfit on account of.....

(iv) Fit only for specified vacancy reserved for physically impaired.

NOTE: (II): The candidate has not undergone chest X-Ray test. In view of this, the above findings are

not final and are subject to the report on chest X-Ray test.

Place :

Date :

Signature
Chairman
Member
Member
Seal of Medical Board

PROFORMA—II

Candidate's Statement/Declaration

1. State your Name :
   (in block letter)
2. Roll No.

Candidate's Signature
Signed in my presence

Signature of the Chairman of the Board.

To be filled in by the Medical Board.

NOTE : The Board should record their findings under one of the following three categories in respect of chest X-Ray test of the candidate.

Name of the Candidate.....

(i) Fit .....

(ii) Unfit on account of .....

(iii) Temporarily unfit on account of .....

Place :

Date :

Signature
Chairman
Member
Member
Seal of Medical Board

APPENDIX—III

BRIEF PARTICULARS RELATING TO THE SERVICES/POSTS TO WHICH RECRUITMENT IS BEING MADE ON THE RESULTS OF THIS EXAMINATION.

1. INDIAN RAILWAY SERVICE OF ENGINEERS, INDIAN RAILWAY SERVICE OF ELECTRICAL ENGINEERS, INDIAN RAILWAY SERVICE OF SIGNAL ENGINEERS, INDIAN RAILWAY SERVICE OF MECHANICAL ENGINEERS AND INDIAN RAILWAY STORES SERVICE.

(a) **Probation:**—Candidates recruited to these Services will be on probation for a period of three years during which they will undergo training for two years and put in minimum of one year's probation in working post. If the period of training has to be extended in any case, due to the training having not been completed satisfactorily, the total period of probation will be correspondingly extended. Even if the work during the period of probation in the working post is found not to be satisfactory, the total period of probation will be extended as considered necessary by the Government.

(b) **Training :**—All the probationers will be required to undergo training for a period of two years in accordance with the prescribed training syllabus for the particular service/post at such place and in such manner and pass such examinations during this period as the Government may determine from time to time.

(c) **Termination of appointment :** The appointment of probationers can be terminated by three months notice in writing on either side during the period of probation. Such notice is not, however required in case of dismissal or removal as disciplinary measure after compliance with the provisions of clause (2) of Article 311 of the Constitution and compulsory retirement due to mental or physical incapacity. The Government however, reserve the right to terminate the services forthwith :

(i) If in the opinion of the Government the work or conduct of probationer is unsatisfactory or shows that he is unlikely to become efficient. Government may discharge him forthwith.

(ii) Failure to pass the departmental examination may result in termination of services. Failure to pass the examination in Hindi of an approved standard within the period of probation shall be liable to termination of services.

(d) **Confirmation :**—On the satisfactory completion of the period of probation and on passing all the prescribed departmental and Hindi examinations, the probationers will be confirmed in the Junior Scale of the Service if they are considered fit for appointment in all respect.

(e) Scales of pay:—

(i) Junior Scale—PB-3 Rs. 15600-39100+GP Rs. 5400

(ii) Senior Scale—PB-3 Rs. 15600-39100+GP Rs. 6600

(iii) Junior Administrative Grade II PB-3 Rs. 15600-39100+GP Rs. 7600

(iv) Senior Administrative Grade II PB-4 Rs. 37400-67000+GP Rs. 10000

In addition there are super time scale posts carrying pay between Rs. 67000 and Rs. 80000 to which the officers of the above Services are eligible.

A probationer will start on the minimum of Junior Scale and will be permitted to count the period spent in probation towards leave, pension and increments in time scale.

Dearness and other allowances will be admissible in accordance with the orders issued by the Government of India from time to time.

Failure to pass the departmental and other examination during the period of probation may result in stoppage or postponement of increment.

(f) **Refund of the cost of training:**—If for any reasons which in the opinion of the Government are not beyond the control of the probationer a probationer wishes to withdraw from training or probation he shall be liable to refund the whole cost of his training and any other money paid to him during the period of his probation. For this purpose probationers will be required to furnish a Bond a copy of which will be enclosed alongwith their offers of appointment. The probationers permitted to apply for examination for appointment to Indian Administrative Service. Indian Foreign Service etc. will not however, be required to refund the cost of the training.

(g) **Leave:**—Officers of the Service will be eligible for leave in accordance with the Leave Rules in force from time to time.

(h) **Medical Attendance:**— Officers will be eligible for medical attendance and treatment in accordance with the Rules in force from time to time.

(i) **Passenger Privilege Ticket Orders:**— Officers will be eligible for railway passes and Privilege Ticket Orders in accordance with the Rules in force from time to time.

(j) **Provident Fund and Pensions:**—Candidates recruited to the Service will be governed by the Railway Pension Rules and shall subscribe to the State Railway Provident Fund (Non-contributory) under the rules of that Fund as in force from time to time.

(k) Candidates recruited to the Services/Posts are liable to serve in any Railway or Project in or out of India.

(l) **Liability to serve in Defence Service:**—The probationer appointed shall, if so required, be liable to serve in any Defence Service or post connected with the Defence of India for a period of not less than four years including the period spent on training if any :—

Provided that such person :—

(a) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment;

(b) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

2. **CENTRAL ENGINEERING SERVICE GROUP "A" AND CENTRAL ELECTRICAL AND MECHANICAL ENGINEERING SERVICE GROUP "A"**

(a) The selected candidates will be appointed on probation for two years. They would be required to pass the prescribed departmental examination during the period of probation. On satisfactory completion of their probation they could be considered for confirmation or continuance in their appointment. Government may extend the period of probation of two years.

If on the expiration of the period of probation or of any extension thereof, Government are of opinion that the officer is not fit for permanent employment/ retention or if at any time during such period of probation or extension. They are satisfied that the officer will not be fit for permanent appointment/ retention on the expiration of such period or extension they may discharge the officer or pass such order as they think fit.

(b) As things stand at present, all officers appointed in Central Engineering Service Group 'A' are eligible for promotion to the next higher grade viz., Executive Engineer after completion of five years service in the grade of Assistant Executive Engineer subject to availability of vacancies and on condition that they are otherwise found fit for such promotion.

(c) Any person appointed on the results of this competitive examination shall, if, so required be liable to serve in any Defence Service or post connected with the Defence of India for a period of not less than four years including the period spent on training, if any.

Provided that such person :

(i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment;

(ii) shall not ordinarily be required to serve as aforesaid after a training the age of forty years.

(d) The following are the rates of pay admissible:—

(i) I.T.S. (A.E.E.) Rs. 8,000-275-13,500

(ii) S.T.S (E.E.) Ordinary Scale Rs. 10,000-325-15,200 Non-functional selection on Grade Rs. 12,000-375-16,500

(iii) Junior Administrative Grade (S.E.); Rs. 14,300-400-18,300

(iv) Senior Administrative Grade (C.E.) Rs. 18,400-500-22,400

(v) Super Times Scale
Additional D.G.—Rs. 22,400-525-24,500
Additional Director General (Work Special) Rs. 24,050-26,000
Director General (Works) Rs. 26,000 (fixed)

These posts are common to all the three disciplines i.e., Civil, Electrical, Mechanical and Architectural.

NOTE :—The pay of a Government servant who held a permanent post other than a tenure post in a substantive capacity prior to his appointment as probationer will be regulated subject to the provision of F.R. 22-B(1).

(e) Nature of duties and responsibilities attached to the posts in Central Engineering Service (Group A) and Central Electrical & Mechanical Engineering Service (Group A).

(i) **Central Engineering Service Group A.**— Candidates recruited to this Service through Engineering Services Examination are employed in the Central Public Works Department on

Planning, Designing, Construction and Maintenance of various civil works (of Central Government) comprising residential buildings, office buildings, institutional and research centres, industrial buildings, hospitals and development schemes, aerodromes, highway and bridges etc. The candidates start their service in the Department as Assistant Executive Engineers (Civil) and in the course of their service are promoted to various senior ranks in the Department.

(ii) **Central Electrical and Mechanical/Engineering Service Group 'A'.**—Candidates recruited to this Service through Engineering Services Examination are employed in the Central Public Works Department on Planning, Designing, Construction and Maintenance of electrical components of various civil works (of Central Government) comprising of electrical installations, electrical sub-stations and power houses, air-conditioning and refrigeration, runway lighting of aerodromes, operation of mechanical workshops, procurement and unkeep of construction machinery etc. The candidates start their service in the Department as Assistant Executive Engineers (Electrical) and in the course of their service are promoted to various senior ranks in the Department.

3.(A) INDIAN DEFENCE SERVICE OF ENGINEERS (IDSE)

The selected candidates will be appointed on probation for a period of two years. A probationer during his probationary period may be required to pass such departmental and language tests, as Government may prescribe. 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 or if the probationer fails to pass the prescribed tests during the period Government may discharge him. On the conclusion of the period of probation, Government may confirm the officer in his appointment or if his work of conduct has in the opinion of Government been unsatisfactory, Government may either discharge him or extend the period of probation for such further periods as Government may consider fit.

(a) Probationers will be required to undergo departmental Young Officers Basic Works (YOBW) Course during their probationary period of two years. The standard for Hindi Test should be 'PRAGYA' (equivalent to Matriculation standard).

(b) The selected candidates shall if so required be liable to serve as commissioned officers in the Armed Forces for, period of not less than 4 years including the period spent on training if any :

Provided that such a candidate :

(i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment;

(ii) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years;

(iii) The candidates shall also be subject to Civilian in Defence Service (Field Liability) Rules, 1957 Published under No. SRO 92, dated 9th March, 1957. They will be medically examined in accordance with the medical standard laid down therein.

(c) The following are the rates of pay:—

(a) Assistant Executive Engineer—Rs. 8,000-275-13,500.

(b) Executive Engineer— Rs.10,000-325-15,200.

(c) Executive Engineer (NFSG) Rs.12,000-375-16,500.

(d) Superintending Engineer Rs. 14,300-400-18,300.

(e) Additional Chief Engineer Rs. 16,400-450-20,000

(f) Chief Engineer -Rs.18,400-500-22,400.

(g) Additional Director General Rs. 22,400-525-24,500.

(h) Director General (Pers.)— Rs. 22,400-525-24,500.

3(B). MILITARY ENGINEER SERVICES (QS&C), GROUP 'A'

The selected candidates will be appointed on probation for a period of two years. A probationer during his probationary period may be required to pass such departmental and language tests, as Government may prescribe. 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 or if the probationer fails to pass the prescribed tests during the period, Government may discharge him. On the conclusion of the period of probation, Government may confirm the officer in his appointment or if his work of conduct has in the opinion of Government been unsatisfactory, Government may either discharge him or extend the period of probation for such further periods as Government may consider fit.

(a) Probationers will be required to undergo departmental Young Officers Basic Works (YOBW) Course during their probationary period of two years. The standard for Hindi Test should be "PRAGYA" (equivalent to Matriculation standard).

(b) The selected candidates shall if so required be liable to serve as commissioned officers in the Armed Forces for period of not less than 4 years including the period spent on training if any :

Provided that such a candidate :

(i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment;

(ii) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years;

(iii) The candidates shall also be subject to Civilian in Defence Service (Field Liability) Rules, 1957 Published under No. SRO 92, dated 9th March,

1957. They will be medically examined in accordance with the medical standard laid down therein.

(c) The following are the rates of pay:—

(a) Assistant Executive Engineer (QS&C)—Rs. 8,000-275-13,500.

(b) Executive Engineer (QS&C)—Rs. 10,000-325-15,200.

(c) Executive Engineer (QS&C) (NFSG)—Rs. 12,000-375-16,500.

(d) Superintending Engineer (QS&C)—Rs. 14,300-400-18,300.

(e) Chief Engineer (QS&C)—Rs. 18,400-500-22,400.

4. INDIAN ORDNANCE FACTORY SERVICE GROUP A

(a) Selected candidates will be appointed on probation for a period of 2 years. The period of probation may be reduced or extended by the Government on the recommendation of Director General, Ordnance Factories and Chairman, O.F. Board. Probationer will undergo such practical training, as shall be provided by the Government and are required to pass such departmental and language tests as Government may prescribe. The language test will be a test in Hindi. On the conclusion of the period of his probation Government will confirm the officer in his appointment. If, however, during or at the end of the period of probation 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 period as Government may think fit).

(b) (i) Selected candidates shall if, so required be liable to serve as Commissioned Officers in the Armed Forces for a period of not less than four years including the period spent on training if any provided that such persons (i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment and (ii) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(ii) The candidate shall be subject to Civilian in Defence Service (Field Liability) Rules, 1957, published under No. S.R.O. 92 dated 9th March, 1957. They will be medically examined in accordance with the medical standard laid down therein.

(c) Para 9 (c)The following are Rates of Pay admissible :—

Jr. Time Scale - -Rs. 15600-39100, GP 5400

Sr. Time Scale– Rs. 15600-39100, GP 6600

Senior Time Scale (NF) - Rs. 15600-39100, GP 7600

Jr. Admin. Grade (F) -Rs. 37400-67000, GP 8700

Sr. Admin. Grade --Rs. 37400-67000, GP 10000

Sr. GM/Sr. DDG/HAG -Rs. 67000-79000

Addl. DGOF/Member (OFB)--Rs. 75500-80000

DGOF/Chairman OFB -Rs. 80000 (Fixed).

NOTE—The pay of Government servant who held a permanent post, other than a tenure post in substantive capacity prior to his appointment as a probationer will be regulated subject to the provisions of Ministry of Defence O.M. No. 15 (6)/64/D (Appts.) 105 D (Civil) dated the 25th November, 1965 as amended from time to time.

(d) The probationer will draw pay in the prescribed scale of pay Rs. 15600-39100, GP 5400. During the period of probation, they will be required to undergo training in various baranches of the department and National Academy of Defence Production, Ambajhari, Nagpur, in a foundational course of training.

(e) "A probationer shall be liable to refund the entire cost of his training and any other payments made to him during the period of training/probation, if he/she wishes to resign from the service within a period of five years from the date of expiry of training/probation or if he/she withdraws from training/probation. A bond of Rs. 1,00,000/- (Rupees One Lakh) to that effect shall be executed by the probationer at the time of appointments."

(f) Indian Ordanance Factories Service -Group 'A' consists of the posts or grades or time scales mentioned in 4(c) and comprises of the following categories of officers, namely :

(i) Engineers (Civil/Mechnical/Electrical/Electronics & Telecommunications)

(ii) Chemical Engineering

(iii) Metallurgical Engineering

(iv) Leather Technologists

(v) Clothing Technicians

(vi) Administrative Officers

Note 1 : The Administrative Officers are ordinarily recruited through Civil Service Exmination (CSE). Engineers at Sl. No. (i) are ordinarily recruited through Engineering Services Examination (ESE). Sl. No. (ii) to (v) are recruited through specialist Examination and/or interview conducted by UPSC.

5. CENTRAL WATER ENGINEERING (GROUP A) SERVICE

(i) Persons recruited to the post of Assistant Director/ Assistant Executive Engineer in the Central Water Engineering (Group 'A') Service shall be on probation for a period of two years :

Provided that the Government may, where necessary extend the said period of two years for a further period not exceeding one year.

If on the expiry of the period of probation referred to above or any extension thereof as the case may be, the Government are of the opinion that a candidate is not fit for permanent appointment or if any time during such period of probation or extension they are satisfied that he will not be fit for permanent appointment, they may discharge or revert him to his substantive post or pass such order as they think fit. During the period

of probation the candidates may be required by the Government to undergo such courses or training and instruction and to pass such examination and tests as it may think fit as a condition to satisfactory completion of probation.

(ii) Officer appointed to the service shall be liable to serve anywhere in India or outside.

(iii) Any person appointed on the result of this competitive examination shall, if so required, be liable to serve in any Defence Service or post connected with the Defence of India, for a period of not less than four years including the period spent on training, if any :

Provided that such person:—

(a) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment;

(b) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(iv) The officers appointed to the post of Assistant Director/Assistant Executive Engineer can look forward for promotion to various higher grades in the Service.

(v) The following are the admissible Pay band and grade Pay :

1.	Assistant Director/ Assistant Executive Engineer, CWC/Assistant Commissioner, MoWR	PB-3 Rs. 15,600-39,100+ Grade Pay Rs. 5,400
2.	Deputy Director/Executive Engineer, CWC/ Deputy Commissioner, MoWR Deputy Director/ Executive Engineer, GFCC Assistant Secretary SSCAC Deputy Director/Executive Engineer, CEA	PB-3 Rs. 15,600-39,100+ Grade Pay Rs. 6,600
3.	Director/Superintending Engineer, CWC Sr. Jt. Commissioner, MoWR, Director, GFCC Director/ Director/Superintending Engineer, SSCAC Director/ Superintending Engineer, CEA	Senior Joint Commissioner, MoWR Deputy Secretary, SSCAC PB-4 Rs. 37,400-67,000+ Grade Pay Rs.8,700
4.	Chief Engineer, CWC Commissioner, MoWR Member GFCC Secretary, SSCAC General Manager, FBP Chief Engineer, CEA	PB-4 Rs. 37,400-67,000+ Grade Pay Rs. 10,000
5.	Member, Central Water Commission Chairman, GFCC	PB-4 Rs. 37,400-67,000+ Grade Pay Rs. 12,000
6.	Chairman, CWC	Rs. 80,000 (fixed).

(vi) Nature of duties and responsibilities attached to the posts of Central Water Engineering (Group A) Service :—

(a)At Headquarters

Central Water Commission (CWC) is primarily responsible for almost all aspects of Water Resources Development. Officers in the headquarters are directly associated with planning, design, appraisal and monitoring of different water resources projects in the country. CWC through its various specialised Directorates fulfil its obligation towards these aspects. The officers at various levels in Design units are associated with detailed studies in respect of design of various components of the water resources projects under different stages of implementation. There are specialised Directorates on Hydro-civil Design, Concrete and Masonry Dam Design, Earth and Rockfill Dam Design, Barrage and Canal Design and Design of Gates on Hydraulic Structures. The activities relating to water resources assessment, design flood estimation and sediment analysis are carried out through Hydrological Studies Organisations of CWC. CWC has specialised units for Project Appraisal, Project Monitoring and Environmental Management. The Central Mechanical Organisation of CWC is associated with Construction Equipment Planning and Contract Management of almost all the major Water Resources development projects. The activities of CWC at its headquarters also include development of flood forecasting models through its P&D Organisation and the planning and design of various flood management practices through its Flood Management Organisation.

(b) At field formation of CWC

The field organisations of CWC are directly involved with hydrological observation, project investigation, appraisal of medium irrigation projects, monitoring of identified projects and flood forecasting on almost all the major rivers in the country. These activities are carried out through a network of regional offices headed by the Chief Engineer and Circles/Directorates headed by Superintending Engineer/ Director and Executive Engineers. There are Sub-Divisions/Control Room headed by Assistant Executive Engineers which are directly involved with investigation of water resources development projects, hydrological observation and flood forecasting.

6. CENTRAL POWER ENGINEERING (GROUP A) SERVICE

(i) Description of the Organisation

The Central Electricity Authority (CEA) is a statutory

organization constituted under Section 3 of the repealed Electricity (Supply) Act, 1948 and continued under Section 70 of the Electricity Act, 2003. It was established as a part-time body in the year 1951 and made a full-time body in the year 1975. As per Section 70 (3) of the Electricity Act, 2003, the Authority shall consist of not more than 14 members, including its Chairperson, of whom not more than eight shall be full-time Members to be appointed by the Central Government. CEA is headed by a Chairperson who, as the Chief Executive of the Authority, oversees largely the development of power sector in the country. There are six Wings in CEA namely Planning, Hydro, Thermal, Grid Operation and Distribution, Economic & Commercial and Power System, each headed by a Member of the Authority. Under each Member there are technical divisions, each headed by an officer of the rank of Chief Engineer. At present, there are twenty-nine Divisions in CEA headquarter at New Delhi. In addition, CEA has 14 subordinate offices, viz. five Regional Inspectorate Organizations, four Regional Power Survey Organizations and five Regional Power Committees located in various parts of the country. The CEA is responsible for overall power sector planning, coordination, according concurrence to hydroelectric schemes, promote and assist in timely completion of projects, specifying of technical standards, safety requirements, Grid Standards as well as conditions for installation of meters applicable to the electricity sector of the whole country. CEA advises the Central Government on the National Electricity Policy and formulates short-term and perspective plans for development of the electricity system. It also advises the Central and State Governments as well as the Electricity Regulatory Commissions on all technical matters relating to generation, transmission and distribution of electricity. It also has the mandate to collect, record and make public, data related to all segments of the electricity sector, carry out investigations and promote research. The functions and duties of the Authority are delineated under Section 73 of the Electricity Act, 2003. Besides, CEA has to discharge various other functions as well under sections 3, 8, 34, 53, 55 and 177 of the Electricity Act, 2003.

(ii) Description of the grade to which the recruitment is made through the Engineering Services Examination held by Union Public Service Commission.

Fifty per cent of vacancies in the grade of Assistant Director(Engineering) (Grade-I)/Assistant Executive Engineer in the scale of Pay Band-3+ Grade Pay i.e. Rs.15,600-39,100 + 5400 are filled by direct recruitment on the results of the Engineering Services Examination held by the Union Public Service Commission annually.

Persons appointed to the posts of Assistant Director(Engineering) (Grade-I)/Assistant Executive Engineer of the Central Power Engineering (Group A) shall be on probation for a period of two years provided that the Government may, where necessary, extend the said period of two years for a further period not exceeding one year.

If on the expiration of the period of probation referred, to above or any extension thereof, as the case may be, the Government are of the opinion that a candidate is not fit for permanent appointment or if at any time during such period of probation or extension, they are satisfied that he will not be fit for permanent appointment on the expiration of such period of probation or extension, they may discharge or revert him to his substantive post or pass such order as they think fit.

During the period of probation, the candidate may be required by the Government to undergo such courses of training and instruction and to pass such examination and tests as it may think fit as a condition to satisfactory completion of probation.

Any person appointed, on the result of this competitive examination shall if so required, be liable to serve in any Defence Service or post connected with Defence of India for a period of not less than four years including the period spent on training, if any, provided that such person:—

(a) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment;

(b) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(iii) Promotion to higher grades

The officers appointed to the post of Assistant Director(Engineering) (Grade-I)/Assistant Executive Engineer are eligible for promotion to higher grade viz. Deputy Director (Engineering)/ Executive Engineer/Deputy Director(Engineering)(Non-Functional Grade)/Director/ Superintending Engineer and Chief Engineer subject to availability of vacancies in the grade concerned, after fulfilling the conditions laid down in the Central Power Engineering (Group A) Service Rules, 2005 as amended from time to time.

(iv) Scale of pay

The scale of pay for posts of Central Power Engineering (Group A) Services in the Central Electricity Authority are as follows:—

Electrical, Mechanical and Electronics and Telecommunication Engineering post in the Central Electricity Authority :—

S. No.	Name of the Post	Revised Pay Band + Grade Pay
(1)	(2)	(3)
1.	Assistant Director(Engineering) (Grade-I)/ Assistant Executive Engineer	PB-3 Rs. 15,600-39,100 + 5400
2.	Deputy Director(Engineering)/ Executive Engineer	PB-3 Rs. 15,600-39,100 + 6600
3.	Deputy Director(Engineering Executive Engineer (Non-Functional)	PB-3 Rs. 15,600-39,100 + 7600
4.	Director/ Superintending Engineer	PB-4 Rs. 37,400-67,000+8700
5.	Chief Engineer/ Member Secretary	PB-4 Rs. 37,400-67,000+10000

(v) Duties and Responsibilities

Nature of duties and responsibilities attached to the posts of Assistant Director(Engineering) (Grade-I)/ Assistant Executive Engineer are:—

Analysis of colleted data and compile them accordingly. Co-relation of technical data required for dealing with various types of problems in the fields of power development. He is also required to deal with cases and handle matters in relation thereto including erection, operation, maintenance of Hydro and Thermal Power Projects as well as Transmission and Distribution Power Systems, studying projects reports providing assistance in preparation of power plants, designs or projects etc. While working in field Units; he is responsible for the Sub-Division or other work allotted to him.

7. **CENTRAL ENGINEERING SERVICE (ROADS), GROUP 'A'**

(a) The selected candidates will be appointed as Assistant Executive Engineer on probation for two years. On the completion of the period of probation, if they are considered fit for permanent appointments, they will be confirmed as Assistant Executive Engineer if permanent vacancies are available. The Government may extend the period of probation of two years.

If on the expiration of the period of probation or of any extension thereof, Government are of the opinion that an Assistant Executive Engineer is not fit for permanent employment or if at any time during such period of probation or extension they are satisfied that an Assistant Executive Engineer will not be fit for permanent appointment on the expiration of such periods of extension, they may discharge the Assistant Executive Engineer or pass such orders as they think fit.

(b) Any person appointed on the results of this competitive examination shall if so required, be liable to serve in any Defence Service or post connected with the Defence of India for a period of not less than four years including the period spent on training, if any.

Provided that such person—

(i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment.

(ii) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(c) The following are the scales of pay admissible :

Assistant Executive Engineer	Rs. 8,000-275-13,500
Executive Engineer	Rs. 10,000-325-15,200
Executive Engineer (Non-Functional Action Grade)	Rs. 12,000-375-16,500
Superintending Engineer	Rs. 14,300-400-18,300
Chief Engineer	Rs. 18,400-500-22,400
Additional Director General	Rs. 22,400-525-24,500
Director General (Roads Development) and Special Secretary	Rs. 26,000 (fixed)

Note :—The pay of Government servant who held a permanent post other than a tenure post in substantive capacity prior to his appointment as a probation in the Central Engineering Services, Group 'A' Group 'B' will regulated subject to the provision of F.R.-22 B(1).

(d) Nature of duties and responsibilities attached to the post in Central Engineering Service (Roads) Group 'A'.

(i) Civil Engineering Posts :—

To assist the Senior Technical Officers at Hqrs. and in the Regional Offices etc. of the Roads Wing, Ministry of Surface Transport in planning, preparing designs and estimates of roads/bridges work and scrutiny of proposals for such work received from the States.

(ii) Mechanical Engineering Posts :—

To assist the Senior Technical Officers Hqrs. and in the Regional Offices etc. of the Roads Wing, Ministry of Surface Transport in planning, procurement, operation and maintenance of roads/bridges construction equipments, to prepare estimates for repairs and maintenance of such equipments and scrutiny of proposals and estimates received from the States.

8. INDIAN NAVAL ARMAMENT SERVICE

(a) Candidate selected for appointment to the service will be appointed as probationers for a period of two years which period may be extended at the discretion of competent authority. Failure to complete the probation to the satisfaction of the competent authority will render them liable to discharge from service.

(b) The appointment can be terminated at any time by giving the required period of notice (one month in the case of temporary appointment and three months in the case of permanent appointment by competent authority). The Government, however, reserves the right of terminating services of the appointees forthwith or before the expiry of the stipulated period of notice by making payment of a sum equivalent to pay and allowances for the period of notice or the unexpired portion thereof.

(c) They will be subject to term and conditions of the Service as applicable to Civilian Government Servants paid from the Defence Services Estimates in accordance with the orders issued by the Government of India from time to time they will be subjected to Field Service Liability Rules, 1957 as amended from time to time.

(d) They will liable for transfer anywhere in India, or abroad.

(e) Scale of pay and classification-Group A Gazetted :

(i) Junior Time Scale Grade (Assistant Manager/ Assistant Director of Naval Armaments) : Rs. 8000-275-13500.

(ii) Senior Time Scale Grade (Manager/Deputy Director of Naval Armaments) : Rs. 10000-325-15200.

(iii) Junior Administrative Grade (Non-Functional) (Deputy General Manager/Joint Director of Naval Armaments) : Rs. 12000-375-16500.

(iv) Junior Administrative Grade (Functional) (General Manager/Additional General Manager/ Principal Director/Director of Naval Armaments) Rs. 14300-400-18300.

(v) Senior Administrative Grade (Chief General Manager/Addl. Director General of Naval Armament Supply). Rs. 18400-500-22400.

(vi) Higher Administrative Grade (Director General of Armament) : Rs. 22400-525-24500.

(i) **Senior Time Scale Grade (Manager/Deputy Director of Naval Armaments) :** Officers of INAS Cadre in the Junior Time Scale Grade (Assistant Manager/Assistant Director) with four years regular service in the grade are eligible for promotion to the Senior Time Scale Grade on the basis of selection on the recommendations of DPC provided that only, those officers will be considered for promotion who have passed the Departmental Examination after the Naval Technical Staff Course at the institute of Armament Technology, Pune or Technical Training Course.

(ii) **Junior Administrative Grade (Non-Functional) Deputy General Manager/Joint Director of Naval Armaments :** Officers of INAS Cadre in the Senior Time Scale Grade who have completed five years of regular service in the Senior Time Scale Grade are eligible for appointment to the Junior Administrative Grade (Non-Functional).

(iii) **Junior Administrative Grade (Functional) General Manager/Additional General Manager/ Principal Director/ Director of Naval Armaments :** Officers of INAS Cadre in the Senior Time Scale Grade on completion of nine years of regular service in the Grade including service, if any, rendered in Junior Administrative Grade (Non-Functional) are eligible for promotion to the Junior Administrative Grade (Functional) in the pay scale of Rs. 14300-18300, failing which, Officers of INAS Cadre in the Senior Time Scale Grade on completion of five years of regular service in the Grade are eligible for promotion to the Junior Administrative Grade (Functional) subject to the condition that officers, so promoted, shall continue to remain only in the scale of Rs. 12000-16500 till they become eligible for the scale of Rs. 14300-18300 as above.

(iv) **Senior Administrative Grade (Chief General Manager/Addl. Director General of Naval Armament) :** Officers of INAS Cadre in the Junior Administrative Functional Grade with three years regular service in the Grade are eligible for promotion to the posts of Chief General Manager/Addl. Director General of Naval Armament on the basis of selection to be made by the appropriate DPC.

(v) **Higher Administrative Grade (Director General of Naval Armament) :** Officers of INAS Cadre in the Senior Administrative Grade are eligible for promotion to the post of Director General of Naval Armament on the basis of selection to be made by the appropriate DPC.

(f) The requirements for promotion to next higher grade as laid down above, are those of minimum eligibility and that promotion in the grade concerned will take place subject to availability of vacancies only.

NOTE: The pay of the Government servant who held a permanent post other than tenure post in a substantive capacity immediately prior to his appointment as a probationer may be regulated subject to the provision of F. R. 22B(1) and the Corresponding article in CSR applicable to probationer in the Indian Navy.

(g) Nature of duties and responsibilities attached to the post of Junior Time Scale Grade in the Indian Navy, Ministry of Defence.

(i) Production, planning and direction of work relating to repair, modification and maintenance of armaments, incorporating various mechanical, electronics and electrical devices and system production and productivity.

(ii) Provision of machinery, electronic and electrical equipment for repair, maintenance and overhaul.

(iii) Development work to establish impc.. substitutes, preparation of indigenous design specifications.

(iv) Providing of mechanical, electronics and electrical spares for armaments.

(v) Periodical calibration testing/examination of sub-assemblies and assemblies of mechanical, electronics and electrical items of armaments (missiles, torpedoes, mines and guns) measuring instruments etc.

(vi) Providing logistic support in respect of armament stores to Fleet and Naval Establishments.

(vii) Rendering of technical advise to the service in all matters relating to mechanical, 'electronic and electrical' engineering in respect of armaments.

9. POSTS OF ASSISTANT EXECUTIVE ENGINEER/ASSISTANT ENGINEER IN THE CORPS OF EME, MINISTRY OF DEFENCE

(i) Candidates recruited to these posts through ESE are employed in lieu of Army Officers of the rank of Captain/Lieutenant. They will be appointed on probation for a period of two years. On satisfactory completion of the probation, they would be considered for continuance in their appointment. Government may either extend the period of probation of two years or discharge them from service, if their work or conduct, in the opinion of the Govt. has been unsatisfactory.

(ii) Officers appointed shall be liable to serve any where in India and abroad.

(iii) Officers appointed shall be liable to undergo courses of instruction in India or abroad as the Govt. may decide from time to time.

(iv) Officers appointed shall, if so required, be liable to serve as commissioned officers in the Armed Forces for a period of not less than four years including the period spent on training, if any provided that such persons :

(aa) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment.

(ab) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(v) The candidates will be subjected to civilians in Defence Services (Field Liability) Rules, 1957 published under No. S.R.O. 92, dated 9th March, 1957. They will be medically examined in accordance with the medical standards laid down therein.

(vi) The candidates start their service in the department as Assistant Executive Engineer or Assistant Engineer as the case may be and in the course of their service are promoted to various senior grades in the Department subject to availability of vacancies and fulfilling the prescribed conditions. On line promotions and the scales of pay are as under :-

(a) Assistant Executive Engineer (Rs. 8000-275-13500)

(b) Executive Engineer (Rs. 10000-325-15200)

(c) Superintending Engineer (Rs. 12000-375-16500)

(d) Additional Chief Engineer (Rs. 14300-400-18300)

(e) Chief Engineer (Rs. 16400-450-20000)

(vii) **Duties and Responsibilities** : Nature of responsibilities attached to the posts of Assistant Executive/Assistant Engineer are as under :—

(aa) Candidates recruited in the Corps of Electrical and Mechanical Engineers through ESE are employed in production, planning and control and administration in various Army Base/ Station workshops.

(ab) They are responsible for achieving the given production targets such as manufacturing of spares, overhaul/repair of Army equipment, technical efficiency of sections under their control, preventive maintenance of plants and machineries, inventory management etc.

(ac) Suitably qualified officers are posted as instructional staff in EME training establishments located at Secunderabad, Baroda and Bhopal to train all ranks attending various courses on repair and maintenance of Army equipments.

10. POST OF ASSISTANT NAVAL STORE OFFICER, GRADE-I IN THE INDIAN NAVY

(i) Candidates selected for appointment to these posts through ESE will be placed on probation for a period of two years. On satisfactory completion of the probation, they would be considered for continuance in their appointment. Government may either extend the period of probation of two years or discharge them from service if their work or conduct, in the opinion of Government has been unsatisfactory.

(ii) They will be subject to terms and conditions as applicable to Civilian Government Servants paid by the Defence Services Estimates in accordance with the orders issued by the Government of India from time to time.

(iii) Officers appointed shall be liable to serve any where in India and abroad.

(iv) Officers appointed shall be liable to undergo courses of instruction in India or abroad as the Government may decide from time to time.

(v) The candidates will be subjected to civilians in Defence Services (Field Liability) Rules, 1957 published under No. S.R.O. 92 dated 9 March, 1957. They will be medically examined in accordance with the medical standards laid down therein.

(vi) The candidates start their service in the department as Assistant Naval Store Officer, Grade - I and in the course of their service are promoted to various grades in the Department subjected to availability of vacancies and fulfilment of the prescribed conditions. The channel of promotions and the scales of pay are as under :

(aa) Assistant Naval Store Officer Grade-I Group "A" post (Rs. 8000-275-13500)

(bb) Naval-Store Officer (Rs. 10000-325-15200)

(cc) Senior Naval Store Officer (Rs. 12000-375-16500)

(dd) Director (Rs. 14300-400-18300)

(ee) Senior Director (Rs. 18400-500-22400).

(vii) Nature of duties and responsibilities attached to the post of Assistant Naval Store Officer, Grade-I in the Indian Navy, Ministry of Defence : —

(a) Provisioning of all types of Stores.

(b) Inviting tender inquiry, preparation of comparative statements and placement of orders and monitoring their progress through Integrated Logistics Management System. (ILMS).

(c) Ensure all Material Planning action through ILMS.

(d) Ensure proper Warehousing and inventory control of all the items stocked in the Depot through ILMS preservation Shipping and Transport, local purchase of items.

(e) Arranging fueling/de-fueling storing and de-storing of ships.

(f) Issue receipt and accounting, preservation packing and stock taking of Store Houses under his control.

(g) Stock/inventory control and depot management.

(h) Disposal of surplus, scrap and silage oil.

11. ENGINEERS (GROUP 'A' IN THE WIRELESS PLANNING AND COORDINATION WING/MONITORING ORGANISATION, MINISTRY OF COMMUNICATION AND INFORMATION TECHNOLOGY DEPARTMENT OF TELECOMMUNICATIONS).

(a) Scale of pay Rs. 15600-39100 (PB-3) + GP 5400.

(b) The incumbent of the post of Engineer is eligible for promotion against 100% of the vacancies in the grade of Assistant Wireless Adviser, Wireless Planning and Coordination Wing/Engineer-in

Charge, Monitoring Organization (Scale of Pay Rs. 15600-39100 (PB-3) + GP 6600 plus Rs. 400 per month as special pay for the post of Assistance Wireless Adviser) after putting in five years service in the grade Promotion to the grade of Assistant Wireless Adviser/Engineer-in-Charge will be on the basis of their selection on the recommendations of the Departmental Promotion Committee as constituted for Group 'A' posts.

All Assistant Wireless Advisers and Engineers-in-Charge with 5 years' service in the Grade of Assistant Wireless Adviser/Engineer-in-Charge are eligible for being considered for promotion as Deputy Wireless Adviser/Deputy Director (Scale Rs. 15600-39100 (PB-3) + GP 7600). The vacancies in the grade of Deputy Wireless Adviser/Deputy Director are filled 100% by promotion on the basis of selection on the recommendations of the DPC as constituted for Gourp 'A' posts.

The vacancies in the next higher grades of Joint Wireless Adviser/Director (WM) in the pay scale of Rs. 37000-68000 (PB-4) + GP Rs. 10000 and Wireless Adviser to the Government of India in the pay scale of Rs. 67000-79000 (PB-4) + GP Rs. 12000 are filled 100% by promotion on the basis of selection on the recommendations of DPC as constituted for Group 'A' posts.

The requirements for promotion to the next higher grade, as laid down above, are those of minimum eligibility and that promotion in the grade concerned will take place subject to availability of vacancies only.

(c) The person appointed to the post of Engineer is liable to be posted anywhere in India.

(d) Any person appointed to the post of Engineer shall if so required be liable to service in any Defence Service or post connected with the Defence of India for a period of not less than 4 years including the period spent on training if any :

Provided that such a person :—

(i) Shall not be required to serve as aforesaid after the expiry obtain years from the date of appointment;

(ii) Shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(e) Nature of Duties and Responsibilities Attached to the Post.

(i) Supervision, guidance and training of staff in the different units of the WPC Wing Wireless Monitoring Organisation.

(ii) Installation, calibration testing and maintenance of various categories of electronic equipment, antenne and ancillaries employed in radio frequency monitoring covering the entire radio frequency spectrum and various types of Communications.

(iii) Licensing and inspection of wireless installations of the various user departments/Organisations for different types of the radio communication service.

(iv) All aspects relating to National and International Coordination for the use of radio frequency spectrum and geostationary satellite orbit including preparation of allocation plants, establishment of relevant technical standards, type approval of equipment, studies of electromagnetic interference and compatibility etc.

(v) Administration of Internal Radio Regulations including formulation and implementation of corresponding national rules and regulations.

(vi) Conducting of examination for Certificate of Proficiency/Radio Armatures etc. and issuing of respective Licenses.

(vii) Research and development work relevant to radio frequency management and monitoring.

(viii) National level preparation for the conference and meeting of International Telecommunication Union and appropriate, or other International/Regional Organisations dealing with telecommunications.

12. POSTS IN THE GEOLOGICAL SURVEY OF INDIA

Persons recruited to the posts of Assistant Executive Engineer (Group 'A' post) in the Geological Survey of India in a temporary capacity will be on probation for a period of two years. Retention in service for a further period over two years will depend on assessment of their work during the period of probation. This period may be extended at the discretion of the Government. They will receive pay in time scale of Rs. 15600-39100 (PB-3) + GP Rs. 5400. On completion of their period of probation satisfactorily, if they are considered fit for permanent appointment they will be considered for confirmation according to rules.

The persons appointed to the posts of Assistant Exceutive Engineer in the Geological Survey of India, shall if so required, be liable to serve in any Defence Service or post connected with the Defence of India for a period of not less than four years including the period of training, if any :

Provided that such a person :

(i) Shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment as Drilling Engineer (Junior) Geological Survey of India, and

(ii) Shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

The following is the field of promotion open to those found fit according to the rules and instructions on the subject :

A. For Drilling Engineer (Junior) re-designated as Assistant Executive, Engineer, Group 'A' Rs. 15600-39100 (PB-3) with grade pay of Rs. 5400.

(i) Drilling Engineer (Senior) re-designated as Executive Engineer Rs. 15600-39100 (PB-3) with grade pay of Rs. 6600.

(ii) Director (Drilling) re-designated as Executive Engineer (NFSG), Rs. 15600-39100 (PB-3) with grade pay of Rs. 7600.

(iii) Director (Drilling) NFSG re-designated as Superintending Engineer Rs. 37,400-67000 (PB-4) with grade pay of Rs. 8700.

(iv) Deputy Director General (Drilling) re-designated as Chief Engineer, Rs. 37,400-67000 (PB-4) with grade pay of Rs. 10,000.

(v) Sr. Deputy Director General (Scientific & Tech. Support Services), HAG, 67,000 (annual increment @3%)—79000.

The officers recruited in Geological Survey of India will be required to serve anywhere in India or outside the country.

Note : The pay of a Government servant who held a permanent post other than a tenure post in a substantive capacity prior to his appointment as probationer will be regulated subject to the provisions of F.R. 22 B(1).

Nature of duties and responsibilities attached to the posts of Drilling Engineer in Geological Survey of India.

Drilling Engineer (Junior) : Carrying out drilling operation in connection with mineral exploration with one or more drilling rigs, ensuring optimum percentage of core-recovery up-keeping of machinery and vehicles deployed in good order, security of Government stores and accounts and looking after the welfare of staff employed under him.

13. INDIAN SUPPLY SERVICE/INDIAN INSPECTION SERVICE :

(a) Selected candidates will be appointed on probation for a period of two years. On completion of the period of probation the officers, if considered fit for permanent appointment, will be confirmed in their appointments subject to the availability of permanent posts. The Government may extend the period of two years of probation.

If on the expiry of the period of probation or any extension thereof, the Government are of the opinion that an officer is not fit for permanent employment, or if at any time during such period of probation or extension thereof, they are satisfied that any officer will not be fit for permanent appointment on the expiry of such period or extension thereof they may be discharge the officer or pass such order as they think fit.

The Officer will also be required to pass a prescribed test in Hindi before confirmation.

(b) Any person appointed on the results of this competitive examination shall, if so required be liable to serve in any Defence Service or post connected with the Defence of India, for a period of not less than four years including the period spent on training, if any :

Provided that such persons :—

(i) Shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment.

(ii) Shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(c) The following are the rates of Pay admissible :—

(i) Junior Time Scale (Assistant Director Grade I) Scale : Rs. 8000-275-13500.

(ii) Senior Time Scale (Ordinary Grade) (Deputy Director) Scale : Rs. 10000-325-15200.

(iii) Senior Time Scale Non-functional Second Grade (Deputy Director) Scale : Rs. 12000-375-16500.

(iv) Junior Administrative Grade (Director) Scale : Rs. 14300-400-18300.

(v) Senior Administrative Grade (Deputy Director General) Scale : Rs. 18400-500-22400.

(vi) Higher Administrative Grade (Additional Director General) Scale : Rs. 22400-525-24500.

Note : The pay of a Government Servant who held a permanent post other than a tenure post in substantive capacity prior this appointment as a probationer will be regulated subject to the provisions of FR 22 B(I).

(d) Nature of duties and responsibilities attached to the post Indian Supply Service Group A/Indian Inspection Service Group A :—

INDIAN SUPPLY SERVICE GROUP A :

The main item of work of the officers of Indian Supply Service is the procurement and contract management on behalf of Government of India/State Government/Public Sector Undertakings and other Government entities. The officers of the Indian Supply Service are expected to possess requisite technical backgrounds to deal with the procurement of general, technical and specialized goods and services including e-procurement.

INDIAN INSPECTION SERVICE GROUP A :

Inspection/testing of stores for Central Government Ministries/Departments including their attached offices and subordinate offices in Union Territories and for those State Governments, Public Sector Undertakings, Autonomous Bodies who desire to avail of its services :

Provides technical support in conclusion of contracts. Need based procurement specifications are drafted in standardized manner to facilitate equitable comparison and smooth placement and operation of contracts.

Other key functions include registration of vendor and quality audit of supplies received at consignees' end.

ANNEXURE-I

14. INDIAN TELECOMMUNICATION SERVICE GROUP 'A'

(a) Appointment will be made on probation for a period of 2 years. 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. 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 the Government, been unsatisfactory, Government may either discharge him from the service or may extend his period of probation for such further period as the Government may think fit.

Officer will be required to pass any departmental examination or examinations that may be prescribed during the period of probation. They will also be required to pass tests in Hindi before confirmation.

(b) Officers will also be required to pass professional and language test.

(c) Any person appointed on the results of the Competitive examination shall if so required, be liable to serve in any Defence Service or post connected with the defence of India for a period of not less than four years including the period spent on training, if any:

Provided that such person :—

(i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment.

(ii) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(d) The following are Pay Band and Grade pay admissible :—

(i) Junior Time Scale : PB Rs. 15600-39100 Grade Pay Rs. 5400.

(ii) Senior Time Scale : PB Rs. 15600-39100 Grade Pay Rs. 6600.

(iii) Junior Administrative Grade : PB Rs. 15600-39100 Grade Pay Rs. 7600.

(iv) Selection Grade JAG : PB Rs. 37400-67000 Grade Pay Rs. 8700.

(v) Senior Administrative Grade : PB Rs. 37400-67000 Grade Pay Rs. 10000.

(vi) C.G.M. Grade : PB Rs. 67000 -79000.

(vii) Advisers Grade : PB Rs. 75500- 80000.

(viii) The officer shall also be eligible for consideration for the post of Members of the Telecom Commission which is equivalent to Secretary of Govt. of India.

Note : The pay of a Government Servant who held a permanent post other than a tenure post in a substantive capacity prior to his appointment as a probationer will be regulated subject to the provision of FR-22B(I).

(e) Nature of duties and responsibilities attached to the post in the Indian Telecommunication Service (Group A).

Assistant Divisional Engineer (JTS)

Assistant Divisional Engineers will be posted in various units of department of telecommunications including those dealing with issue of licences, their administration and enforcement to meet the objectives of licensing and national security. They may be attached to offices responsible for Standardisation of Indian Telecommunication network, preparation of Generic requirements of Telecommunication equipment, spectrum utilisation like in Telecom Engineering Centre (TEC). They will participate in technology validations; various study group meetings of standardization bodies like ITU, IETF etc. Assistant Divisional Engineers will be posted in various units in DoT HQ to assist in Telecom Policy formulation, preparation of licensing conditions for telecom operations, USO fund disbursement activities, Functional units in DoT like Access Service, Data Service and Value Added Service, Vigilance, Security unit etc. and any other units carrying out the works relating to telecommunications and new as well as converged networks and services. While working in TERM Cells or any other unit of DoT, they may also be deployed to operate the Telecom network of licensed service providers in case of emergency like war or any other reason in public interest as decided by the Government. ADEsT will normally report to Divisional Engineers.

Divisional Engineer (STS)

Divisional Engineers will normally be posted under officers of JAG grade in various units of Department of Telecommunications including those dealing with issue of licences, registration of service providers, their administration and enforcement. They will also work in the field of Standardisation of Indian Telecommunication network, preparation of Generic requirements of Telecommunication equipment, utilization of spectrum like in Telecom Engineering Centre (TEC), technology validations and participate in the proceedings of various study groups of standardization bodies like ITU, IETF etc. While working in DoT HQ, they will be required to assist in Telecom Policy formulation, USO fund disbursement activities, Vigilance, including Security unit and any other units carrying out the works relating to telecommunications and new as well as converged networks and services. While working in TERM Cells or any other unit of DoT, they may also be deployed to operate the Telecom network of licensed service providers in case of emergency like war or any other reason in public interest as decided by the Government.

Junior Administrative Grade

JAG officers have a supervisory and administrative role over the activities of ADEsT and DEsT. They will normally report to SAG/HAG officers and carry out functions to support their activities in the fields of their responsibility. They will also be required to contribute immensely through their technical/administrative skills in discharging their duties especially in the areas of standardization, evaluation and introduction of technologies, investigation of malpractices and establishment and operations of networks as well as international technical coordination. JAG officers will be posted in various units of DoT to provide middle level administrative and managerial support to DDsG/ Sr. DDG in DoT/Telecom Commission while handling the works of Telecom Policy formulation, preparation of licensing conditions for telecom and converged service providers including Access Service, Data Service and Value Added Service, Vigilance, International Relations, Public Grievances, Human Resources/Establishment matters, monitoring of PSUs/Autonomous bodies, telecom related national security matters etc. They will also be responsible for planning, execution, and O & M of systems/installations for Government use or the networks of licensed telecom operators in emergency situations or in public interest as decided by the Government.

Senior Administrative Grade and Higher Administrative Grade

Responsible for overall management and administration in DoT, Deputy Director General in Telecom Commission provides top level assistance to the Telecom Commission in policy formulation & overall administration. As head of TERM Cells they will be incharge of enforcing licence conditions to meet the objectives of licensing and

national security. They will be responsible for planning, execution, and O & M of systems/installations for Government use or the networks of licensed telecom operators in emergency situations or in public interest as decided by the Government. Sr. DDG and DDsG in Telecom Engineering Centre are responsible for R & D in communication systems, Validation of various Telecom Technologies, preparation of Generic requirements of Telecommunication equipment. They will participate in technology validations and various study group meetings of standardization bodies like ITU, IETF etc. SAG/HAG officers will be posted as incharge of various units in DoT HQ to provide top level assistance to DoT/Telecom Commission while handling the works of Telecom Policy formulation, preparation of licensing conditions for telecom and converged service providers including Access Service, Data Service and Value Added Service, Vigilance, international relations, Public Grievances, Human Resources/Establishment matters, monitoring of PSUs/ Autonomous bodies, telecom related national security matters etc.

Advisor Grade

The officers in this grade shall be primarily responsible for formulating and administering various policies including Personnel policy and international relations in the field of telecommunications/converged networks, ensuring annual plan implementation by field units by working out the various requirements of field units and getting timely approvals. Advisors are responsible for assessment and inclusion of the new technologies into Indian telecom infrastructure as per overall socio-economic requirements of the country. Advisors are responsible for formulating security policies in coordination with security agencies to check possible misuse of telecom/converged networks by anti-national elements. They shall handle the work of administration and monitoring of PSUs and autonomous bodies under DoT and in the areas of technology, licensing, human resources/ establishment matters, operations, inter ministerial coordination etc.

15. ASSISTANT EXECUTIVE ENGINEERS IN P&T BUILDING WORKS (GROUP 'A') SERVICE

(a) The candidates will be appointed on probation for a period of two years. They will be required to undergo a training as prescribed. If in the opinion of Government, the work or conduct of an officer appointed on probation is unsatisfactory, or shows that he is unlikely to become efficient Government may discharge him forthwith. On the conclusion of his period of probation Government may confirm the officer in his appointment. If his work or conduct has in the opinion of the Government been unsatisfactory. Government may, either discharge him from the service or may extend his period of probation for such further period as the Government may think fit.

Officers will be required to pass the departmental examination or examinations that may be prescribed during the period of probation. They will also be required to pass a test in Hindi.

(b) An officer appointed on the results of this competitive examination shall, if so required, be liable to serve in any Defence Service or post connected with the Defence of India for a period of not less than four years including the period spent on training, if any.

Provided that such persons :—

(i) shall not be required to serve as aforesaid after the expiry of ten years from the date of appointment.

(ii) shall not ordinarily be required to serve as aforesaid after attaining the age of forty years.

(c) The following are the scales of pay admissible :

Group A

(i) Assistant Executive Engineer (Civil/Electrical) Rs. 8000-275-13500.

(ii) Executive Engineer (Civil) Surveyor of Works (Civil) Executive Engineer (Head Quarter) Rs. 10000-325-15200.

(iii) Superintending Engineer (Civil Superintending) Surveyor of Works (Civil/Superintending) Engineer (Head Quarter) Rs. 12000-375-16500.

(iv) Superintending Engineer/Superintending Surveyor of Works (Civil/Electrical) (Selection Grade) Rs. 14300-400-18300.

(v) Chief Engineer (Civil/Electrical) (Senior Administrative Grade) Rs. 18400-500-22400.

(vi) Senior Deputy Director General (Building Works) Rs. 22400-525-24500.

(d) Nature of duties and responsibilities attached to the post in P & T Civil Wing are as follows :—

Candidates recruited to P&T Civil Wing through Engineering Services Examination are employed in Planning, Designing, Construction and Maintenance of various civil works of P&T Department comprising of Residential Buildings, Office Buildings. Telephone Exchange Buildings. Post Office Buildings, Factories, Store and Training Centres etc. The candidates start their service in the department as Asstt. Executive Engineers/and in the course of their service are promoted to various senior ranks in the department.

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