

No. E/254/14/Pt.IX/LDCE (O)

To,

PCSTE, CVO(SDGM), CSE, CCE, CSTE(CON)/MLG, CSTE(Plg.), CSO, CSTE/CON/1&2/MLG; CSTE(CORE)/Allahabad ; GM/Metro Rail/Kolkata; DRM(Safety)/LMG; DRM(S&T)/APDJ Dy.CSTE/RE/NJP; Dy.CSTE/CON/LMG at MLG; Dy.CSTE(CON)/MLG,NJP,LMG,SCL & KIR ; Sr.DSO/RNY, APDJ; Dy.CVO/Elec./MLG; GM/RCIL/GHY; DRM(P)s/KIR, APDJ, RNY, LMG & TSK ; Dy.CPO/CON/MLG ;DSO/TSK; Dy.CSTE(Plg.)/MLG; Dy.CSTE/HQ/MLG; Sr.DSTE/APDJ at NMZ & NCB; Dy.CSTE/Tele/MLG; Dy.CSTE/FOIS, Sr.DSTE/KIR, APDJ, RNY, LMG, TSK & MLG; Principal/STTC/PNO; Principal/MDTC/RNY; Efficiency Officer/MLG; Enquiry Officer/MLG; Executive Director, Eastern Region, Rail Tel Co. of India Ltd., 33,A, Jawaharlal Nehru Road, Chatterjee International Centre (3<sup>rd</sup> floor), Kolkata - 700 071; GM/Project, NE Region, Rail Tel Co.of India, Ramanand Tower, Paltan Bazar, GS Road, GHY- 781 008; Dy.CSTE/Tele/CON/KIR, APDJ, RNY, LMG,SCL,TSK & MLG; ASTEs/KIR, APDJ, BNGN, RPN, GHY & BPB; Sr.AWM/SWS/PNO; ASTE/MW/SGUJ; AVO/S&T/MLG; ASTE(Plg.)/MLG.

**Sub.:- Selection for the post of ASTE(Group 'B') against 30% LDCE quota vacancy.**

**Ref :-** Railway Board's letter No. E(GP)2018/2/31 dated 19.03.2019, 12.01.2021, 21.01.2021, 17.03.2021 and No. E(GP)2022/2/4 dated 28.06.2022, 07.07.2022, 08.08.2022, 06.09.2022, 04.10.2022, 07.10.2022, 18.10.2022, 26.10.2022, 07.11.2022, 11.11.2022, 28.11.2022, 07.02.2023 & No. E(GP)2022/2/20 dated 14.11.2022 and DG/NAIR's letter No. EG/NAIR/ **CBT/GBS** dated **04.01.2023, 30.01.2023 & 07.2.2023.**

It has been decided with the approval of competent authority to hold a selection for forming a panel of **02(UR)** for the post of ASTE (Gr.'B')against 30% LDCE quota vacancy.

**1. Condition of eligibility :-**

(i) The above selection is open to all non-ministerial Group 'C' staff of S&T Engineering Department holding the post in Level-6 (Rs.35,400 – 1,12,400) and above in pay matrix with 05 years regular service in Level-6 (Rs.35,400 – 1,12,400) and above in the pay matrix. **[Ref: Railway Board's Recruitment Rules vide No. 2016/E(G)RR/15/2/Mech.Engg. dated 17.03.2022 have been notified in the Official Gazette vide GSR No.202(E) dated 15.03.2022].**

(ii) As per Railway Board's letter No. E(GP)2019/2/25 dated 16.03.2022, it is mentioned that Sr.Technicians in Level-6 with requisite length of service are eligible for appearing in the LDCEs held for promotion to Group 'B' posts. However JE-I being a promotional post of Sr.Technicians, they stand lower in hierarchy notwithstanding the fact that they are in identical pay level.

(iii) As per Railway Board's letter No. E(NG)I-81/PMI/76 dated 25.04.1981 and No.E(NG)I-93/PMI/4 dated 18.01.1993, the time spent by a railway servant under training immediately before appointment to service is to be counted as non-fortuitous service for the purpose of appearing in LDCE(Group 'B') selection.

(iv) The cut of date of eligibility on the length of required years of non-fortuitous services of the staff of S&T Engineering department is as on 01.01.2023.

(v) All the volunteers, who fulfill the conditions of eligibility as mentioned vide Col.(i),(ii) & (iii) above, will be allowed to appear in the written examination, without any restriction to the number of candidates.

**2. Scheme of examination :[Authority : Railway Bd's letter No.E(GP)2022/2/4 dated 28.06.2022]**

(j) LDCE will be one stage only and will comprise of only 1 Paper with the following set up :

(a) Single paper of 150 marks comprising 100% Objective type Multiple Choice Questions with following distribution of marks :-

Topics		Distribution of marks
(a)(i)	Technical (Professional) subject including optional	80 marks
(a)(ii)	General Knowledge including optional Questions of 15 marks on Official Language Policy & Rules	40 marks
(a)(iii)	Establishment and Financial Rules	30 marks
(b)	Qualifying Marks	90
(c)	<b>Duration</b>	<b>3 hours.</b>

- (ii) Question Paper will have 175 questions out of which 150 questions are to be attempted.
- (iii) 1 mark will be allotted for every correct answer. There shall be negative marking for incorrect answers and 1/3<sup>rd</sup> of Marks allotted for each question will be deducted for every wrong answer.
- (iv) Optional Questions on Official Language Policy and Official Language Rules in the LDCEs shall be included in terms of provision contained in Para 204.3 of IREM Vol.I.
- (v) Examination for 30% LDCEs will be held on a single day only. On the same day exam for the post of APO will be held in the second shift, so that candidates who have appeared in exam for AMM/ACM/AOM in the first shift and also want to appear for APO can do so in second shift. Similarly, exam for AME and AEE will also be held in different shifts with gap of 3 hours between both the shifts.
- (vi) CBT for 30% LDCEs for a particular department for Zones/Pus will be held on the same day across Indian Railways. There is **no provision for a Supplementary Exam.**
- (vii) The schedule for finalizing various stages in LDCE of current vacancy cycle through CBT is as under-
 

(a) Last date for submission of options	:-	<b>by 16.03.2023.</b>
(b) Finalization of willing candidates	:-	by 05.04.2023
(c) Date of Examination (tentative)	:-	14.05.2023.

**3.** The syllabus as prescribed by Railway Board for 30% LDCE held for promotion to ASTE(Gr.'B') vide Board's letter No. E(GP)2022/2/4 dated 07.11.2022 is enclosed as **ANNEXURE-'A'**.

**4.** The selection will be based on candidates performance both in Written Examination, Viva-voce test and record of service. Only those candidates who qualify in the written examination and thereafter in **Medical examination as per Para 530(a) of IRMM/Vol.I** will be eligible for the viva-voce test provided they are declared physically fit to hold the Group 'B' post. Before commencement of the viva-voce test, Medical examination from the respective Railway Medical authority of the candidate concerned should be done, which is mandatory. The final panel will be prepared **as per Merit**, subject to other provisions concerning empanelment.


**5.** All controlling officers should notify this widely amongst the staff under their control . **The last date of filling up applications from the staff by 16.03.2023.** It has been decided to call up the applications on **ONLINE** link as provided below. **No application will be accepted after the cut off date i.e. 16.03.2023.**

**6.** The filled up applications should be scrutinized properly with the service records to avoid any factual errors and future complications. The caste certificate (SC/ST) should also be verified carefully. The applications should also be signed by the controlling officer with official seal and should have the counter signature of the concerned cadre controlling Personnel Branch Officer or Officer who deal with P.Case & Service records.

**7.** In terms of **RBE No. 142/2019** as per **para.(ii)** Pre-selection training is not required if there is no reserved vacancy and candidates are appearing in the Selections/LDCEs against unreserved vacancies.

[Candidates may visit the website [www.nfr.indianrailways.gov.in](http://www.nfr.indianrailways.gov.in) -> General Info Department Personnel -> Notice Board -> Link---- <https://nfrailway.redpanchi.in/> **(for downloading the notification and filling up the application form)**

DA: (i) Syllabus (**ANNEXURE-'A'**)


 Digitally signed  
 by AMISH GOGOI  
 Date: 2023.02.23  
 12:38:33 +05'30'  
 for General Manager(P)

Copy to :-

- (i) PS-I to PCSTE – for kind information of PCSTE.
- (ii) General Secy./NFREU, NFRMU, SC/ST & OBC Association.


 Digitally signed  
 by AMISH  
 for General Manager(P)  
 Date: 2023.02.23  
 12:38:33 +05'30'



GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)

No. E(GP)2022/2/4

New Delhi, dt:07/11/2022

The General Managers,  
All Indian Railways/PUs.

(Kind Attn.:All PCPOs/PFAs/Dy.CPO(G) & Dy.CAO(G))

Sub.: Promotions to Group 'B' posts on Indian Railways - Introduction of  
Centralized Computer Based Multiple Choice Objective type  
examination (CBT) in all departments having Organised Services

Board has prescribed syllabus for written examinations held as part of 30% LDCEs for promotion to Group 'B' posts in all Organised Services. Besides this, syllabus for 70% Selection for promotion to Group 'B' post of APO has also been prescribed by Board. Now, in the context of introduction of Centralised CBT for 70% Selections and 30% LDCEs for promotion to Group 'B' posts, Board has prescribed syllabus of 70% Selections and have also modified the syllabus for 30% LDCEs for all Group 'B' posts in Organised Departments. Similarly, syllabus for Establishment & Financial Rules has also been prescribed.

2. A copy each of the Syllabus for professional subjects prescribed by Board for 70% Selections and 30% LDCEs for promotion to Group 'B' posts in all Departments having Organised services along with the syllabus for Establishment & Financial Rules is enclosed for information. These syllabi are applicable for Selections & LDCEs to be conducted w.e.f.1.1.2023.

DA:As above

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**Syllabus for 30% LDCE for Promotion to Group 'B' post of ASTE in Signalling & Telecommunication Department**

**Part – A - General**

**I. Current Affairs and General Knowledge**

- This section would contain questions of general interest and importance, which is acquired by general observation or reading without specific text book study. Subjects of national importance as well as achievements of Railways are also to be covered. The standard of General Knowledge shall not be more rigorous than Matriculate level.

**II. General Mathematics**

- Arithmetic and Statistical operations, Graphs, Fractions, Percentage, Sampling & Averages
- Geometry – Areas & Volumes up to Higher Secondary /12<sup>th</sup> Standard level
- Algebra, Simultaneous Equations etc up to Higher Secondary /12<sup>th</sup> Standard level

**III. Physics & Basic Electricity**

- Units & Measurements
- Mechanics – Newton's Law of motion, Velocity & Acceleration, Work, Energy, Power
- Mechanical properties of solids and fluids
- Heat & work, expansion of solids, liquids & gases
- Ohm's law, Coulomb's law, Faraday's Law, Voltage, Current & Resistance, Kirchhoff's Laws, Wet & Dry Batteries, Power Factor
- Fleming's Law, Lenz's Law, Simple Motors & Dynamos, Generators, Principle of working of Transformer, Relay, Fuse, Circuit Breaker
- Semi conductor devices – P-N diode, Transistors, FETs, Applications
- Power supply, AC & DC, Rectifiers

**IV. Digital Electronics & Information Technology**

- Principles of Digital Electronics – Boolean Algebra, Digital Devices and their applications
- Information Technology – Generations, PC specifications, Operating systems – Windows, Linux and Application Software.

**Part – B - Professional Subjects**

**I. Signalling :**

- Basics of Signalling
- Principles of Interlocking, Signal Interlocking Plan, Route holding principles, Table of Control
- Colour Light Signal concepts



- Signalling Elements – Relays, Cables, LED Signals, Point Machines, Track Circuits (DC, AC & AFTC), Axle Counters (SSDAC & MSDAC), Block instruments, Integrated Power Supply, Interlocked Level Crossing Gates and Data Loggers
- Automatic Signalling
- Intermediate Block Signalling, BPAC, UFSBI
- RE Modifications
- Relay Interlocking concepts - Metal to Carbon, Metal to Metal, Panel Interlocking and Route Relay Interlocking
- Electronic Interlocking – Principles, Configuration, Interface logic, Application logic, VDU logic, FAT, SAT, Technical System Approval
- Earthing, Lightning and Surge protection arrangements
- Train Protection Systems – TPWS, Kavach
- Centralised Traffic Control (CTC) , Train Management System (TMS)
- Execution of S&T Infrastructure works – Planning, Execution, CRS sanction, Documentation, Testing and Commissioning

## II. Telecommunications

- Outdoor and Indoor Telecom cable system, jointing procedures, and maintenance and fault localisation methods, laying practices and precautions at work site
- Control Communication, OFC based, VoIP based, Emergency Control Communication, Voice Logger, COA
- Telephone Instruments, Signalling principles of Telephone Exchanges, Automatic, ISDN, and VoIP Telephone Exchanges
- PCM-TDM Principles, PD multiplexers, SDH principles and SDH equipments
- Modulation techniques and radio propagation
- VHF, UHF, Tetra, GSM-R, LTE-R
- OFC Communication systems, OFC Splicing, Measurements and laying practices
- Data Communication and IP networks, IP-MPLS, Data networks of IR, PRS, UTS, FOIS, TMS, NMS, Wi-Fi at stations, Firewalls/UTM, Cyber security and Wireless security
- Public address system, Passenger information systems and VSS

## III. Codes & Manuals

- General Rules
- Railways (Opening for Public Carriage of Passengers) Rules
- Indian Railways Schedule of dimensions
- Indian Railway Signal Engineering Manual
- Indian Railway Telecom Manual
- Accident Manual
- Block working Manual
- Extracts of Operating manual for Indian Railways, Indian Railways manual of AC Traction Maintenance and Operation and Indian Railways Permanent Way Manual relevant for Signal & Telecom Engineers

#### **IV Workshop Practices**

- Raw material processing
- Workshop Machines and their utilisation
- Overhauling procedure and practices
- Inspection and testing of components
- Testing procedures of Block Instruments , Relays, Point Machines, IPS, EoLB, Track Feed Battery Chargers, EKTs, Control Panels and Mechanical Items.
- RDSO approval procedure and Renewal
- Production Management Plan
- Quality control and Safety Practices
- Calibration of instruments and machines
- ISO/IMS Certification for workshops
- Scrap disposal
- Workshop suspense
- Costing of products
- Incentive schemes

#### **Part - C – Official Language**

Official Language Policy, Act, Rules, Incentive Schemes etc

Syllabus for promotion to Group- B posts - 70% selection and 30% LDCE.

Syllabus for Establishment Rules:

1. Organization of the Personnel Department in Railways objectives functions and policies of Personnel Department.
2. Recruitment and Training, Classification of Services, Recruitment in Different services, Railway Recruitment Boards & Railway Recruitment Cells Compassionate Ground Appointments, Initial & In Service Training, Refresher Courses, Central Training Institutes, Training Centers in Zones, Divisions & Workshops, Training Modules for different posts, Training under Apprentices Act, Online Training, APARs.
3. General conditions of service in Railways, Seniority, Lien, Inter Railway & Inter Division transfers, Deputation, Promotion Policy & methods. Selection, Suitability, Trade Tests, Leave Rules, Pass Rules, Joining Time Reservation policy, HOER, Overtime, Payment of wages, current CPC Pay Rules, Advances in Railways.
4. Manpower planning, Rightsizing & Benchmarking, creation, extension and surrender of posts, creation of posts against new assets, different types of posts including workcharged posts.
5. The Railway Servants (Discipline & Appeal) Rules, 1968 and related instructions.
6. The Railway Services (Conduct) Rules, 1966 and related instructions.
7. Retirement benefits, qualifying service, pension, family pension, commutation gratuity, new pension scheme.
8. Staff welfare, SBF, Railway institutes, Railway schools, Ex-gratia payment, Incentive Bouns Scheme, Staff Grievances Redressal Mechanisms.
9. Industrial relations in Railways, recognized trade unions, industrial disputes. The Industrial Disputes Act, 1947. The Industrial Relations Code, 2020. The Trade Unions Act, 1926, PNM, PREM, JCM, Various Associations & Informal Meetings.
10. The Factories Act, 1948. The workmen's Compensation Act, 1923. Functions of Labour Enforcement Officers, Right to Information Act.
11. The scope of Information Technology in Railway e – office. HRMS, IPAS , LIMBS, ARPAN, CPGRAMS, ANUBHAV etc.



### Syllabus for Financial Rules:

1. Parliamentary Control over Railway Finance, Public Accountability, Canons of Financial Propriety.
2. Railway Budget - Budgetary terms, Types of Budgets, Budget cycle, Demand of Grants, Budgetary and Financial Reviews.
3. Rules of Allocation - Classification of expenditure - Control of expenditure - Responsibility Accounting - Performance Budgeting - Exchequer Control - Financial Results of Working lines.
4. Works Programme - Financial justification of Works - Surveys - Preparation of Estimates - Capital Budget - Control over Capital Expenditure - Reappropriation of Funds.
5. Financial control over Stores Expenditure - Purchase and Stores Keeping Procedure - Inventory Control and ABC Analysis.
6. Financial & Cost Control in Railway Workshops/Sheds/Units.
7. Rules and procedure relating to Tenders and contracts for execution of works and Procurement of Stores, M&P Programme and RSP.
8. Procedure for Possessing and finalizing Audit Objections and Draft Paras.
9. Delegation of Powers.
10. Losses, Frauds and Embezzlements.
11. General Financial Rules
12. Government e-Market (GeM)
13. Classification of Railway Revenue (Earnings)
14. Information Technology in general with specific reference to Railway's IT Applications
15. Taxation matters with special focus on GST & Income Tax
16. Organization of CGA and C&AG
17. Any other topic felt necessary from time to time