

**दक्षिणरेलवे Southern Railway**  
**प्रधानमुख्यकार्मिकअधिकारीकार्यालय**  
**Office of the Principal Chief Personnel Officer**  
**प्रधानकार्यालय, कार्मिकविभाग, चेन्नै-600003**  
**Headquarters, Personnel Department, Chennai-600003**

सं/No:P(S)563/VII/JE/GS/AC-PRQ & LDCE [Comp.No.520041] दिनांक/Dated:09.01.2025

All PHODs/DRMs/CWMs/CEWE/CAO/CPM/PDA/Dy.CPOs/Sr.DPOs/ Secy to GM,  
Chairman/RRB/MAS, TVC, Addl.Registrar/RCT/MAS, Secretary/RRT/MAS,  
Principal MDZTI/TPJ, ZETTC/AVD, ETC/PER,  
DPOs/SPOs/WPOs/APOs of HQ/Divisions/Workshops/Units:

विषय/Sub: **Syllabus for the post of Junior Engineer/ Electrical/ GS in Level-6 and Junior Engineer/ Electrical/ AC Wing in Level-6 against 25% Promotional quota & 25% LDCE Intermediate Apprentice quota of Electrical Department.**

- संदर्भ/Ref: 1) Railway Board's letter No.E(NG)/2022/PM1/36 dated 08.02.2024 (RBE No.11/2024) under PBC No.21/2024 dated 13.02.2024.
- 2) PCPO/MAS' letter No.P(Co-ord) CCBT/2024 dated 20.11.2024 (PBC No.253/2024).

\*\*\*\*\*

The syllabus for the post of Junior Engineer/ Electrical/ GS in Level-6 and Junior Engineer/ Electrical/ AC Wing in Level-6 against 25% Promotional quota & 25% LDCE Intermediate Apprentice quota approved by PCEE, are enclosed for information, guidance and necessary action.

This has the approval of the competent authority.

संलग्नक/Encl.: 3 pages.

  
( R. Rajesh Kumar )

Asst.Personnel Officer/C,M&E  
for Principal Chief Personnel Officer

प्रतिलिपि/Copy to: The General Secretary/SRMU  
The General Secretary/DREU  
The General Secretary/AISCTREA  
The General Secretary/AIOBCREA  
The General Secretary/NFIR

IT Section/PB/HQ - to upload on the SR website.

**ANNEXURE - B**

**SYLLABUS FOR SELECTION OF ELECTRICAL JUNIOR ENGINEER/PQ IN PAY  
BAND Rs.9300-4200+GP 4200+VI PC) PAY MATRIX LEVEL-6 (VII PC)  
JE/AC/PRQ & LDCE, GENERAL/AC-WING, JE/GS/PRQ & LDCE**

**I. GENERAL**

1. Proficiency in English for carrying out day to day correspondence, preparation of technical reports and knowledge of Departmental rules including Indian Electrical Act and Regulations.

2. Knowledge regarding procurement and accountal of stores booking of labour and maintaining muster rolls, Disciplinary and Appeal Rules, Hours of work and period of Rest Rules 2005, (HOER) pass Rules, payment of wages Act, Factory Act and Workmen's compensation Act and other standing instructions issued by the Chief Electrical Engineer.

**II TECHNICAL: (Electrical)**

3. Should be able to understand and prepare drawing/sketches, wiring diagrams (Schematic) etc., and dimensions of objects connected with the grade.
4. Should be able to prepare schedule of materials and labour for execution of works and for maintenance of Electrical equipments under his control.
5. Knowledge of basic principles of electricity and magnetism AC & DC circuits, AC & DC Motors/Generators with allied starting/Control switch gears, transformers. Should have a basic knowledge of transmission, distribution and utilization of electrical energy.
6. Should be will conversant with safety rules and regulations connected with the working of HT & LT Electrical equipments should also have knowledge of earthing practices and methods for Improving the earth resistance values, should have also knowledge for treatment for electric shock.
7. Should be able to instruct and guide staff working under him diagnose faults, repair, test install and commission LT & HT electrical equipment likemotors,

- starters, generators, alternators, transformers, rectifiers, rotary converters voltage regulators, switch gears equipment etc., of all types.
8. Must have knowledge of various types of conductors and cables, their current carrying capacities as also cable jointing techniques, must also be able to calculate sizes of fuses, switch gears etc., required for electrical installations of LT & HT and SRT circuits. Must have knowledge of power factor and its improvement its merits and demerits in HT & LT net works.
  9. Should have fair knowledge of working and applications of various types of measuring and testing instruments commonly used in Railways and able to maintain electronically controlled machine tools.
  10. Should have fair knowledge of train lighting system and train lighting equipments such as Brushless Alternator, Rectifier, cum Regulator unit, ERRU, Switch equipments and various anti pilferage measure and prevention measures.
  11. Should have a thorough knowledge of storage batteries (lead acid) treatment, maintenance repairs, POH and also maintenance of battery charging equipment, VRLA Batteries.
  12. Should have knowledge of the general principles of refrigeration and air conditioning and their applications operation and maintenance of AC and refrigerating plants in Rolling stock as also in the buildings. Should have fair knowledge of 2.5 and 25 KVA Inverter.
  13. Should have fair knowledge of LHB coaches operated in 750-V AC and its equipments such as Feeder couplers, HV Switching equipments, fuse protection, regulated battery charger, VRLA Battery, BLDC fans; pumps and pump controller.
  14. Should have a fair knowledge of LHB Powercars and its equipments including the operation and maintenance of Diesel Alternator sets (DA Sets)
  15. Working of HOG System
  16. Hotel load converter and interlocking panel.
  17. Emergency feed extension in LHB coaches
  18. Fire prevention measures in coacher and power cars 5. Power flow circuit in LHB AC/TL coaches including ACCNE coaches.

5055048/2025/O/oCEGE/SR

19. Level of electrical protection in AC/TL coaches.
20. Isolation contactors, RA modifications in Power Cars.
21. Safety in LSLRD and power cars.
22. Basic concepts and working of FDS and FDSS
23. RMPU and control panel, Power panel in SG AC coaches
24. RMPU and SBC control panel in LHB AC coaches
25. Maintenance schedules of coaches and power cars.
26. 750W power supply system.