

पूर्व मध्य रेलवे

East Central Railway

Absentee Written Examination for selection of Group B (70% Quota) for Junior Scale officers in Electrical Department.

दिनांक: 04.09.2018

DATE: 04.09.2018

निर्धारित समय: तीन घंटे

अधिकतम अंक: 150.

Allowed Time: Three Hours,

Maximum Marks: 150.

निर्देश:

Instructions:

1. उम्मीदवार निर्धारित स्थान के अतिरिक्त उत्तर पुस्तिका के अंदर या अतिरिक्त शीट पर कहीं भी अपना नाम, रोल नंबर या हस्ताक्षर नहीं करेंगे। यदि ऐसा पाया गया तो उनकी पात्रता रद्द कर दी जायेगी।
Candidate is not to write his name, Roll No. or Signature anywhere inside the answer book and extra sheet except on the sheet a space is provided.
2. उत्तर केवल हिन्दी या अंग्रेजी में ही दें।
To write either in English or Hindi.
3. उम्मीदवार वीक्षक/प्रभारी अधिकारी के हस्ताक्षर उत्तर पुस्तिका और अतिरिक्त शीट (यदि कोई है) पर अवश्य करा लें।
Candidate to ensure signature of invigilator/Officer-in-charge in the answer book and also on the extra sheet, if any.
4. किसी भी अनुचित साधन अपनाने पर उम्मीदवार की पात्रता समाप्त कर दी जायेगी।
In case of unfair means, candidature will be forfeited.
5. भाग – 'अ' से किन्हीं 05 (पाँच) प्रश्नों और भाग – 'ब' से किन्हीं 05 (पाँच) प्रश्नों के उत्तर दें।
Answer any 05 (Five) questions from section 'A' and any 05 (five) questions from section 'B'.
6. भाग – 'अ' में प्रत्येक प्रश्न 20 अंक का और भाग – 'ब' में प्रत्येक प्रश्न 10 अंक का है।
Each question in section 'A' carries 20 marks and in section 'B' carries 10 marks.

SECTION-A

NOTE-Attempt any five questions of maximum 100 marks out of the questions given in section –A. Every question carries 20 marks.

1. Write short notes on the following-
 - i. OHE (Overhead Equipment)
 - ii. Contact Wire Height
 - iii. Schematic diagram of SSP on a 3 line section.
 - iv. Cantilever Assembly.
2. A) List out different types of Jumpers being used in electrified section with their sizes and provision of their locations. (10 marks)
B) List out different types of Bonds being used in electrified section with provision of their locations. (10 marks)
3. Draw a typical schematic Diagram of 132/25 kV Traction power supply feeding arrangement to Double line electrified section using appropriate electrical symbols of electrical equipments and their names.
4. Draw a diagram of arrangement of OHE on portal at 4 (four) track section giving details of portals, booms, DAs and cantilever Assemblies with required necessary dimensions.
5. List out different relays provided on Control Panel at the Traction Substation (TSS) along with their area of protection for-
 - i. Transformer protection
 - ii. Over head equipment protection.
6. Draw Power schematic diagram of ABB 3 phase AC locomotive. List out technical particulars of **guaranteed performance at 22.5 kV and half worn wheel** of WAG-9 locomotive.
7. Write short notes on any two of the following-
 - i. Advantages of 3 phase induction motor over D C Series motor.
 - ii. Advantages of microprocessor based control system in 3 phase locomotive.
 - iii. Equipments in machine room of 3 phase locomotive.

8. List out the different power equipments used in WAG-7 and WAG-9 locomotives giving details of different equipments which establish superiority of Three locomotives over Conventional AC Locomotives.
9. As identified by RDSO, What are the maintenance practices to be followed for prevention of fire in electric locomotives. Explain five of them in brief.
10. List out the following-
 - i. Registers maintained in the Crew Lobby with brief description about each register.
 - ii. Information displayed in the Crew Lobby
11. Draw schematic diagram of Airconditioning system for A/C coaches. List out main problems faced by Electrical section in maintenance of A/C coaches.
12. List out various advantages of electronic ballast in a tube light system over Conventional choke system. Explain the working of electronic ballast with its superior features.
13. Draw schematic diagram of Air conditioning system. Write advantages & disadvantages of Central Air conditioning plant with full ducting arrangement.
14. What are the common factors which affect the overall efficiency of pump sets? List out the errors which are responsible for increase in the total head, inefficient conversion of energy for useful work and losses in power transmission.
15. What is the purpose of using an Uninterruptible Power Supply system (UPS) for supplying critical loads like computer/data processing machines, hospitals etc. List out the main constituents of a UPS and explain their working in brief.

SECTION-B

NOTE- Attempt any Five questions out of the Nine questions given in section –B. Each question carries 10 (ten) marks only.

1. What are the different type of passes issued to a serving Railway servant? Mention five specific features of Privilege Pass. (10 marks).
2. Write short notes on any two of the following-(10 marks)
 - a) Stock Indents
 - b) Liability Register
 - c) Bulk RSP
 - d) Machinery and Plants Works
3. What are the various entitlements of a Railway servant for the journeys on transfer? List of five terms & conditions applicable to Composite Transfer Grant. -(10 marks).
4. Write short note on any two of the following:- (10 marks)
 - (i) Appointing Authority
 - (ii) Conditions when Railway servant may be placed under suspension.
 - (iii) Items not amounting to penalty.
5. What is the constitution of Divisional Staff Benefit Fund Committee(Committee members)? List out two general activities to be operated under SBF with two sentences on each activity. -(10 marks)
6. What is meant by PREM (Participation of Railway Employees in Management) ? List out broad objectives of PREM. -(10 marks)
7. Under payment of Wages Act, 1936, list out at least 5 authorized permissible deductions in wages. Write extent of deductions of wages under above act. -(10 marks)

8.	As per the Official Language Act, 1963, list out the regions under which following states fall – -(10 marks) Haryana, Madhya Pradesh, UP, Gujrat, Maharastra, Punjab, Kerala, Karnataka, Andhra Pradesh.
9. (i)	What are the responsibilities of administrative head of Central Government Office for compliance of Official Language Act, 1963? -(05 marks) List out five sensitive non gazette posts in Electrical Department. (05 marks)