

दक्षिण पूर्व रेलवे
South Eastern Railway

कार्यालय/Office of the
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No: EL/G/RNC/Misc./21

To,
The Sr.DPO,
South Eastern Railway,
Ranchi.

Subject: Syllabus and model questions for selection to the post Junior Engineer (GS) in level-6 against 25% intermediate apprentice quota in Electrical(GS) Department.

Reference: Your L/No: SER/P-RNC/EL/210/JE/25%IAQ dtd.01.01.2021.

In reference to the above, Syllabus and model questions for selection to the post Junior Engineer (GS) in level-6 against 25% intermediate apprentice quota in Electrical(GS) Department is attached herewith.

This is for kind information please.

DA: As above.

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**SYLLABUS FOR SELECTION OF JE/ELECTRICAL(GS) AGAINST 25% INTERMEDIATE
APPRENTICE QUOTA**

POWER MAINTENANCE

1. GENERAL ELECTRICAL ENGINEERING
2. TRANSFORMERS
3. EARTHING
4. AIR CONDITIONING, LIGHTING AND ILLUMINATION
5. D.G. SET
6. PUMP
7. INDIAN ELECTRICITY RULES
8. ELECTRICAL UNITS: EQUIVALENTS & FORMULAE
9. INDUCTION MOTOR
10. CABLES

TRAIN LIGHTING AND AIR CONDITIONING

1. CELLS
2. INVERTER
3. ALTERNATOR, RRU
4. ERRU
5. RAILWAY CARRIAGE FANS
6. TRAIN LIGHTING WIRING
7. AIR CONDITIONING
8. RMPU
9. LHB COACHES
10. POWER CAR, PANTRY CAR, MINI-PANTRY
11. EMU/DEMU



NON TECHNICAL

1. ESTABLISHMENT
2. STORES/ PROCUREMENT
3. RAJBASHA HINDHI
4. BASIC KNOWLEDGE ON COMPUTER
5. GENERAL KNOWLEDGE

SAMPLE QUESTIONS

- Q.1** The power factor of the AC supply can be improved by using [Ans: c]
(a) Synchronous generator (b) Universal motor
(c) Synchronous condenser (d) SCR
- Q.2** The type of energy possessed by the charged capacitor is [Ans: b]
(a) Kinetic energy (b) Electrostatic (c) Potential (d) Magnetic
- Q.3** The ratio between the number of turns on the primary to the turns on the secondary of a transformer is known as: [Ans: a]
(a) turns ratio (b) efficiency (c) winding factor (d) power factor
- Q.4** Core losses in transformer are caused by _____. [Ans: c]
(a) Hysteresis loss (b) Eddy current loss (c) both a & b (d) None
- Q.5** The instrument used to measure RPM is [Ans: d]
(a) Fyrite (b) Pyrometer
(c) Ultrasonic flow meter (d) Stroboscope
- Q.6** Which of the following is a renewable source of energy? [Ans: d]
(a) coal (b) oil (c) Natural gas (d) Solar
- Q.7** Full form of LED is [Ans: b]
(a) Lamp Electric Diode (b) Light Emitting Diode
(c) Low Energy Diode (d) None
- Q.8** Full form of XLPE is [Ans: c]
(a) Cross Linked Power Electricity (b) Xerox Linked Polyethelyne
(c) Cross Linked polyethylene (d) None
- Q.9** The frequency of domestic power supply system in India is [Ans: d]
(a) 50KHz (b) 50Hz (c) 230Hz (d) 440Hz
- Q.10** First step to be carried out before starting work on faulty portion of overhead line is to [Ans: b]
(a) Earth the line on both the ends of the portion (b) Obtain the permit to work
(c) Bring ladder or crane (d) Climb on the pole immediately
- Q.11** Solar energy is used for [Ans: d]
(a) Lighting (b) Cooking
(c) Battery charging (d) All above
- Q.12** To improve the power factor, capacitors are connected in the circuit as [Ans: a]
(a) Parallel path (b) Series path (c) Any of a & b (d) None of the above
- Q.13** The capacity of batteries used for RMPU AC coaches is [Ans: d]
(a) 525 AH (b) 400 AH
(c) 800 AH (d) 1100 AH

Q.14 SMF Batteries stands for

[Ans: a]

- a) Sealed maintenance free batteries
- b) Self maintenance free batteries
- c) a&b
- d) None

Q.15 Number of V belts used for driving 110V 18KW & 25KW AC alternator is

[Ans:c]

- a. 4
- b. 6
- c. 12
- d. None

Q.16 The capacity of alternator used for BG coach 110V Train Lighting system.

[Ans:b]

- a. 3KW
- b. 4.5KW
- c. 12KW
- d. None

Q.17 The EFT in coaches is provided for

[Ans:c]

- a. Controlling the DC supply
- b. Feeding the battery
- c. Extending power supply to/from the adjoining coaches
- d. None of the above

Q.18 ERRU stands for

[Ans:a]

- a. Electronic Rectifier cum Regulator Unit
- b. Electromagnetic Rectifier cum Regulator unit
- c. Electrostatic Rectifier cum Regulator Unit
- d. None of the above

Q.19 The earth leakage can be checked with both positive and negative cables at a time by [Ans:a]

- a) Double test lamp method
- b) 500V megger
- c) Single test lamp
- d) none of the above

Q.20 The purpose of compressor is

[Ans:b]

- a. To absorb heat from the coach and to send cooled air in to the coach
- b. To draw refrigerant vapor from the cooling coil and to boost the temperature and pressure of refrigerant
- c. To reject the heat of refrigerant to the water and air and to convert refrigerant vapor into liquid
- d. To control and pump the refrigerant to the cooling coil.

Q.21 Evaporator is also known as

[Ans:d]

- a. Freezing coil
- b. Cooling coil
- c. Chilling coil
- d. All of the above

Q.22 Number of Compressor available in RMPU

[Ans:b]

- a. 4
- b. 2
- c. 1
- d. none

Q.23 No of inverters required for one RMPU coach are

[Ans:a]

- a. Two
- b. One
- c. Three
- d. Four

Q.24 The evaporator coils are made up of

[Ans:b]

- a. Aluminum
- b. Copper
- c. Zinc
- d. None

Q.25 EOG power car supply is feed to LHB coaches by [Ans:b]
a. IV coupler b. ZS coupler c. CBC coupler d. None

Q.26 EOG power car supply Is feed to AC coaches in Garibrath AC coaches by [Ans:a]
a. IV coupler b. ZS coupler c. CBC coupler d. None

Q.27 To reduce Electrical energy bill , power factor should be kept [Ans:d]
a) as less as possible
b) as high as possible
c) power factor does not effect energy bill
d) as close to unity as possible

Q.28 Principal Head of Stores Department on a Zonal Railway is [Ans:A]
A) Principle Chief Materials manager B) Chief Controller of Stores
C) Controller of Stores D) Chief Controller of Stores and Purchases

Q.29 Paternity leave can be sanctioned up to [Ans: c]
a. 12 days b.20 days c. 15 days. d. none of these

Q.30 Recruitment in Group D category from open market is to be done by [Ans:c]
a. Divisional Office b. Railway Recruitment Board c. RRC d. None of these.

Q.31 Which is the elementary Hindi course prescribed for Central Govt. employees [Ans:a]
a. Prabodh b. Praveen c. Pragya d. Primary

Q.32 WWW stands for [Ans:D]
A. World Whole Web B. Wide World Web
C. Web World Wide D. World Wide Web

Q.33 Disinfection of water is done by [Ans: C]
A. Alum B. potassium permanganate C. Chlorine D. Zinc oxide

Q.34 Which city is called the pink City Of India [Ans:B]
A.Udaipur B. Jaipur C. Jodhpur D. Sholapur

Q.35 Kaziranga National park is located in which state? [Ans:D]
A. Sikkim B. Nagaland C. Arunachal Pradesh D. Assam