

TRD Question bank for promotion of AEE

- Q 1. Standard span length in regulated AC traction is
(a) 55 meters (b) 57.5 meter (c) 49.5 meter (d) 61 meter
- Q 2. At turnout structure, it is general practice to give encumbrance of 1.4 m to the turnout OHE & 0.9 m to the main line OHE due to.
(a) To maintain proper tension. (b) To accommodate section insulator in turnout OHE
(c) To maintain proper stagger. (d) None of the above.
- Q3. "N" type portal is used to cover maximum
(a) 4 tracks/8 OHE's (b) 4 tracks /4 OHE's
(c) 4 tracks/6 OHE's (d) 6 tracks /8 OHE's
- Q 4. The resistance area of two earth electrodes should
(a) Be as closed as possible (b) Same resistance area
(c) Not to be overlap each other (d) All of the above.
- Q 5. In cantilever assembly large size of bracket tube (i.e. inner dia /outer dia)
(a) 30 /38 mm. (b) 40 /49 mm (c) 28.4 /33.7 mm (d) 25 /30 mm.
- Q 6. "F" jumpers are provided at
(a) Insulated overlap (b) Un-insulated overlap (c) Turnout (d) Anti creep point
- Q 7. Obligatory structure is required to be provided at
(a) Bridge piers (b) Before & after over line structure (c) Cross over & turnout (d) All of the above.
- Q 8. Minimum working clearance for 25 kV AC is
(a) 500 mm (b) 1.0 m (c) 2.0 m (d) 3.0 m
- Q 9. Suitable location of section insulator from the mast on turnout OHE is
(a) Between 1/3 & 1/10th of span length (b) Between 1/3& 1/5th of span length
(c) Between 1/5th & 1/10th of span length (d) Between 1/2 & 1/3 span length.
- Q 10. The arrangement of over lap type turn out will be in
(a) One span (b) Two spans (c) Three spans (d) Four spans.
- Q. 11 Which device is used to protect the transformer from excessive internal pressure?
(a) PRD (b) Buchholtz Relay (c) MOLG (d) Drain Cork.
- Q 12. Normally, insulated overlap are employed at the location
(a) SSP (b) FP (c) Booster transformer's location (d) All of the above.

Q 13. An arrangement of OHE over a track, where two sets of OHE conductors are run parallel to each other for a short distance & provide smooth passage for pantograph, is called
(a) Turnout (b) Crossover (c) Overlap (d) Neutral section

Q 14. Which test is not performed on transformer oil?
(a) IR (b) DGA (c) BDV (d) PPM

Q 15. What do you mean by the elasticity of the contact wire ?
(a) Amount of vertical lift corresponding to vertical static force
(b) Amount of vertical lift corresponding to weight of the pantograph
(c) Amount of horizontal lift corresponding to vertical pressure
(d) All of the above

Q 16. Distance between anti-creep point & anchoring structure should not be more than
(a) 1600 m. (b) 1500 m. (c) 750 m. (d) 600 m.

Q 17. At turnout structure, it is general practice to give encumbrance of 1.4 m to the turnout OHE & 0.9 m to the main line OHE due to.
(a) To maintain proper tension. (b) To accommodate section insulator in turnout OHE
(c) To maintain proper stagger. (d) None of the above.

Q 18. ONAN / ONAF are the types of –
(a) Transformer cooling system. (b) Winding
(c) Tap Changer (d) Earthing

Q 19. Which instrument is used for PI checking?
(a) Ammeter, Voltmeter, Watt meter (b) Earth Tester
(c) Megger (d) Super Computer & Data Acquisition

Q 20. Differential protection works against which type of fault?
(a) Internal faults (b) Over voltage
(c) Over current (d) None of above

Q 21. Cable laying should be done in cable trenches; due to
(a) Ease of maintenance. (b) Mechanical protection
(c) Eases of identification during maintenance. (d) all of the above.

Q 22. To crimp a lug properly on the cable core, how many strands are permitted to cut?
(a) 0 (b) 1 (c) 2 (d) 3

Q 23. What you expect from a battery kept on high charging rates for a long time?
(a) Nothing special. (b) Plates may be damaged by getting very hot.
(c) Change of polarity (d) Increased capacity.

Q 24. Per meter weight of catenary wire is
(a) 1250 gm (b) 971 gm (c) 951 gm (d) 603 gm

Q 25. What may be the cause of contact wire parting?
(a) Opening of silver brazed joint (b) Failure of PG clamp & ending cone
(c) Improper & over tension in contact wire (d) All of the above

Q 26. Q 19. Bushing CT is associated with?
(a) Power Transformer (b) AT- 100KVA (c) AT at SP (d) Feeder CB

Q 27. What is the color code of Large span wire Ending Clamp for 130 Sqmm as per RDSO drawing no ETI/OHE/P/1143?
(a) White (b) Red (c) Blue (d) Green

Q 28. What is the color code of Feeder Ending Clamp for 150 Sqmm as per RDSO drawing no ETI/OHE/P/1730 ?
(a) White (b) Red (c) Blue (d) Green

Q 29. What action taken when Variation of temperature compared with adjacent/nearby similar component when temperature recorded by Thermo-Vision Camera is 10 to 20 degree Celsius as per SMI TI/OHE/Thermo-vision Camera/2017/05 dt 24.05.2017 ?
(a) 24Hrs (b) 10 Days (c) 20 Days (d) 30 Days

Q 30. Contact wire ending clamp fitting (Drg no ETI/OHE/P/1110-2) is to be replaced after what year as per SMI TI/MI/0037 rev. 2 dt 21.10.2002 ?
(a) 8 Yrs. (b) 4 Yrs (c) 6 Yrs (d) 10 Yrs

Q 31. What is the minimum height above rail level to the lowest portion of conductor of a crossing, under condition of maximum sag for 132KV upto 220KV ?
(a) 14.60 Mtrs. (b) 15.40 Mtrs. (c) 17.90 Mtrs. (d) 19.30 Mtrs.

Q 32. In Indian Railways, what will be the maximum permissible % of unbalance voltage for 2 (b) minutes ?
(c) (a) 1% (b) 2% (c) 3% (d) 5%

Q 33. The shortest section of OHE, which can be isolated manually, is called
(a) Elementary section (b) Feeding zone (c) Sector (d) Sub sector.

Q 34. Power factor is the ratio of
(a) Apparent power & active power. (b) Active power & reactive power .(c) Active power & apparent power.(d) None of the above.

Q 35. Electrolyte is a mixture of :
(a) H₂SO₄ & H₂O (b) HCL & H₂O (c) PB & H₂O (d) H₂O & PbO₂.

Q 36. Dissolved Gas analysis is done for:

(a) SF 6 Gas of Circuit Breaker (b) Transformer oil (c) Both of A & B (d) None of the above.

Q 37. Bridal wire is used in which type OHE ?

(a) Unregulated OHE (b) In section insulator (c) In Overlap (d) In Tramway OHE

Q 38. Name the test that is done on the insulator prior to use in TRD on Stay insulator, Bracket Insulator & 9T insulator.

(a) Load test (b) IR test (c) PI Test (d) None of the above.

Q 39. What is the main advantage of CB over interrupter ?

(a) Isolate by remote control (b) Less maintenance
(c) Automatic trip the circuit when fault occurred (d) All of the above.

Q 40. The shortest section of OHE, which can be isolated manually, is called

(a) Elementary section (b) Feeding zone (c) Sector (d) Sub sector

Q 41. Difference between two consecutive span length should not be more than

(a) 25 m. (b) 20 m. (c) 18 m. (d) 16 m.

Q 42. At the end of tension length ,an overlap is formed due to

(a) To maintain electrical clearance.
(b) To maintain mechanical clearance
(c) To maintain mechanical & electrical clearance.
(d) To provide smooth passage for pantograph.

Q 43. Distance between one anchoring end to other anchoring end of OHE's conductors is called

(a) Tension length (b) Span length (c) Implantation (d) None of the above

Q 44. In AC traction, height of contact wire from rail level in Car shed is

(a) 5.60 m (b) 5.65 m (c) 5.75 m (d) 5.80 m

Q 45. In regulated OHE, when temperature increased than tension of OHE conductors

(a) Increased (b) Decreased (c) Remains same (d) Cannot say

Q 46. In AC traction, distance between two OHE's conductor in insulated overlap is kept

(a) 500 mm. (b) 380 mm. (c) 300 mm. (d) 200 mm.

Q 47. Minimum earth resistance when not specified should not be more than

(a) 9 ohm (b) 10 ohm (c) 5 ohm (d) 2.5 ohm.

Q 48. Size of BFB Mast

(a) 152 mm x 152 mm (b) 200 x 200 mm (c) 400 mm x 400 mm (d) All of above.

Q 49. Normally generation of electrical energy is done in ----- phases.

(a) 1 (b) 2 (c) 3 (d) 4

Q 50. TR-5 permits a PSI artisan for –

(a) Issuing PTW. (b) Receiving PTW of EHV lines (c) Commissioning of new installations.

(d) Take power block of 25KV installations according to instructions of TPC.

Q 51. TR-2 permits a OHE Lineman for –

(a) Take power block from TPC for 25 kV OHE/66/132/220 kV transmission lines and underground cables

(b) Effect shut down in yards and sidings by operating isolator switches;

(c) Operate switching stations on local control under instructions from TPC;

(d) All of the above

Q 52. What care should be considered while clamping a discharge rod on a mast?

1. Cable and lug connection. 2. Availability of discharge rod on both sides of the spot.

3. Availability of Structure bond. 4. Distance between consecutive discharges rods.

(a) 1, 2 (b) 2, 3 (c) 2, 4 (d) all of the above.

Q 53. What is incorrect for a 40AH capacity battery?

(a) 1 ampere for 40 hours (b) 40 ampere for 1 hours

(c) 4 ampere for 10 hours (d) A rate of current supply as 40 ampere per hour.

Q 54. Factor that affects insulation resistance?

(a) Size of winding (b) Temperature (c) Moisture (d) all of the above.

Q 55. What is common among TPI, DPI, SPI and BPI?

(a) A CB is connected to all of them. (b) All of them is used for transformer isolation.

(c) All are located in a FP. (d) Each of them is a type of isolator.

Q 56. Under voltage relay is related with –

(a) All BM of TSS (b) Bridging BM of SP. (c) Sectioning BM of SSP (d) Paralleling BM of SP and SSP.

Q 57. Which relay gets its input from both the CT and PT?

(a) OCR (b) DPR (c) EFR (d) DFR

Q 58. Earth –Screen is a protection against –

(a) Touch Voltage (b) Step Voltage (c) Lightening Stroke (d) Earth Fault.

Q 59. CTD is an interlock arrangement –

- (a) It is a false statement (b) CB tripping and 110 volt DC supply
(c) CB tripping and auto recloser. (d) High voltage and alarm.

Q 60. Most suited place for cable storage is –

- (a) Moist and Dark (b) Moist and Sun light (c) Dry and dark (d) Dry and Sun light.

Q 61. What you understand about size of a cable if it is said 70 Sq mm two core cable

- (a) Cross sectional area of the cable is 70 sq mm. (b) Size of each core is 70 sq mm
(c) Size of one core is 35 sq mm (d) Cable is to be used for CLS purposes.

Q 62. The insulation resistance of a cable depends on –

- (a) Condition of insulation (b) length (c) Thickness of insulation (d) all of the above.

Q 63. Which one is incorrect to natural magnet?

- (a) Loss of magnetic properties on heating. (b) Similar poles repel and opposite attract each other.
(c) A magnet attracts all metals. (d) All of the above

Q 64. According to thermal classification of insulating materials category Y materials are suitable for temperature limit -----.

- (a) 0°C (b) 180°C (c) 90°C (d) 270°C

Q 65. ACTM has relation with?

- (a) Maintenance of TRD installations. (b) Directives for different departments in electrified section.
(c) Working of TPC (d) All of the above.

Q 66. Electrolyte bubbling heavily, it is a indication of?

- (a) Over charging (b) Under charging (c) No load (d) Discharged.

Q 67. WTI indicates?

- (a) Average Temperature of transformer winding. (b) Maximum temperature of transformer winding.
(c) Minimum temperature of transformer winding. (d) Maximum permissible temperature of transformer winding.

Q 68. Which test should be done to know water quantity present in oil sample?

- (a) Crackle Test (b) PPM (c) Colour Test (d) Tan- δ Test.

Q 69. Out of the following, what is not there in the pole unit of CB/BM?

- (a) Fix and Moving Contact. (b) Arc quenching medium.
(c) Main and Arcing Contact. (d) Auxiliary contact.

Q 70. The abnormal conditions ,LA protects from, is ---

(a) Short circuit (b) Open circuit (c) Low voltage (d) Voltage surge.

Q 71. In a TSS, voltage ratio of 100KVA AT is ---

(a) 100KV /230 volt (b) 100KV/440 volt (c) 25KV/230 volt (d) 25KV/ 440volt.

Q 72. Differential protection works against which type of fault?

(a) Internal faults (b) Over voltage (c) Over current (d) Low oil level.

Q 73. The tool used to make a perfect gripe on OHE wires is

(a) Come along Clamp (b) Max-Puller (c) Pull-Lift (d) Rope pulley block

Q 74. What is Super Elevation?

(a) Length of Super Mast.

(b) Mast more than 9.5mt length.

(c) The uplift of outer rails on curved tracks.

(d) Height difference in contact wire at turn-outs.

Q 75. Caution Board applicable at Dead-End OHE termination is –

(a) Caution OHE ahead is alive. (b) Restricted Clearance.

(c) Electric Engine Stop (d) Unwired Turn-Out.

Q 76. What is shown in mutually contrast colour in a OHE sectioning diagram?

(a) Elementary Section (b) Sub-Sector (c) Sector (d) Non of the above.

Q 77. Which schedule maintenance has a periodicity of twelve months?

(a) IOH (b) AOH (c) POH (d) Non of the above

Q 78. Clear span of “O” type portal is..

(a) 10 to 20 mtrs (b) 20 to 30 mtrs (c) 30 to 40 mtrs (d) Non of the above

Q 79. Clear span of ‘R’ type portal is

(a) 10 to 20 mtrs (b) 20 to 30 mtrs (c) 30 to 40 mtrs (d) Non of the above

Q 80. Minimum Implantation at present of OHE Mast is..

(a) 2.50mtrs (b) 3.00mtrs (c) 2.80 mtrs (d) None of above

Q 81. Minimum implantation at Platform is

(a) 4.75mtrs (b) 3.50mtrs (c) 4.00 mtrs (d) None of above

Q 82. What is used to declare a mast as leaning mast?

(a) Measuring tape/Plumb bob (b) Plumb bob/Binocular

(c) Binocular/Measuring tape (d) Sprit level.

Q 83. Size of up-right for O type portal is –
(a) 450x450 (b) 550x550 (c) 600x600 (d) 400x400

Q 84. Size of up-right for N type portal is –
(a) 450x450 (b) 550x550 (c) 600x600 (d) 400x400

Q 85. The term Curve Allowance is related with
(a) Mast Length (b) Encumbrance (c) Stagger (d) Implantation.

Q 86. In Ac Traction, how many droppers in 49.5 mtrs span ?
(a) 7 nos (b) 6 nos (c) 08 nos (d) None of above.

Q 87. Post insulator is also known as
(a) Tie rod insulator (b) Section insulator (c) 9 –T insulator (d) Pedestal insulator.

Q 88. What shall be the difference in insulators being used in ordinary and polluted zones?
(a) No difference (b) load bearing capacity (c) design (d) Creepage distance.

Q 89. Identify that is not a type of insulator from the given below.
(a) PTFE (b) Pedestal Insulator (c) Tie Rod insulator (d) Non of these.

Q 90. What would be the No. of Elementary Section that is controlled by SS/216 –
(a) It may be any thing (b) 21600 (c) X-216 (d) SS-216

Q 91. Which one is reference for ADT?
(a) 35°C (b) 27 °C (c) 20 °C (d) 30 °C

Q 92. What is wrong in connection with Neutral Section?
(a) It isolates supply of two different phases.
(b) AC engines pass this section by their momentum.
(c) It is located corresponding to SP switching station.
(d) It improves power factor.

Q 93. General tendency of contact wire parting is at
(a) ACC (b) RRA (c) FTA (d) BWA

Q 94. Contact Ending Cone is not used at –
(a) BWA (b) FTA (c) ACA (d) Non of the above.

Q 95. Magnetic poles are generally known as -----.
(a) North- South (b) East- West (c) EMF- MMF (d) UP-DOWN

Q 96. The vital component of a rectifier circuit is?

(a) Resistor (b) Diod (c) Capacitor (d) Chock Coil

Q 97. Which method of safety is generally not adopted during power block on a Sub-Sector?

(a) Permit to Work (b) Prohibition of AC engines to enter in power block section.

(c) To tripe Feeder CB. (d) Application of Discharge Rods.

Q 98. Transformer Oil is categorized as?

(a) Edible oil (b) Fuel (c) Insulating oil (d) All of the above

Q 99. According to TI/MI -38 what action shall not necessarily be done during monthly maintenance?

(a) EPR testing (b) Inspection of Slica gel breather.

(c) Check OTI/WTI (d) To check bus bar connection for bad –colour.

Q 100. At voltage, lesser than 19 KV –

(a) Bridging BM gets open, if already closed.

(b) Air compressor of CB gets stop. (c) HV/LV CB trips (d) Non of the above

Q 101. 100KVA AT of TSS is used for

(a) Yard Lighting (b) Stand by

(c) Filtration Plant (d) Power Factor correction.

Note : Red color is shown answer.