SOUTH CENTRAL RAILWAY

Office of the
Sr.DEE/TRD/SC
Dt 22-09-2022

No.C/E.150//TRD/671

Sr.DPO/SC

Sub: Question Bank for filling up the post of Junior Engineer/TRD in level-6/GP-4200 against 25 % LDCE quota in Electrical Department of SC division- Reg

Ref : 1.Your office Lr.No. SCR/P-SC/210 (a)/Elect/JE (TRD)/LDCE, dt.02-09-2022.
2. This office Lr.No. C/E.150/TRD/671, dt.07-09-2022

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Adverting to the letter cited above under reference-1, the Syllabus was verified and submitted to you vide letter cited under reference-2. The Question Bank with answers for filling up the post of Junior Engineer/TRD in level-6/GP-4200 against 25 % LDCE quota in Electrical Department of SC division is submitted herewith for information and necessary action please.

Encl : Question Banks with answer -37 pages

21/09

Sr.DEE/TRD/SC

OBJECTIVE –QUESTIONS ON TRD

1. Expand TRD ----------
2. Maximum distance between two Discharge Rods ----------
3. Discharge Rods should generally be placed at a maximum permissible distance from the work spot. (True/False)
4. Is it compulsory to test the line dead by a slight touch of discharge rod at Resister tube prior to placement of discharge rod on OHE wires? (Yes/NO)
5. Expand – PTW- ----------.
6. 1 Meter = ----------mm.
7. Broad Gauge of Railway is ----------mm.
8. The minimum permissible OHE voltage at SP is ----------KV.
9. Cable size of OHE Discharge rod is ----------sq.mm.
10. The safe working distance for 25KV AC OHE is ----------.
11. The DJ open caution board comes after the Neutral Section.(True /False).
12. Height of Height Gauge is ----------.
13. Height Gauge is used at ----------.
14. The caution board that should be displayed on Height gauge is ----
    a) No caution board shall be displayed. b) Danger Board.
    c) Power block Working Limit d) Caution Electrified Section.
15. Name the Caution Board for different Elementary Sections?
16. Traffic hauled by Diesel Power may be permitted into the section under Power Block.(True/False).
17. TI/MI is issued by RDSO. (True/False)
18. Discharge Rods is a safety item.(True/False)
19. Fire Extinguisher suitable for an electrical fire/ fire in live electrical equipment?
20. IR value for an OHE elementary section?
21. Track Protection should be done as per G&SR rule No.----------.
22. Expand – ACTM- ----------.
23. 1 Tone = ----------Kg.
24. Codel Life of a Detonator ----------.
25. Which Tool is used to tackle heavy loads & tensile force-
    a) Discharge Rod. b) Max-Puller c) Grease Gun d) Power Hack Saw.
26. The Tool named Pull-Lift is used for?
    a) To earth OHE. b) POH of ATD
    c) To hold weight of contact wire. d) Non of the above.
27. 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
28. In case of 25KVAC system electrical clearance is greater than working clearance. .(True/False)
29. The Competency Certificate No. for a OHE Lines man is ----------.
30. 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.

31. The Caution Board that must be displayed on FOB/ROBs –
    a) Caution 25000 volts. b) DJ opens board
    c) Lower Panto d) Danger Men working.
32. 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.
33. The section between a TSS and SP is called as ----------.
34. The section between a TSS and SSP is called as ----------.
35. The section between a SSP and SP is called as ----------.
36. As per ACTM the section that's supply is controlled by a CB is called as---------.
37. As per ACTM the section that's supply is controlled by a BM is called as---------.
38. The elementary section supply is controlled by a-
    a) CB b) BM c) Hand operated off load switch. d) BX
39. What is shown in mutually contrast colour in a OHE sectioning diagram?
    a) Sector b) Sub-Sector c) Elementary Section d) Non of the above.
40. According to ACTM ; fire is classified into --------- categories.
41. Inflammable liquids like Transformer oil is categorized as group ---------- fire.
42. Which schedule maintenance has a periodicity of four years.?
    a) AOH b) IOH c) POH d) Non of the above.
43. Which schedule maintenance has a periodicity of twelve months?
    a) AOH b) IOH c) POH d) Non of the above
44. Schedule maintenance Foot Patrolling of a section is done by a Lines Man at an interval of 10 to 15 days.(True/False)
45. The re-tensioning of un-regulated OHE is done at an interval of --------- years.
46. Periodicity of Special Check of OHE is –
    a) 15 days b) 45 days c) 5 years
    d) No defined periodicity, it depends upon usage and chance of failure of the Equipment.
47. Oliver –G is used for –
    a) Thickness of OHE b) Sag in OHE
    c) Height and Stagger of OHE. d) Non of the above.
48. Oliver –G is used for current collection Test.(True /False)
49. Oliver –G can be used in Day time only and not in the night.(True/False)
50. Why it is better to use Oliver-G for Current Collection Test.-
    a) It can be used in day & night. b) No work man is required.
    c) Indicates exact spark location e) It is modern and so, is better.
51. Distance between track center and mast face is known as ----------.
52. Implantation (min.) of opposite gantry mast is ----------.
53. Clear span of N type portal is ----------.
54. Clear span of O type portal is ----------.
55. Clear span of R type portal is ----------.
56. State the size of BFB 6x6 in mm ----------.
57. Normally the length of drop arm is ----------.
58. The boom of TTC mast is available in ----------mts. Lengths
59. Implantation of obligatory mast is ----------mts.
60. Maximum standard span is ---------- mts.

61. Minimum implantation at Platform is ---------- mts.
62. Clear span of TTC mast?
63. Leaning mast is painted with _____ colour strap as identification mark.
64. Mast supporting OHE of different elementary sections should be painted with ------- colour strap as identification mark.
65. Implantation is also known as setting distance. (True/False)
66. A mast inclined instead of being normal to the ground level is called as ---------- mast.
67. 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.
68. Mast leaning more than -------- cm is not permissible.
69. The term Reverse Deflection is associated with ----------.
70. Reverse Deflection applicable is ---- to ------- cm.
71. Minimum implantation is ---------- mts
72. Normal implantation as per new standards is ---------- mts.
73. Minimum span length is ---------- mts.
74. The difference of two consecutive span lengths should not be more than----- mts.
75. Tolerance applicable in mast implantation is ---------- mm.
76. Spans that are multiples of ------ mts. Are known as standard spans.
77. Spans that are not multiple of ------ mts. Are known as Non standard span.
78. 54 mts span length is a non-standard span. (True/False)
79. N type portal is suitable for OHE of maximum ------- No. tracks.
80. O type portal is suitable for OHE of maximum -------- No. tracks.
81. R type portal is suitable for OHE of maximum -------- No. tracks.
82. P type portal may be used in place of –
    a) N portal b) O portal c) R portal d) BFB portal.
83. G type portal may be used in place of –
    a) N portal b) O portal c) R portal d) BFB portal.
84. Size of up-right for N type portal is –
    a) 450x450 b) 550x550 c) 600x600 d)400x400
85. Size of up-right for O type portal is –
    a) 450x450 b) 550x550 c) 600x600 d)400x400
86. Size of up-right for R type portal is –
    a) 450x450 b) 550x550 c) 600x600 d)400x400
87. Size of up-right for P type portal is –
    a) 450x450 b) 550x550 c) 600x600 d)300x300
88. Size of up-right for G type portal is –
    a) 450x450 b) 550x550 c) 600x600 d)250x400
89. Standard BFB mast size ----------.
90. RSJ mast size----------.
91. What are the different sizes of B series mast ?(any three)
92. What is the size of B-150 mast?
93. Normally OHE masts are ---------- mts. Long.
94. ----------mm portion of OHE mast must be embedded in foundation block.
95. In case of fabricated mast channel width should be parallel to track.(True/False)
96. Welded surface of fabricated mast shall remain perpendicular to track. (True/False)

97. In case of BFB/RSJ mast either of the surfaces can be set parallel or perpendicular to the track.(True/False)
98. PSC mast means mast made up of Concrete. (True/False)
99. Minimum permissible implantation on Outside curve is ---------- mts.
100. Minimum permissible implantation on Inside curve is ---------- mts.
101. A mast towards the center of the curve with respect to curved track is called as inside curve mast. (True/False)
102. A mast away from the center of the curve with respect to curve track is called as outside curve mast.(True/False)
103. Selection of span length on curvatures depends upon stagger.(True/False)
104. The term Curve Allowance is related with-
a) Mast Length b) Encumbrance c) Stagger d) Implantation.
105. The Curve Allowance is to be subtracted from the standard values of implantation on tangent track. (True/False)
106. The value of implantation on curved tracks varies according to the sharpness of the curve. (True/False)
107. What is the maximum span length for Tramway type regulated OHE?
108. What is the maximum span length for Tramway type un- regulated OHE?
109. 8.5mts long masts should be used for tram-way type OHE. (True/False)
110. Cap to Cap surface distance of ST, BT & 9 Ton insulators is called as ---------- distance.
111. 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.
112. Insulators with high creepage distance are used in heavily polluted zones.(True/False)
113. Long Creepage distance is –
a) 2000mm b) 1000mm c) 1050mm d) 760mm
114. Name the material used for making of OHE insulators ?
115. If ------- sheds of Insulator is found broken, it should be immediately replaced.
116. Is any test done on 9 ton insulator before its usage? (Yes/No)
117. Name the test that is done on ST, BT & 9Ton insulators prior to their use.
a) Load test b) IR test c) PI test d) No test
118. What specialty is required to the insulators to be used in polluted zone?
119. Sheds of the Hybrid Insulator is made-up of.----------.
120. 9Ton insulator is tested on ---------- kg load.
121. Testing load of ST and BT insulators is ----------kg.
122. Identify that is not a type of insulator from the given below.
a) Bracket insulator b) Stay Insulator c) 9 Ton insulator
d) Pedestal Insulator e) Tie Rod insulator f) PTFE g) Non of these.
123. Identify the activity that is done during AOH-
a) Clean the insulator b) identify the defective and replace it
c) Note the make and batch of insulator d) all of the above.
124. What probable defects you would suspect to a given insulator?
1) Dirty surface 2) broken sheds 3) Crack
4) Prohibited make & batch 5) Flash 6) loose GI cap.
a) 1,3,5 b) 2,4,6 c) 1,2,3,5,6 d) all of these.
125. For ---------- rubber gloves are necessary.

126. 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
127. Clearance between fix and moving contacts when the Isolator is open?
128. Isolator is OFF load switch. (True/False)
129. Keys of all isolators of a Station are kept in Key Box under custody of the Station Master. (True/False)
130. The number of Main line Isolators prefix the code ----------.
131. The number of Yard line Isolators prefix the code ----------.
132. For Isolator operation Competency Certificate is necessary. (True/False)
133. What do you mean by term OFF Load Switch in reference to Isolator?
a) Isolator in yard. b) Maintenance of the Isolator can be done.
c) No current through the isolator d) Operation can be done with least effort.
134. What is the purpose of Isolator Arcing Horns?
a) As Bird scar to prevent the contacts from dirt. b) High Voltage Protection.
c) To protect main contacts from sparking while isolator operation.
d) To lock the main contacts while isolator is in closed condition.
135. In reference to Isolator what the term Pole generally means?
a) No. of Phase b) No. of pedestal insulator
c) Clearance between fix and moving contacts. d) Non of the above.
136. Generally Isolators of -------- Amp capacity for OHE and --------- Amp capacity for switching stations are used.
137. In course of maintenance of Isolator switch its fix and moving contacts should be shorted by a flexible jumper. (True/False)
138. What do you mean by earthing heel isolators?
a) Isolator mast is connected with an earth electrode.
b) Isolator Handel is shorted with mast by a flexible jumper.
c) the isolator has two moving contacts.
d) The Isolator isolates as well as earth the isolated OHE.
139. An Isolator mast shall only be connected to earth electrode if duplicate bonding to the mast is not provided.(True/false)
140. SS rope is treated with ---------- oil.
141. -------- mts SS rope is suitable for Winch type ATD.
142. -------- mts SS rope is suitable for 3 pulley ATD.
143. What would be the suitable length of SS rope in Winch type ATD used for Tram-Way OHE?
144. What would be the suitable length of SS rope in 3 pulley ATD used for Tram-Way OHE?
145. How much counter wait shall be required for Winch type ATD used in Tram-way OHE?
146. How much counter wait shall be required for 3 Pulley ATD used in Tram-way OHE?
147. What is the mechanical advantage of Winch type ATD?
148. Z value of Winch type ATD at 35ºC ?
149. X value increases and Y value decreases with increase in temperature.(True/False)
150. What is the mechanical advantage of three pulley type ATD?
151. Out of Winch Type and 3 Pulley type ATD which one better and why?
152. Which one is reference for ADT?

a) 35ºC b) 27 ºC c) 20 ºC d) 30 ºC

153. During POH of ATD it is good to reverse the ends of SS rope.(True/False)
154. TI/MI0028 states about maintenance of ----------.
155. In case of Insulated Overlap the clearance between both the OHE is ----------.
156. Implantation of obligatory structures ----------.
157. In case of Un- Insulated Overlap the clearance between both the OHE is ----------.
158. Identify from the given that does not indicate the type of a Turn- Out.
    1) PTFE type 2) Regulated type 3) Semi-Regulated type 4) Cross- type
    a) 4, 2 b) 3, 4 c) 1, 2, 3 d) 1, 4
159. Crossing span should not be more than --------- mts in case of Overlap type Tyrnout.
160. In general the Encumbrance is maintained at --------- mts.
161. Steady Clearance with Drop Bracket Clamp is ----------mm.
162. Distance between Mast Top and Bottom fitting of a Bracket Assembly?
163. Size of Bracket tube for Platform location Bracket Assembly?
164. At support the axial distance between Catenary and contact wire is called as?
165. How much is minimum Encumbrance?
166. Size of BFB Steady Arm?
167. Distance of G jumper from support?
168. Duration of replacement of PG clamp?
169. How many PG clamps are required for a G jumper?
170. Size of Structure Bond?
171. Z bond is provided nearby to track circuit.(True/False)
172. Distance between two Cross Bonds on main line?
173. The minimum permissible size of Bond is?
174. PTFE neutral section is provided in SSP overlap.(True/False)
175. What is the length of short PTFE type Neutral Section?
176. 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.
    e) Non of the above.
177. Which one do not requires earth pit?
    a) Isolator b) PTFE neutral section
    c) Over line structure d) Over Lap type N/S
178. Stagger of PTFE type Neutral Section?
    a) 0 b) +100 c) -100 d) +/- 200
179. Stagger of Neutral OHE in Over Lap type Neutral Section is?
180. No. of Caution Boards applicable to each Neutral Section is?
181. The stagger of section insulator should be ----------.
182. Encumbrance at Section Insulator should not be less than ----------mm
183. Clearance between trailing side runner of section insulator and Contact wire is --------
184. Size of Section Insulator Runner is ----- X -------.
185. For all conditions of section insulator a speed restriction of 80KMPH shall be applicable.(True/false)
186. Generally the Tension length of regulated OHE is ----------.

187. Anchoring height of Regulated OHE ----------.
188. Cross Sectional area of Catenary Wire is ----------.
189. What we find in current collection test?
190. What is current rating of 25 KV AC OHE in Simple catenary system?
191. Anchoring height of Un- Regulated OHE ----------.
192. Minimum Height of OHE in Loco Shed? ----------
193. The distance between two consecutive C jumpers in regulated OHE? ----------.
194. Maximum tension length of Regulated OHE ----------.
195. The minimum clearance of 25KV OHE and Over line Structure?----------.
196. Bridle Wire is used for ---------- type OHE.
197. Rigid dropper can be used on main line.(True/False)
198. Periodicity of Current Collection test is 3 months.(True/False)
199. Tolerance in OHE height is ----------mm
200. Is the tolerance applicable for minimum height and implantation?(YES/NO)
201. General tendency of contact wire parting is at-
    a) ACC b) RRA c) FTA d) BWA
202. Adjustable Dropper is used for –
    a) ATD b) RRA c) Section Insulator d) ACA
203. Contact Ending Cone is not used at –
    a) BWA b) FTA c) ACA d) Non of the above.
204. Cross Sectional area of new contact wire ----------.
205. Diameter of new Contact Wire ----------.
206. Condemning diameter of Contact wire for Main Line ----------.
207. Condemning diameter of Contact wire for Yard Line ----------.

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208. Unit of Current is ----------.
209. Unit of Voltage is ----------.
210. Unit of Resistance is ----------.
211. Ampere is the unit of ----------.
212. A volt is the Unit of ----------.
213. Ohm is the unit of ----------.
214. Ammeter is used for measurement of ----------.
215. Voltmeter is used for measurement of ----------.
216. Ohmmeter is used for measurement of ----------.
217. Multimeter is used for measurement of ----------.
218. Unit of Insulation Resistance is ----------.
219. The Meter used for measurement of Insulation Resistance is ----------.
220. Megger is used for measurement of ----------.
221. Mega-Ohms is the unit of ----------.
222. 1MΩ = ---------- ohms.
223. In a circuit, the Ammeter shall be connected in ----------.
224. In a circuit, the Voltmeter shall be connected in ----------.
225. 1 Kilometer = ---------- meter.
226. 1 Meter = ---------- centimeter.

227. 1 Centimeter = ---------- millimeter.
228. 1 Foot = ----------inches.
229. 1 Inch = ----------centimeters.
230. Unit of electrical energy consumption is ----------.
231. Unit of Electrical Power is ----------.
232. Horse –Power is the unit of ----------.
233. Kilogram-Meter per Second is the unit of ----------.
234. 1HP = ---------- watts.
235. ---------- Circuit converts AC supply into DC supply.
236. ---------- Circuit converts DC supply into AC supply.
237. The ideal value of Power Factor is ----------.
238. In case of Power Factor, out of 8.0 and 0.88, which one shall be better than 0.80?
239. Maximum voltage for 25 KV AC OHE is ----------.
240. Minimum voltage for 25 KV AC OHE is ----------.
241. The ideal value of Insulation Resistance is ----------.
242. Working Clearance for 25 KV AC OHE is ----------.
243. A drawing made by viewing the object right from its top is called as ----------.
244. A drawing made by viewing the object right from its front is called as ----------.
245. To have complete information of the object from drawing –
    a) Plan is sufficient. b) Plan & Elevation is sufficient.
    c) Plan, Elevation & End view shall be required. d) Non of these.
246. According to Ohm's law which relation is incorrect?
    a) $I = \frac{V}{R}$ **b)** $R = \frac{V}{I}$ **c)** $V = I \times R$ **d)** $V = \frac{I}{R}$
247. Which type of material is classified as per temperature?
    a) Conductor b) Insulating c) Semi conducting d) Magnetic.
248. For a series connected circuit which statement shall be incorrect?
    a) Current shall be equal to all loads.
    b) Current through all loads shall be equal but voltage drops shall be different.
    c) Current shall different to different points of circuit.
    d) Circuit current shall depend on total resistance of the circuit.
249. What is in correct in connection with Ohm's law?
    a) It states the relation among the voltage, current & resistance in a closed circuit.
    b) Circuit current is proportional to the voltage imposed.
    c) Circuit current is inversely proportional to the circuit resistance.
    d) Temperature has no effect on this relation.
250. A freely suspended magnet will always rest in ---------- direction.
251. Magnetic poles are generally known as ----------.
    a) North- South b) East- West c) EMF- MMF d) UP-DOWN
252. Which one is incorrect to natural magnet?
    a) Loss of magnetic properties on heating.
    b) Similar poles repeal and opposite attract each other.
    c) A magnet attracts all metals.
    d) Small pieces of a magnet shall also be a magnet.
253. When current is flown through the wire, wound on a iron piece ,the iron piece becomes-

a) Natural Magnet b) Electro-Magnet c) Steel d) Mild Steel.

254. How a Electromagnet differs from a Natural Magnet?
a) Number of poles may be arbitrarily chosen. b) Magnetic line of force is reversed.
c) Strength of poles depends on size of magnet d) Temporary Magnetism.

255. Electromagnetism is not used in ----------
a) Compressor motor contactor. b) Battery charger.
c) 42 KV LA d) Taret CT

256. ---------- Works on principle of electromagnetism.
a) LA b) Capacitor c) CB d) AT

257. The lowest category of insulating materials as per thermal classification is ---------.

258. According to thermal classification of insulating materials category Y materials are suitable for temperature limit ----------.
a) 0ºC b) 180ºC c) 90ºC d) 270ºC

259. The highest category of insulating materials as per thermal classification is ---------.

260. According to thermal classification of insulating materials category Y materials are suitable for temperature limit ----------.
a) Above 0ºC, up to 80ºC b) Above 0ºC, up to 90ºC
c) Up to 150ºC d) Above180ºC

261. The vital component of a rectifier circuit is?
a) Resistor b) Diod c) Capacitor d) Chock Coil

262. Normally generation of electrical energy is done in ------ phases.
a) 1 b) 2 c) 3 d) 4

263. 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.

264. Direction of electric current flow is –
a) From high voltage to low voltage. b) Low voltage to high voltage.
c) Between two points that's voltage is same. d) There is no such rule.

265. Whenever OHE voltage goes down to ------ KV or less, the TPC gets catenary indication.

266. Tests that can be done by the same measuring equipment –
a) PI / IR b) BDV / DGA c) THRC / IR d) PPM / DGA

267. What do you mean by unit consumed in connection with Electric Meter Reading?
a) KVA b) KVAR c) KWH d) KA

268. What do you mean by Range in context with Megger ?
a) Max value of MΩ on scale. b) Voltage.
c) RPM of rotating handle. d) Initial value of MΩ on scale.

269. Identify the symbol of Infinity.
a) MΩ b) & c) ∞ d) °C

270. TR-1 is given to ----------.

271. Competency Certificate given to OHE Lines Man is ----------.

272. TR-5 Competency Certificate is given to –
a) OHE Lines Man b) PSI fitter
c) RC artisan d) PSI Supervisor.

273. According to TR-2 a Lines Man is not authorized for-

a) Work on OHE. b) 25KV isolator operation.
c) Switching operation in Switching Station despite of permission granted by TPC.
d) Commissioning of new installations.

274. TR-5 permits a PSI artisan for –
a) Issuing PTW. b) Receiving PTW of EHV lines
c) Commissioning of new installations.
d) Shutting down 25KV installations according to instructions of TPC.
275. Which method of safety is generally not adopted during power block on a Sub-Sector?
a) PTW b) Prohibition of AC engines to enter in power block section.
c) To tripe Feeder CB. d) Application of Discharge Rods.
276. Skilled Artisan of Remote Control is given the Competency Certificate TR----------.
277. Maximum Permissible distance between two discharge rods is?
a) 1 meter b) 10 meter c) 100 meter d) 1000 meter.
278. 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.
279. Ohm's law states the relation among Voltage, Current & Resistance. (True/False)
280. Resistance of a wire increases with increase in its length. (True/False)
281. Resistance of a wire decreases with increase in its length. (True/False)
282. The resistance of a wire decrease with increase of its thickness. (True/False)
283. The resistance of a wire increases with increase of its thickness. (True/False)
284. Resistance of conductors increase with temperature. (True/False)
285. Resistance of conductors decreases with increase in temperature. (True/False)
286. Resistance of insulating materials increases with temperature. (True/False)
287. Resistance of insulating materials decreases with increase in temperature. (True/False)
288. Resistance of conducting materials varies according to temperature. (True/False)
289. Conversion of AC supply into DC is possible, but the reverse is not. (True/False)
290. Value of Insulation Resistance is independent of temperature. (True/False)
291. Insulation Resistance decreases with increase of temperature. (True/False)
292. Electrical Clearance and Working clearance are the two different name of the same vary fact. (True/False)
293. The drawing called as Plan, depicts all the three dimensions (Length,Width,Height) of the object. (True/False)
294. The poles of a magnet can simply be made separated by cutting the magnet into pieces. (True/False)
295. A magnet shall always have two poles. (True/False)
296. Insulating properties of insulating materials get affected by temperature; therefore, these have been classified into temperature groups. (True/False)

297. Selection of megger shall be done according to rated voltage of the winding under IR test. (True/False)
298. Winding Resistance and insulation resistance are two different names of the same vary fact. (True/False)
299. For safety considerations the distance between two discharge rods should not be more than 1 KM.
300. Discharge Rod should be clamped on that mast only which is having structure bond connected. (True/False)
301. A combination of cells shall be called as ----------.
302. Cell voltage of a lead –acid cell is ----------.
303. Electric cell converts ---------- energy into electrical energy.
304. Supply available from a electric cell is ---------- (AC or DC)
305. Basically a battery charger is a ---------- circuit.
306. The cell voltage of a fully charged Leas-Acid cell is ----------.
307. A Lead-Acid cell shall be said fully discharged when its voltage drops down to -------
308. Electrolyte of a Lead –Acid Cell is prepared from Sulfuric Acid and ----------.
309. Electrolyte of a Lead –Acid Cell is prepared from Distilled Water and ----------.
310. The SPG of electrolyte of fully charged lead-acid cell is ----------.
311. A Lead-Acid cell shall be said as fully discharged when SPG of its electrolyte drops down to ----------.
312. Unit to indicate battery capacity is ----------.
313. The battery---------- increases if the cells are connected in series. (Voltage, Capacity)
314. The Battery ---------- increase if the cells are connected in parallel.(Voltage, Capacity)
315. The battery ---------- depends upon its size.(Voltage, Capacity)
316. General maintenance of a battery set is done at an interval of ---------- days.
317. As a temperature correction -------- shall be added or deducted from the SPG readings of electrolyte taken from hydrometer for per degree temperature variations.
318. The reference temperature for Temperature Corrections in SPG readings of electrolyte is ----------.
319. What shall generally be added to maintain the level of electrolyte in a cell? (electrolyte, distilled water, acid)
320. To keep a battery set at very low charging rate is called as? (Boost Charging, Trickle Charging)
321. To charge a battery set at very high rate for a short period is called as? (Boost Charging, Trickle Charging)
322. To prepare electrolyte which type of pot is suitable? (Stain less Steel, Glass or Porcelain, Cupper)
323. The white aggregate appearing on the terminals of a battery is called as ----------.
324. Sulfation is a indicator of ---------- health of the battery. (Good, Bad)
325. The SPG of electrolyte ---------- when the battery gets charge. (Increase, Decrease)
326. The SPG of electrolyte ---------- when the battery gets discharge. (Increase, Decrease)
327. Battery rating for a TSS is ----------AH.
328. Battery rating for a SSP is ----------AH.
329. Battery rating for a SP is ----------AH.
330. ---------- is used for measurement of SPG of electrolyte.
331. SPG of distilled water is ?

a) 1.000 b) 1.180 c) 1.220 d) 2.2

332. What is true for DC supply and distilled water?
a) DC current can not flow through distilled water.
b) DC current can flow through distilled water,
c) DC current gets stored in distilled water.
d) DC gets converted into AC.

333. 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.

334. Electrolyte bubbling heavily, it is a indication of?
a) Over charging b) Under charging c) No load d) Discharged

335. What are the conditions for better performance of a battery set?
1. Equal cell voltages. 2. Equal AH
3. Equal SPG of Electrolyte. 4. Correct connection.
a) 1, 4 b) 3, 4 c) 1, 2, 3 d) all of the above.

336. 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.

337. All types of cells can be used repeatedly by repeated charging.(True/False)
338. Primary cells can not be recharged after getting discharged. (True/False)
339. Secondary cells can not be recharged after getting discharged. .(True/False)
340. DC supply source is required for charging a cell. .(True/False)
341. A cell can be charged through AC supply. .(True/False)
342. Electrolyte is an example of insulating material. .(True/False)
343. Electrolyte is an example of conducting material. .(True/False)
344. The Electrolyte of Lead-Acid battery is of acidic nature. .(True/False)
345. The Electrolyte of Lead –Acid Battery is of basic nature. .(True/False)
346. Distilled water is of Neutral Nature. .(True/False)
347. To prepare the electrolyte one part sulfuric acid is mixed with three or four part of distilled water. .(True/False)
348. To prepare the electrolyte one part sulfuric acid is mixed with three or four part of ordinary water. .(True/False)
349. Battery capacity may be stated as KW. (True/ False)
350. The voltage increases and the capacity remain constant, if the cells are connected in series. (True/ False)
351. The voltage increases and the capacity remain constant, if the cells are connected in parallel. (True/ False)
352. The capacity of cell increases with increase of its size. (True/ False)
353. The Voltage increases with increase of the size of cell. (True/ False)
354. To connect positive terminal with the positive one, shall be a parallel connection. (True/ False)
355. To connect positive terminal with a negative one, shall be a parallel connection. (True/ False)
356. To prepare the electrolyte, acid shall be poured into distilled water. (True/ False)
357. To prepare the electrolyte, distilled water shall be poured into acid. (True/ False)

358. For each degree rise of temperature above 27°C, the hydrometer reading should be added with 0.0007. (True/ False)
359. The hydrometer reading should be deducted with 0.0007 for each degree rise of temperature above 27°C (True/ False)
360. The hydrometer reading should be added with 0.0007 for each degree fall of temperature below 27°C. (True/ False)
361. The hydrometer reading should be deducted with 0.0007 for each degree fall of temperature below 27°C. (True/ False)
362. The gas emerging from a battery may cause explosion. (True/ False)
363. The orifice at the top of vent plug should normally be open, but should be closed during boost charging. (True/False)
364. The orifice at the top of vent plug should normally be closed. (True/False)
365. The orifice at the top of vent plug should normally be open. (True/False)
366. Unit of specific gravity is gram per cubic centimeter. (True/False)
367. Specific gravity has no unit. (True/False)
368. Battery rating for TSS is 200AH. (True/False)
369. Battery rating for SP, SSP is 40AH. (True/False)
370. Battery rating for all switching stations has been standardized as200AH. (True/False)
371. Normally battery with higher AH capacity sizes bigger. (True/False)
372. Cell voltage of lead-acid cell does not depend on its size. (True/False)
373. Hydrometer is used for measurement of SPG. (True/False)
374. The unit of Transformer capacity is ----------.
375. How many numbers of winding are there in a single phase transformer? (Two, One)
376. Healthy silica gels colors is ---------- (Pink / Blue)
377. Silica Gel turns ---------- (colour) absorbing moisture.
378. BDV of Transformer oil should be ---------- KV.
379. Colour of New transformer oil is ----------.
380. ---------- is fixed between Bell Tank and Conservator tank.
(Buchholtz relay/ Breather)
381. The transformer oil should be replaced if it turns----------(colour)
382. What is the use of transformer oil?
a) Insulation b) Cooling c) Both the above.
383. Transformer Oil is categorized as?
a) Edible oil b) Fuel c) Insulating oil
384. Which device is used to protect the transformer from excessive internal pressure?
a) PRD b) Buchholtz Relay c) MOLG d) Drain Cork.
385. ---------- is used for low oil level protection.
386. What is used for cooling of a transformer?
a) Conservator tank b) Radiator c) Breather d) Core
387. The power loss that occurs in transformer winding is called as----------.
388. The power loss that occurs in transformer core is called as----------.
389. The ratio of rated voltage of primary and secondary winding of a transformer is called as ----------.
390. For a transformer, the product of primary side voltage and current is equal to product of secondary side voltage and ----------.
391. ---------- is the unit to express moisture content in transformer oil.

392. POH of Power Transformer is done after ----------.years.
393. Insulation Resistance between LV and E at 30°C for a 132KV / 25KV transformer should not be less than----------.
394. Insulation Resistance between HV and E at 30°C for a 132KV / 25KV transformer should not be less than----------.
395. Insulation Resistance between LV and HV at 30°C for a 132KV / 25KV transformer should not be less than----------.
396. Traction Transformer can be run for ---------- minutes at 50% over load.
397. Traction Transformer can be run for 15 minutes at ----------% over load.
398. Traction Transformer can be run for ---------- minutes at 100% over load.
399. Traction Transformer can be run for 5 minutes at ----------% over load.
400. Setting for oil temperature alarm is ----------°C.
401. Setting for oil temperature trip is ----------°C.
402. Setting for winding temperature alarm is ----------°C.
403. Setting for winding temperature trip is ----------°C.
404. Traction Transformer is normally equipped with ---------- tap changer. (On load / off load)
405. The ratio of number of turns in primary and secondary winding of a transformer is called as ----------.
406. Transformer Oil is dangerous since it is ----------.
    a) Inflammable b) Toxic c) Hygroscopic d) Unnatural.
407. Out of the following relations , what would be incorrect for a transformer where N indicates number of turns, V voltage and I current.

a) $\frac{N_1}{N_2} = \frac{V_1}{V_2}$ b) $\frac{V_1}{V_2} = \frac{I_2}{I_1}$ c) $\frac{N_1}{N_2} = \frac{V_1}{V_2} = \frac{I_1}{I_2}$

408. ONAN / ONAF are the types of –
    a) Transformer cooling system. b) Winding
    c) Tap Changer d) Earthing
409. What it indicates, if the terminal connection of a transformer appear bad in colour.
    a) Abnormal heating of terminals due to loose connection b) Transformer Over load
    c) Higher EPR. d) Non of the above.
410. Transformer oil sample Crackles on heating ; it is an indication of –
    a) Increased acid content. b) Too cold sample
    c) Excessive Water content d) Improved BDV .
411. Oil temperature trip facility is given since at higher temperatures-
    a) Transformer oil becomes thick and immovable.
    b) Insulating properties of insulations impair sharply.
    c) Buchholtz relay trips.
    d) It becomes difficult to operate tap changer due thicken transformer oil.
412. What is incorrect in context of Buchholtz Relay?
    a) It is an electromechanical relay.
    b) It protects transformer from internal faults.
    c) It requires collection of gas to operate.

d) It is situated between bell tank and conservator tank.

413. In case of transformer bushing ,the value of tan-δ testing should not be more than -----

414. In case of transformer bushing ,the value of capacitance should not be more than ---%

415. During maintenance, it is found that oil level in OIP Condenser bushing is low from the set value what action should be taken?
   a) Transformer can be taken on load.
   b) Bushing shall be replaced.
   c) On lowest tap transformer can be taken on load.
   d) Tan-δ and Capacitance test shall be done and action shall be taken according to results.

416. No need to reset OTI/WTI during ---------- scheduled maintenance.
   a) Monthly b) Half Yearly c) Yearly d) Non of the above.

417. OTI indicates?
   a) Average temperature of transformer oil.
   b) Maximum temperature of transformer oil.
   c) Minimum Temperature of Transformer oil
   d) Maximum permissible temperature of transformer oil

418. 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.

419. 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.

420. Which Instrument is used for PI checking?
   a) Ammeter , Voltmeter , Watt meter b) Earth Tester
   c) Megger d) BDV Tester.

421. Winding is said in good health ,if the value of Polarization Index is-
   a) Less than 1 b) More than 2
   c) Value of Polarization Index does not indicate winding condition.
   d) More than 1, less than 2.

422. Unit for measurement of Polarization Index.
   a) Volt per second b) Mega –Ohms per second
   c) Volt per rotation d) there is no unit.

423. During half yearly maintenance ,oil sample for BDV test should be taken –
   a) Just after shutting down the transformer.
   b) After cooling of transformer oil.
   c) After keeping the transformer at 5 No. Tap for half an hour.
   d) Sample bottle should be filled by taking small quantities over a considerable time during the maintenance.

424. The symbols R60/R10 and R600/R60 bear the relation with ---------- .
   a) BDV b) PPM c) tan-δ d) Polarization Index.

425. What does it mean by R60/R10 in relation with PI?
   a) Resistance of 60Ω and 10Ω.

b) Megger readings after 10 sec. and 60 sec. respectively .
c) Megger readings after 10 sec. and 60 sec when rotation of handle has been stopped.
d) Non of the above.

426. According to TI/MI 38, what action should be taken if the value of PI test is less than 1.1 .
a) Replace transformer oil. b) Transformer is in good condition.
c) Oil filtration and again PI test. d) TI/MI38 do not say any thing about PI test.

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

428. DGA testing is a test of dissolved ---------- in transformer oil.

429. ---------- Test is done to test Electrical Strength of transformer oil.
a) IR b) DGA c) BDV d) PPM

430. 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.

431. Crackle Test is done to deduce the water quantity in oil sample.(True/false)

432. Factor that affects insulation resistance?
a) Size of winding b) Temperature
c) Moisture d) All of the above.

433. While meggering a transformer ,---------- temperature should also be recorded along with the megger reading.
a) Air b) MOLG c) OTI d) a & c

434. While meggering ,what should also be recorded on the test record along with megger reading?
a) Megger Rating. b) Make & Serial Number
c) Air & OTI d) All of the above.

435. To megger Traction Transformer 500 volt megger is suitable. (True /False)

436. What is incorrect about Oil filtration?
a) Initially IR falls with rise of temperature.
b) With filtering out dirt and moisture BDV improves.
c) Oil filtration do not permits dissolved gases to escape out from oil.
d) IR value increases with fall of oil temperature when filtration plant is shut-off.

437. Which test shall not be done for OIP condenser bushing during yearly maintenance?
a) tan-δ b) Capacitance c) IR d) Crackle

438. Generally spark gap for 25KV bushing of traction transformer is
a) 16.5 cm b) 25 cm c) 75 cm d) 1mt.

439. On selection of higher taps of a tap-changer voltage increases since-
a) No. of turns in winding increases.
b) Winding resistance reduces.
c) Insulation resistance of winding reduces
d) Incoming voltage to winding increases.

440. Electrode gap of BDV tester is ----------mm.

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

442. Bushing CT is provided with all bushings of a power transformer. (True / False)

443. Location of PRD?
a) Behind control panel b) below marshaling box

c) Above bell tank d) beside conservator tank.

444. Is it true that in the course of usage, acid forms naturally in transformer oil? (Yes/No)
445. Is transformer oil a inflammable liquid? (Yes/ No)
446. Capacity of a transformer is expressed in KW. (True/False)
447. Buchholtz relay is oil pressure relay. (true/false)
448. Transformer capacity is expressed in KVA.(true/false)
449. BDV value of transformer oil should not be less than 60KV.(true/false)
450. BDV value of transformer oil should not be more than 60KV.(true/false)
451. In a TSS, concrete wall between both the transformers is known as Baffel –Wall. (true/false).
452. Transformer oil is a mineral-oil used as fuel .(true/false)
453. Synthetic oils can also be used as Transformer –Oil.(true/false)
454. Sampling of transformer oil should be done in dry, hot and clear atmosphere. (true/false)
455. PRD is used to protect the transformer from high internal pressure.(true/false)
456. Drain Cork is used to protect the transformer from high internal pressure.(true/false)
457. In context of transformer, copper loss means wear & tear of winding. (true/false)
458. In context of transformer, Iron-loss means wear & tear of Core. (true/false)
459. Step-up transformer increases voltage. (true/false)
460. Step-down transformer reduces electrical power. (true /false)
461. Transformer is a device which bridges high and low voltage circuits. (true/fase)
462. Periodicity of POH of Power transformer is 4 years. (true/false)
463. New transformer oil is clear and transparent in colour. (true/ false)
464. Out put voltage of a transformer can be controlled by tap-changer. (true/false)
465. There is no relation between turn ratio and voltage ratio of a transformer.(true/false)
466. Transformers may also be classified on number of phases. (true/fase)
467. In case of Auto transformer, both the primary and secondary terminals are connected with the same winding.(true/false)
468. A transformer works only in one direction that is , imposing voltage to primary voltage appears on secondary terminals but imposing voltage to secondary no voltage appears on primary terminals. (true/false)
469. Transformer work in both directions, i.e. primary to secondary and vice-versa. (true/false)
470. If an ONAN transformer is turned to ONAF, its capacity improves. (true/false)
471. Normally HT bushing is oil filled type. (true/false)
472. HT bushing is always shield type. (true/false)
473. On BDV test, if the results are less than the standard one, oil filtration should be done. (true/false)
474. It indicates some thing abnormal if there is considerable rise in readings of OTI/WTI from that of last readings. (true/false)
475. That actions are not required during the half yearly maintenance which are done in monthly maintenance.(true/false)
476. Before meggering it is compulsory to make the bushing free from dust and moisture. (true /false)
477. In case of single phase traction transformer, it is not compulsory to open terminal connections prior to meggering of the transformer. (true/false)

478. Tan –δ test indicates the quality of the insulating material. (true/false)
479. For transformer bushing, value of tan-δ should not be less than 0.007. (true/false)
480. Capacitance value for transformer bushing should not be less than 110% of factory set value.(true/false)
481. CB controls the supply of ----------.(Sector, Sub-Sector,Elementry Section)
482. BM controls the supply of ----------.(Sector, Sub-Sector,Elementry Section)
483. Isolator controls the supply of ----------.(Sector, Sub-Sector,Elementry Section)
484. On faults---------- trips automatically. (CB, BM, OHE, PT-II)
485. OFF load hand operated switch is well known as ---------- (CB,BM, MCB,Isolator)
486. What is not controlled by TPC through remote control? (CB, BM, DPI)
487. 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.
488. When 25KV isolator is in opened condition, what should be the clearance between its fixed and moving contact?
489. Code ---------- is prefixed before number of isolator connected with main line OHE.
490. 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.
491. Out of the following, what is not the type operating mechanism of a CB or BM?
    a) Air open/ Air Close b) Spring open / spring close
    c) Air open / spring close. d) ONAN / ONAF
492. What is not compulsory for maintenance of CB / BM?
    a) To obtain PTW from TPC.
    b) To open SPI/DPI from both sides.
    c) To keep switch gear on local control.
    d) To keep 110 volt DC supply switched off during the work.
    e) Non of the above.
493. Normally gas pressure in SF6 type CB/BM is maintained at ----------.
494. Low gas pressure alarm operates at ---------- kg/cm² for SF6 CB/BM ,where normal gas pressure is 5 Kg/cm²
495. SF6 CB/BM(5Kg/cm²) locks-out at low gas pressure of ---------- kg/cm².
496. Which component of SF6 CB/BM generates low gas pressure alarm/lock-out signals?
497. Function of Gas Density switch is –
    a) to check purity of SF6 gas. b) to control total break time .
    c) to generate signal according to gas pressure in pole unit.
498. ---------- is used to check gas pressure in pole-unit.
    (Gas density switch, Gas pressure gauge, Compressor)
499. Normal working air pressure for 25KV CB/BM is ----------.
500. Air pressure alarm, for 25KV CB/BM, operates at ----------.
501. 25KV CB/BM locks out due to low air pressure at ----------
502. In a 25KV CB/BM air pressure is maintained by ----------
    a) Compressor b) Air pressure limit switch
    c) Safety valve d) TPC

503. In 25KV CB/BM, ---------- is used for safety of Air Cylinder.
504. ----------°C is taken as Standard for determination of Gas Pressure in 25KV CB/BM.
505. Only a competent railway servant can operate the 25KV Isolator switch. (True/False)
506. Operation of 25KV Isolator switch is permitted to all railway servants. (True/False)
507. In open state ,the clearance between fix and moving contact of an 25KV Isolator should be 500mm. (True/False)
508. In open state ,the clearance between fix and moving contact of an 132KV Isolator should be more than 500mm. (True/False)
509. On-Load operation of an 25 KV isolator switch should not be done. (True/False)
510. An elementary section can be isolated by isolator switch. (True/False)
511. Nitorgen Gas is filled in the pole unit of Vacuum type CB. (True/False)
512. Any type of Gas or Air is not filled in the pole unit of Vacuum type CB/BM, (True/False)
513. Total Break time of 25KV single pole SF6 Circuit Breaker should not be more than 65 milli-seconds. (True/False)
514. Total Break time of 25KV single pole SF6 BM should not be more than 80 Mili-seconds. (True/False)
515. In no condition SF6 gas can convert into liquid state. (True/False)
516. At some specific high pressure and low temperature, SF6 gas converts into liquid state. (True/False)
517. PTW must be obtained from TPC for the maintenance of CB/BM. (True/False)
518. It is safe to keep the CB/BM on local control while its maintenance is in progress. (True/False)
519. It is safe to switch off 110 volt DC supply of CB/BM while its maintenance is in progress. (True/False)
520. Gas density switch generates alarm according to gas pressure in the pole unit. (True/False)
521. It is impossible to check the settings of gas density switch. (True/False)
522. Combined earth pit resistance of a TSS should not be more than ---------- Ω.
523. Combined earth pit resistance of a SSP should not be more than ---------- Ω.
524. Combined earth pit resistance of a SP should not be more than ---------- Ω.
525. Single earth-pit resistance should not be more than ----------.
526. The ideal value of EPR would be ----------.
527. As per ACTM, earth electrodes should be ---------- meters long.
528. As per ACTM, bore of earth electrodes should be ---------- cm.
529. As per ACTM, minimum separation between two earth pits is ----------.
530. Treatment by mixture of salt-charcoal should be done if the EPR is less than 10Ω. (true/false)
531. Treatment by mixture of salt-charcoal should be done if the EPR is more than 10Ω. (true/false)
532. It is good to pour water in earth pit at a regular interval. (true/false)
533. Over a year, EPR should be checked during dry and hot season. (true/false)
534. In a switching station, all earth electrodes are connected in ---------- connection. (series/parallel)
535. Earth pit for remote control equipment should not be connected with earth pits/ earth grid of switching station. (true/false)

536. Earthing for RCE should not be connected with earthing of switching ,because-
a) Traction current may harm to RCE equipments.
b) RCE equipments work on DC supply.
c) There is no such restriction.
537. LA rating for 25KV system is ----------.
538. LA rating for 110KV system is ----------.
539. LA rating for 132KV system is ----------.
540. LA rating for 220KV system is ----------.
541. The abnormal conditions ,LA protects from, is ---
a) Short circuit b) Open circuit c) Low voltage d) Voltage surge.
542. LA may be tested from Megger. (true/false)
543. Prior to erection, LA should be tested from ----------.
544. POH of LA should be done after 4 years. (true/false)
545. There is no POH schedule for LA. (true/false)
546. 42KV LA should be Meggered by 500 volt megger. (true/false)
547. Megger value for 42KV LA should be? (2500MΩ , 1GΩ , 10GΩ, 200KΩ)
548. Megger value for 198KV LA should be? (2500MΩ , 1GΩ , 10GΩ, 200KΩ)
549. LA is connected between line and earth. (True / False)
550. In three phase system (132 KV) , LA is connected between any two phases. (True / False)
551. Within a TSS, the minimum height of 25KV bus-bar from ground level is ----------.
552. Control circuits for switching stations works on ---------- volts DC.
553. In a TSS, voltage ratio of 100KVA AT is ---
a) 100KV /230 volt b) 100KV/440 volt
c) 25KV/230 volt d) 25KV/ 440volt.
554. Electrical Clearance for 25KV system is ----------.
555. Catenary indication is a must for Closing Operation of ----------
a) Doors of control penal of TSS. b) Sectioning BM of SSP
c) HV CB d) Bridging BM.
556. 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
557. On a SSP over lap, which side of OHE gets parallel by the paralleling BM of that SSP?
a) TSS b) SP c) middle d) both side
558. Bus –bar connection gets bad in colour, what it indicates for?
a) Bus Bar is getting hot due to bad connection.
b) Connection is alright and bus bar do not getting hot.
c) General climatic effect on bus-bar.
d) Poor quality of bus- bar material.
559. Bus-bar connection should be opened, cleaned and retighten if -
a) CB trips on WTI indication. b) Pre-monsoon is being done.
c) Bus –bar is bad in colour. d) Non of the above.
560. To deduce average PF of a TSS over a month, what items of meter reading of that TSS for the month shall be used?
a) KVAH, KVARH b) KVAH, KWH

c) KVA, KVAR d) KVA, KW.

561. What is meant from Earth-Screen, in context of a TSS?
a) Under Ground earth-grid. b) Earthed fencing around TSS.
c) A caution –board. d) Earth wire hanging on TSS gantry.

562. Under voltage relay is related with –
a) All BM of TSS b) Paralleling BM of SP and SSP.
c) Sectioning BM of SSP d) Bridging BM of SP.

563. A lair of ballast, used in switch-yard, serves as insulation. (True/False)

564. In a Traction Transformer ,Bushing CT is used for –
a) OCR b) DPR c) EFR d) DFR

565. For a 132KV/25kV traction transformer, how many CT are required to Differential Protection?
a) 2 No LV taret CT b) 2No. HV taret CT
c) HV Gantry-CT, LV taret CT d) HV and LV taret CT

566. Differential protection works against which type of fault?
a) Internal faults b) Over voltage
c) Over current d) Low oil level.

567. OCR –T is protection from?
a) Sustained over Currents due to over load.
b) Sudden rise of current due to earth fault.
c) Over current due to earth fault away from TSS.
d) Sudden rise of current by 200% of normal current due to any reason.

568. DPR is Protection from?
a) Sustained over Currents due to over load.
b) Sudden rise of current due to earth fault.
c) Earth fault away from TSS.
d) Sudden rise of current by 200% of normal current due to any reason.

569. Which relay gets its input from both the CT and PT?
a) OCR b) DPR c) EFR d) DFR

570. Delta-I relay is said as back-up to DPR. (True/False)

571. Every type of CB is having the facility to alter the setting of its tripping current.(true/false)

572. What would you do, if you want to change the tripping current of a CB?
a) It might not be done; the CB would have been replaced.
b) CT would have been replaced.
c) Relay setting should be adjusted.
d) Battery voltage should be changed.

573. WPC relay is placed in SP. (true/false)

574. WPC relay is placed in TSS. (true/false)

575. What is correct about WPC relay?
a) One No in SP b) two No. in SP c) one No. in TSS d) two No. in TSS

576. Earth –Screen is a protection against –
a) Touch Voltage b) Step Voltage c) Lightening Stroke d) Earth Fault.

577. 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.

578. OCR-I is a protection against -
    a) Sustained over Currents due to over load.
    b) Sudden rise of current due to earth fault.
    c) Over current due to earth fault away from TSS.
    d) Sudden rise of current by 200% of normal current due to any reason.
579. ITR is a fault sensing relay. (true/false)
580. ITR is a auxiliary relay for transformer protection. (true/false)
581. It is not the auto –reset type relay-
    a) OCR b) DPR c) WPC d) ITR
582. Is it necessary to check the transformer before putting on load if it was out from circuit due to Differential relay? (Yes/No)
583. Voltage ratio of PT type I ----------.
584. Voltage ratio of PT type II ----------.
585. KVA rating of AT normally used for CLS is ----------.
586. Voltage ration of AT normally used for CLS is ----------.
587. Rating of AT normally used in SP/SSP is ----------KVA
588. ----------No of AT is used in TSS. (1, 2, 3, 4)
589. 100KVA AT of TSS is used for-
    a) Yard Lighting b) Stand by
    c) Filtration Plant d) Power Factor correction.
590. Rating of PT normally used for catenary indication is ----------.
591. DO fuse rating for 10 KVA AT is ----------.
592. Rating of KIT- KAT fuse for 10KVA AT is ----------.
593. Minimum permissible Megger value between HT- E for a CT is ----------MΩ
594. Minimum permissible Megger value between LT- E for a CT is ----------MΩ
595. Minimum permissible Megger value between HT- LT for a CT is ----------MΩ
596. Minimum permissible Megger value between HT- E for a PT is ----------MΩ
597. Minimum permissible Megger value between LT- E for a PT is ----------MΩ
598. Minimum permissible Megger value between HT- LT for a PT is ----------MΩ
599. Minimum permissible Megger value between HT- E for a AT is ----------MΩ
600. Minimum permissible Megger value between LT- E for a AT is ----------MΩ
601. Minimum permissible Megger value between HT- LT for a AT is ----------MΩ
602. In case of CT, number of turns in primary is ------- than number of turns in secondary.
603. In case of PT number of turns in primary is ------- than number of turns in secondary.
604. The secondary winding of a CT should not be open circuited if primary is charged-
    a) There is no such restriction. b) Primary becomes Over-Voltage
    c) CT winding will burn –out. d) CB can not be closed
605. 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.
606. What is used to indicate the position of under ground cable?----------
607. 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.
608. While storing cables ,its ends should be properly covered by something like plastic etc.-

a) It is of no use. b) Such action is wrong.
c) It must be done. e) It is sufficient to cover only one end.

609. To protect the cable from the effects of moisture its free ends should be covered by something like plastic etc. (true/false)
610. 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.
611. There is a fuse in the secondary of the CT. (true/false)
612. There is a fuse in the secondary of the PT. (true/false)
613. Some times ,there is only secondary winding in CT. (true/false)
614. DO fuse is protection for ----------. (OHE , AT)
615. Can DO-fuse be used for protection of CT. (Yes/ No)
616. 230 volt AT winding should be meggered from 500 volt megger. (true/false)
617. Size means length of the cable used for.(true/ false).
618. Armor is meant for mechanical protection of the cable.(true/false)
619. Cable size of discharge –rod used in 25KV OHE is –
    a) Multi-core 40 sq. mm b) Single Core 40 sq. mm
    c) Multi-core 20 sq. mm d) Single Core 20 sq. mm
620. To crimp a lug properly on the cable core, how many strands are permitted to cut?
    a) 0 b) 1 c) 2 d) 3
621. The insulation resistance of a cable depends on –
    a) Condition of insulation b) length
    c) Thickness of insulation d) all of the above.
622. Hand tool used to put the lug on cable core tightly is –
    a) Torque Rinch b) Ring Spanner c) Crimping tool d) LN key

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ANSWER – OBJECTIVE QUESTION ON TRD

1.Traction Distribution.
2.1000 mts.
3.False.
4.Yes.
5.Permit to work.
6.1000
7.1676
8.19
9.40
10.2
11.False
12.4.78 mts.
13.Level Crossing.
14.b
15.Power Block working limit.
16.True
17.True
18.True
19.DCP
20.25MΩ
21.15.09 (1) b
22.Alternating Current Traction Manual.
23.1000
24.7
25.b
26.c
27.a
28.False.
29.TR-01
30.c
31.a
32.c
33.Sector.
34.Sub-Sector.
35.Sub-Sector.
36.Sector.
37.Sub-Sector.
38.c
39.c
40.4
41.B
42.c
43.a
44.True

45.2
46.d
47.d
48.True
49.False
50.c
51.Implantation.
52.4.30 mts
53.10-20 mts.
54.20-30 mts
55.30-40 mts
56.152 X 152
57.3 mts.
58.5 & 8 mts.
59.3.00 mts.
60.72
61.4.75
62.Clear span term is not used for TCC mast.
63.Yellow
64.Red
65.True
66.Leaning mast.
67.a
68.15 cm
69.Mast Erection or grouting of mast
70.5 to 8 cm
71.2.36 mts
72.2.80 mts.
73.27 mts
74.18
75.30
76.4.5
77.4.5
78.False.
79.4
80.6
81.8
82.a
83.b
84.a
85.b
86.c
87.d
88.d
89.6” x 6”

90.6” x 8”
91.B125, B150, B175
92.150X300 mm
93.9.3 , 9.5 mts.
94.1350 mm
95.True.
96.True
97.False
98.True
99.2.50
100.2.90
101.True
102.True
103.True
104.d
105.False
106.True
107.63 mts
108.30 mts.
109.True
110.Creepage
111.d
112.True
113.c
114.Porcelain
115.3
116.Yes
117.a
118.Long Creepage distance.
119.Special Rubber.
120.6930
121.4900
122.g
123.d
124.d
125.Isolator operation / DO fuse operation
126.c
127.500 mm
128.True
129.True
130.SM
131.SS
132.True
133.c
134.c

135.a
136.1250, 1600
137.True
138.d
139.False
140.Balmerol-100
141.10.5 mts
142.8.5 mts
143.10.5 mts
144.8.5 mts
145.250 kg
146.415 kg
147.1:5
148.1.25 mts
149.False.
150.1:3
151.3 Pulley type, since chances of SS rope breakage is minimum.
152.a
153.True
154.Turn Outs, Cross- Over
155.500 mm
156.3.00 mts
157.200 mm
158.c
159.54
160.1.40 mts
161.300
162.1.90 / 2.00 mts
163.40/49 mm
164.Encumbrance
165.30cm
166.32x31 mm
167.5.6 mts
168.4 years
169.8
170.40 x 6 mm
171.True
172.350 mts
173.200 sqmm
174.False
175.3.74 mts, 9.40 mts
176.d
177.d
178.a
179.-50mm

180.4
181.Zero
182.450
183.230mm
184.40 x 8 mm
185.False
186.1500 mts
187.6.75 mts
188.65 sqmm
189.Spark Locations
190.600 Amps
191.6.95 mts
192.5.80 mts
193.350 mts
194.1600 mts
195.250mm
196.Tram-Way
197.False
198.True
199.20 mm
200.NO
201.b
202.c
203.c
204.107 sqmm/150 sqmm
205.12.24 mm
206.8.25 mm
207.8.00 mm
PSI
208.Ampere
209.Volts
210.Ohms
211.Current
212.Voltage
213.Resistance
214.Current
215.Voltage
216.Resistance
217.Current, Voltage, Resistance
218.Mega- Ohms
219.Megger
220.Insulation resistance
221.Insulation Resistance
222.10 lakhs Ohms
223.Series

224.Parallel
225.1000
226.100
227.10
228.12
229.2.54
230.KWH
231.Watt.
232.Mechanical Power.
233.Mechanical Power
234.746
235.Rectifier
236.Inverter
237.1
238.0.88
239.27.5
240.19
241.∞
242.2 mts
243.Plan
244.Elevation
245.c
246.d
247.b
248.c
249.d
250.North- South
251.a
252.c
253.b
254.d
255.c
256.d
257.Y
258.c
259.C
260.d
261.b
262.c
263.d
264.a
265.19
266.a
267.c
268.b

269.c
270.Khalasi
271.TR-2
272.b
273.d
274.d
275.c
276.TR-7
277.d
278.d
279.True
280.True
281.False
282.True
283.False
284.True
285.False
286.False
287.True
288.True
289.False
290.False
291.True
292.False
293.False
294.False
295.True
296.True
297.True
298.False
299.True
300.True
301.Battery
302.2.2 volts
303.Chemical
304.DC
305.Rectifier
306.2.2 volts
307.1.8 volts
308.Distilled water
309.Sulfuric Acid
310.1.220
311.1.180
312.AH
313.Voltage

314.Capacity
315.Capacity
316.15
317.0.0007
318.27°C
319.Distilled Water
320.Trickle
321.Boost Charging.
322.Glass or Porcelain
323.Sulfation
324.Bad
325.Increases
326.Decreases
327.200
328.40
329.40
330.Hydrometer
331.1.000
332.a
333.b
334.a
335.d
336.d
337.False
338.True
339.False
340.true
341.False
342.False
343.True
344.True
345.False
346.True
347.True
348.False
349.True
350.True
351.False
352.True
353.False
354.True
355.False
356.True
357.False
358.True

359.False
360.False
361.True
362.True
363.False
364.False
365.True
366.False
367.True
368.True
369.True
370.False
371.True
372.True
373.True
374.Volt-Amperes
375.Two
376.Blue
377.Pink
378.60
379.Clear transparent
380.Buchholtz relay
381.Black
382.c
383.c
384.a
385.MOLG
386.b
387.Copper loss
388.Iron loss
389.Voltage ratio (Transformation ratio)
390.Secondary side current
391.ppm
392.10
393.400MΩ
394.2000 MΩ
395.2500 MΩ
396.15
397.50
398.5
399.100
400.80
401.85
402.90
403.95

404.off load
405.Turn Ratio (Transformation Ratio)
406.a
407.c
408.a
409.a
410.c
411.b
412.a
413.0.007
414.110
415.d
416.d
417.b
418.b
419.a
420.c
421.b
422.d
423.a
424.d
425.b
426.c
427.a
428.gases
429.c
430.b
431.false
432.d
433.c
434.d
435.False
436.c
437.d
438.b
439.a
440.2.5
441.a
442.True
443.c
444.Yes
445.Yes
446.False
447.False
448.True

449.True
450.False
451.True
452.False
453.True
454.true
455.True
456.False
457.False
458.False
459.True
460.False
461.True
462.False
463.True
464.True
465.False
466.True
467.True
468.False
469.True
470.True
471.True
472.False
473.True
474.True
475.False
476.True
477.False
478.True
479.False
480.False
481.Sector
482.Sub-Sector
483.Elementry section
484.CB
485.Isolator
486.DPI
487.d
488.500mm
489.SM
490.d
491.d
492.e
493.5.5 Kg/cm²

494.4.5 Kg/cm²
495.4.0 Kg/cm²
496.Gas Density switch
497.c
498.Gas Density switch
499.15 Kg/cm²
500.13 Kg/cm²
501.12 Kg/cm²
502.b
503.Safety Valve
504.20
505.True
506.False
507.True
508.True
509.True
510.True
511.False
512.True
513.True
514.True
515.False
516.True
517.True
518.True
519.True
520.True
521.False
522.0.5Ω
523.2.0Ω
524.2.0Ω
525.10.0Ω
526.0
527.4
528.4
529.6
530.False
531.True
532.True
533.True
534.Parallel
535.True
536.a
537.42kv
538.98kv

539.120kv
540.198kv
541.d
542.True
543.Megger
544.False
545.True
546.False
547.1GΩ
548.10GΩ
549.True
550.False
551.3.80mts
552.110
553.c
554.a
555.d
556.a
557.b
558.a
559.c
560.d
561.d
562.d
563.True
564.d
565.d
566.a
567.a
568.c
569.b
570.True
571.False
572.c
573.False
574.True
575.d
576.c
577.b
578.d
579.False
580.True
581.d
582.Yes
583.25kv/100 volts

584.25kv/110 volts
585.10
586.25kv/230 volts
587.10
588.2
589.c
590.25kv/100 volts
591.1 amp.
592.63 amp
593.200 MΩ
594.2 MΩ
595.200 MΩ
596.200 MΩ
597.2 MΩ
598.200 MΩ
599.200 MΩ
600.2 MΩ
601.200 MΩ
602.Less
603.More
604.c
605.c
606.Route Indicter/ Cable Marker
607.d
608.c
609.True
610.b
611.False
612.True
613.True
614.AT
615.NO
616.True
617.False
618.True
619.b
620.a
621.d
622.c