

## Question Bank for TRD Supervisor and Instructor (JE, SSE and Instructor)

SN	Question	A	B	C	D
1.	Minimum inhibitor content of transformer oil should be by weight	0.001	0.0015	0.0014	None of these
2.	In 25 kV SF-6 CB the lock out for low gas pressure operates at	5.6 kg/sq cm	4.5 kg/sq cm	4.0 kg/ sq cm	None of these
3.	In conventional lead acid battery topping up of distil water is	Necessary	Not necessary	Self top up	None of these
4.	The IR value of Power transformer bushing should be more than	30000 M ohm	10000 M ohm	10500 M ohm	None of these
5.	The minimum IR value of Power transformer at 30 degree Celsius between HV - E	2000 M ohm	2100 M ohm	2050 M ohm	None of these
6.	The minimum IR value of Power transformer at 30 degree Celsius between LV - E	450 M ohm	400 M ohm	500 M ohm	None of these
7.	The minimum IR value of Power transformer at 30 degree Celsius between HV -LV	2550 M ohm	2400 M ohm	2500 M ohm	None of these
8.	Thermography of TSS done every	3 month	4 month	6 months	None of these
9.	SCL current for LV side 20 MVA transformer	5800 Amp	5660 Amp	5600 Amp	None of these
10.	Tan delta and capacitance of transformer bushing done	Half yearly	Yearly	Monthly	None of these
11.	Maximum value of Tan delta of transformer bushing	0.008	0.017	0.007	None of these
12.	Acidity of transformer oil should be less than	0.5 mg KOH/gm	0.3 mg KOH/gm	0.2 mg KOH/gm	None of these
13.	BDV of power transformer oil is more than	55 kV	50 kV	60 kV	None of these
14.	DGA testing done of transformer oil for analysis of	Both fault	Transformer external fault	Transformer internal fault	None of these
15.	Winding resistance of transformer done	Yearly	5 Yearly	Half yearly	None of these
16.	Impedance test of transformer done	Yearly	5 Yearly	Half yearly	None of these
17.	Magnetizing current test schedule is	Yearly	5 Yearly	Half yearly	None of these
18.	Maximum increase in magnetizing current is permitted	10 times of initial value	50 times of initial value	60 times of initial value	None of these
19.	Inhibitor content of new transformer oil is by weight	0.35 to 0.4%	0.28 to 0.3%	0.25 to 0.3%	None of these
20.	Number of competency certificate for skilled PSI fitter	TR 6	TR 5	TR 2	None of these
21.	Number of competency certificate for skilled PSI Supervisor	TR 2	TR 5	TR 6	None of these
22.	Inhibitor content should be increased in TR oil by DBPC, if less than	0.10%	0.14%	0.15%	None of these
23.	Specific gravity of electrolyte is measured by	PH meter	Hydrometer	thermometer	None of these
24.	Temperature of electrolyte is measured by	thermometer	Hydrometer	PH meter	None of these
25.	PH value of distil water used for battery	7.5 to 8.5	6.5 to 7.5	5.5 to 7.5	None of these
26.	Normal value of conductivity of distil water is	4	2	3	zero
27.	Maximum value of conductivity of distil water is	7 MHO/cm	5 MHO/cm	8 MHO/cm	None of these
28.	Any cell having reverse polarity of battery should be	kept in service	replaced	BOTH	None of these

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29.	IR value of transformer measured for	10, 80 ,600 sec	20, 60 ,600 sec	10, 60 ,600 sec	None of these
30.	Polarization index (PI) by the IRE ratio of R60/R10 and R600/ R60 is less than one then insulation condition is	dangerous	poor	good	None of these
31.	Polarization index (PI) by the IR ratio of R60/R10 and R600/ R60 is less than 1 to 1.1 then insulation condition is	dangerous	poor	good	None of these
32.	Polarization index (PI)by the IR ratio of R60/R10 and R600/ R60 is less than 1.1 to 1.25 then insulation condition is	dangerous	Questionable	good	None of these
33.	Polarization index (PI) by the IR ratio of R60/R10 and R600/ R60 is less than 1.25 to 2.00 then insulation condition is	dangerous	satisfactory	good	None of these
34.	PI value of the transformer is calculated for the healthiness of	core	insulation	winding	None of these
35.	If the PI value is less than 1.1, transformer oil should be	replace	POH	filtered	None of these
36.	If the value of PI does not improve after filtration then transformer should be send	Replacement	POH	AOH	None of these
37.	IR value of the power transformer is measured by MEGGER	1 kV	500 V	2.5-5 kV	None of these
38.	Infra red thermography of transformer should be done preferably on	Half load condition	Full load condition	minimum load condition	None of these
39.	The maximum allowable capacitance of transformer bushing	10 % of factory value	150 % of factory value	110 % of factory value	None of these
40.	Winding resistance of transformer should be done at last to avoid DC flux formation	in core	in winding	in oil	None of these
41.	Normally painting of transformer is done	1 year	5 years	4 years	None of these
42.	Painting of transformer is done in polluted area	1 year	5 years	3 years	None of these
43.	Minimum value of IR of AT between HT & Earth	250 M ohm	200 M ohm	300 M ohm	None of these
44.	Minimum value of IR of AT between LT & Earth	1 M ohm	3 M ohm	4M ohm	2 M ohm
45.	Minimum value of IR of AT between LT & HT	200 M ohm	300 M ohm	270 M ohm	None of these
46.	Minimum BDV of Auxiliary transformer oil	35 kV	30 kV	20 kV	None of these
47.	IR value of AT cable is measured by	550 V megger	600 V megger	500 V megger	None of these
48.	minimum IR value of cable of AT	2 M ohm	6 M ohm	1M ohm	None of these
49.	IR value of CT is measured by	500 V megger	1000 V megger	1.5 K V megger	None of these
50.	IR value of AT is measured by	500 V megger	500 V megger	1000 V megger	None of these
51.	Minimum value of IR of CT between HT & Earth	100 M ohm	200 M ohm	250 M ohm	None of these
52.	Minimum value of IR of CT between LT & Earth	1 M ohm	4 M ohm	3 M ohm	2 M ohm
53.	Minimum value of IR of CT between LT & HT	200 M ohm	250 M ohm	300 M ohm	None of these
54.	Polarity test of CT done	Half Yearly	Yearly	Monthly	None of these
55.	Minimum value of IR of PT between HT & Earth	100 M ohm	200 M ohm	300 M ohm	None of these
56.	Minimum value of IR of PT between LT & Earth	1M ohm	4 M ohm	3 M ohm	2 M ohm
57.	Minimum value of IR of PT between LT & HT	200 M ohm	250 M ohm	300 M ohm	None of these

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58.	IR value of LA is measured by	3.5 kV megger	2.8 kV megger	2.5 kV megger	None of these
59.	IR value of LA is more than HT to E (40 kV)	2 G ohm	1 G ohm	4 G ohm	None of these
60.	IR value of LA is more than HT to E (198 kV)	15 G ohm	12 G ohm	10 G ohm	None of these
61.	THRC leakage current of LA should be less than	550 m Amp	600 m Amp	800 m Amp	500 m Amp
62.	Minimum BDV of unfiltered new transformer oil	30 kV	20 kV	5 kV	None of these
63.	Maximum water content of new transformer oil	55 ppm	50 ppm	40 ppm	None of these
64.	DGA test is done for assess the	external condition of transformer	internal condition of transformer	both	None of these
65.	If CO/CO2 ratio is increasing it shows	Oil overheating	partial discharge	overheating of conductor	None of these
66.	If C2H4 (Ethylene) is increasing it shows	Oil overheating	partial discharge	overheating of conductor	None of these
67.	If H2 (Hydrogen ) is increasing it shows	Oil overheating	partial discharge	overheating of conductor	None of these
68.	If C2H2 (Acetylene) is increasing it shows	Oil overheating	partial discharge	overheating of conductor	Arcing
69.	DGA test is performed by	Gas Chemical analysis	Gas Chromatography	both	None of these
70.	Capacitor bank is used for	current	Power factor improvement	Voltage	None of these
71.	Power transformer used at TSS are	Step down	Step up	both type	None of these
72.	Polarity of both TR used in TSS must be	none of these	both	Different	same
73.	ICT used in TSS are for compensation in	LV CT	HV CT	bushing CT	None of these
74.	Cooling fans are used in transformer for increasing	Voltage	Current	capacity	None of these
75.	Average life of lead acid battery is	2 years	4 years	7 years	None of these
76.	Average life of switch gear is	30 years	40 years	90 years	25 years
77.	Average life of electrical instruments is	25 years	30 years	40 years	None of these
78.	Average life of CT is	20 years	30 years	90 years	None of these
79.	Average life of PT is	40 years	90 years	30 years	None of these
80.	Average life of earthing system is	15 years	30 years	90 years	None of these
81.	Average life of LA is	25 years	30 years	40 years	15 years
82.	Average life of Battery charger is	40 years	15 years	90 years	None of these
83.	The length of earthing electrode in TSS	4 mtr	6 mtr	9 mtr	None of these
84.	The length of earthing electrode for AT	9 mtr	7 mtr	3 mtr	None of these
85.	Rating of LA provided at 220 kV	100kV	150kV	120 kV	198 kV
86.	Rating of LA provided at 132 kV	100kV	150kV	120 kV	None of these
87.	Minimum permitted voltage at Neutral section (SP)	15 kV	19 kV	25 kV	None of these

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88.	Flash point of transformer oil should be above	150 Degree C	140 Degree C	130 Degree C	None of these
89.	Depth of buried rail at TSS	2 mtr	0.5 mtr	1 mtr	None of these
90.	The voltage of new cell after fully charging	2.3 V	2.5 V	2.6 V	None of these
91.	Voltage rating of megger for measuring IR value of main transformer	2.5 kV	1.5 kV	0.5 kV	None of these
92.	Min. height of 25 kV bus bar from ground level at TSS	3.8 M	4 M	3.5 M	None of these
93.	50% Overload of main Traction transformer is permitted for a period of	30 Minutes	15 Minutes	5 Minutes	None of these
94.	No. of tap provided in power transformer	5 nos.	3 nos.	6 nos.	None of these
95.	POH of transformer is to be carried out after every	5 years	7 years	10 years	None of these
96.	Angle of OHE impedence	75 Degree	60 Degree	70 Degree	None of these
97.	The traction load is type of	Double phase	single phase	Three phase	None of these
98.	The permissible voltage unbalance instantaneous at GSS is	4%	8%	10%	5%
99.	The permissible voltage unbalance for 2 hours at GSS is	1%	2%	3%	None of these
100.	The permissible continuous voltage unbalance at GSS is	1%	2%	3%	None of these
101.	The permissible current unbalance for 1 minute at GSS is	45%	55%	60%	None of these
102.	The permissible current unbalance for 10 minute at GSS is	8%	10%	12%	None of these
103.	The permissible current unbalance for continuous at GSS is	5%	8%	10%	None of these
104.	Generally kVA rating of AT provided at station	50	110	15	10
105.	Generally kVA rating of AT provided at SP	5	10	15	None of these
106.	Generally kVA rating of AT provided at SSP	25	15	12	10
107.	Generally kVA rating of AT provided at TSS	10 & 100	10	100	None of these
108.	No. of AT provided at TSS	1	2	3	None of these
109.	No. of AT provided at SP	1	2	3	None of these
110.	No. of AT provided at SSP	5	4	1	None of these
111.	Both AT provided at TSS are connected with	Same line OHE	different line OHE	Both line OHE	None of these
112.	No. of AT provided at IBH	1	2	3	None of these
113.	General kVA rating of AT provided at IBH	10	15	20	None of these
114.	General kVA rating of AT provided at level crossing gate	5	10	15	None of these
115.	The voltage rating of AT is	25kV/120V	25kV/90V	25kV/110V	25kV/240V
116.	At level crossing gate the voltage rating of AT is	25kV/120V	25kV/240V	25kV/110V	None of these
117.	At TSS the voltage rating of AT is	25kV/240V	25kV/120V	25kV/110V	None of these
118.	At SP the voltage rating of AT is	25kV/100V	25kV/120V	25kV/240V	None of these
119.	At SSP the voltage rating of AT is	25kV/100V	25kV/240V	25kV/120V	None of these
120.	At IBH the voltage rating of AT is	25kV/240V	25kV/100V	25kV/120V	None of these
121.	At station the voltage rating of AT is	25kV/100V	25kV/120V	25kV/240V	None of these
122.	The rating of DO fuse provided at 10 kV AT is	1 amp	2 amp	3 amp	None of these

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123.	The rating of LV fuse provided at 10 kV AT is	60 amp	63 amp	65 amp	None of these
124.	Primary current of 10 kV AT is	1 amp	0.2 amp	0.4 amp	None of these
125.	Secondary current of 10 kV AT is	32 amp	41.6 amp	21.6 amp	None of these
126.	Primary current of 100 kV AT is	4 amp	6 amp	8 amp	None of these
127.	Secondary current of 100 kV AT is	350 amp	376 amp	416 amp	None of these
128.	The AT provided in traction system is of	Step down	step up	A & B	None of these
129.	The voltage regulation permitted for station AT is	+/- 3%	+/- 5%	+/- 7%	None of these
130.	The paint provided in battery room floor should be	Anti hydrochloric acid	Anti sulphuric Acid	PVC	None of these
131.	The paint provided in battery room Wall upto 2 mtr from floor should be	Anti hydrochloric acid	PVC	Anti sulphuric Acid	None of these
132.	The paint provided on battery stand should be	Anti sulphuric Acid	PVC	Anti hydrochloric acid	None of these
133.	In VRLA battery topping up of distil water is	Necessary	May top up	not required	None of these
134.	What is the reason of loss of water in electrolyte in conventional battery	oxygen	BOTH	Hydrogen	None of these
135.	In which battery normal vent plugs are provided	VRLA battery	Conventional battery	both battery	None of these
136.	In which battery post corrosion is usually observed	both battery	Conventional battery	VRLA battery	None of these
137.	Normal ventilation is sufficient for which battery	VRLA battery	both battery	Conventional battery	None of these
138.	The protection used in TSS	OHE protection	Transformer protection	Both protection	None of these
139.	WPC relay used in TSS for	OHE protection	Transformer protection	Both protection	None of these
140.	DPR relay used in TSS for	OHE protection	Transformer protection	Both protection	None of these
141.	Panto flash over relay used in TSS for	OHE protection	Transformer protection	Both protection	None of these
142.	Delta I relay used in TSS for	OHE protection	Transformer protection	Both protection	None of these
143.	Instantaneous OCR relay used in TSS for	OHE protection	Transformer protection	Both protection	None of these
144.	Delta I relay used for	High impedance	Low impedance fault	both impedance fault	None of these

SN	Question	A	B	C	D
		fault			
145.	OCR Inst. + IDMT relay used for	Transformer protection	OHE protection	Both protection	None of these
146.	OCR IDMT relay used for	Transformer protection	OHE protection	Both protection	None of these
147.	EFR relay is used for	OHE protection	Transformer protection	Both protection	None of these
148.	EFR I provided in transformer	Secondary side	Primary side	Both side	None of these
149.	EFR II provided in transformer	Secondary side	Primary side	Both side	None of these
150.	Differential relay for	Transformer protection	OHE protection	Both protection	None of these
151.	DTR of feeder CB protection	0.4 sec	0.9 sec	0.5 sec	None of these
152.	RTR of feeder CB protection	20 sec	30 sec	40 sec	None of these
153.	Instantaneous setting of OCR for transformer protection depends on	SCL Current HV side	SCL Current LV side	Both side	None of these
154.	NCT is used for protection of	Capacitor bank	Transformer	OHE	None of these
155.	Schedule of relay testing is	Half Yearly	yearly	Monthly	None of these
156.	DC supply required for operating of relay in TSS	110 V	100 V	115 V	None of these
157.	Cable length of discharge rod is	11 to 15 mtr	12 to 18 mtr	10 to 11 mtr	None of these
158.	Minimum cross section area of discharge rod cable	40 sq mm	60 sq mm	50 sq mm	None of these
159.	Voltage capacity of discharge rod cable is	650/100 V	650/1100 V	60/100 V	None of these
160.	Number of strands in discharge rod is	258	348	248	None of these
161.	Dia. of each strands of discharge rod	0.45 mm	0.55 mm	0.65 mm	None of these
162.	The OHE section which is isolated by operation of BM is	elementary section	sub sector	Sector	None of these
163.	The OHE section which is isolated by operation of CB is	elementary section	sub sector	Sector	None of these
164.	Neutral section is provided in OHE to avoid bridging of supply of two adjacent	TSS	SP	SSP	None of these
165.	Generally the grid supply given to adjacent TSS are of	same phase	different phase	A & B	None of these
166.	The two adjacent TSS are fed by different phases from the GSS to avoid	balancing at GSS	unbalancing at GSS	A & B	None of these
167.	Types of power block operated in traction system	4 types	5 types	3 types	None of these
168.	Pre arrange power block are operated by	TPC	SCOR	Dy.SS	None of these
169.	Locally arrange power block is operated by	TPC	competent field staff	SCOR	None of these

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170.	power blocks on secondary line( yard, siding , shed) are given by	TPC	SCOR	ASM /YM	None of these
171.	Pre arrange power block are sanctioned by	TPC	ASM /YM	SCOR	None of these
172.	In case of failure in one road OHE TPC will switch off	Concerned both road OHE	One road OHE	Both A & B	None of these
173.	TPC should exchange _____ for PTW to field staff	Self name	Location	Private number	None of these
174.	Field staff should exchange _____ for PTW with TPC	Self name	Location	Private number	None of these
175.	TPC should not exchange private number While cancelling PTW to field staff	Not required	Depends	TRUE	FALSE
176.	Field staff should exchange private number While cancelling PTW with TPC	Not required	Depends	FALSE	TRUE
177.	Intermediate discharge rod should be provided if the distance between 2 working party exceeds	90 mtr	100 mtr	110 mtr	None of these
178.	The maximum distance between two discharge rod is	500 mtr	1000 mtr	100 mtr	None of these
179.	If discharge rod is connected to rail, it must be connected on	positive rail	negative rail	Any rail	None of these
180.	The minimum cross section area of the cable of discharge rod	30 sq mm	40 sq mm	50 sq mm	None of these
181.	Discharge rod cable should replace, if strands broken more than	20%	30%	40%	None of these
182.	The continuity of the discharge rod cable between top clamp and earth clamp should be checked	Daily	Weekly	Monthly	Fortnightly
183.	Isolator provided in OHE should be operated on	off load condition	on load condition	A&B	None of these
184.	Ensure availability of _____ bond before connecting discharge rod	Impedance bond	"Z" bond	structure bond	None of these
185.	While removing discharge rod which side should remove first.	Structure side	OHE side	Any side	None of these
186.	While connecting discharge rod which side should connect first.	Structure side	OHE side	Any side	None of these
187.	Tools should be transfer to staff climbed on ladder for OHE work by	Another person by hand	rope	discharge rod	None of these
188.	Block required for gantry maintenance	UP only	DN only	UP & DN	None of these
189.	Block required for cross over maintenance	UP only	DN only	UP & DN	None of these
190.	What is make of rope used with ladder	cotton	jute	steel	A&B
191.	A bond between two rails of a track or two rails of adjacent tracks.	Transverse bond	Cross-bond	Impedance-bond	A & B
192.	A conductor on traction masts or structures or supports and bonded to their metallic parts/supports and connected to earth.	Earth wire	Earth electrode	Impedance-bond	None of these
193.	An electrical connection across a rail joint between consecutive lengths of rails.	Rail bond	Longitudinal bond	Cross-bond	A & B
194.	A bond connecting the non current carrying metallic parts of a traction mast or structure or support to the traction rail	Rail bond	Longitudinal bond	Cross-bond	Structure bond

SN	Question	A	B	C	D
195.	An electrical connection across a rail joint, provided by the S&T, to facilitate over track circuit current	Signal bond	Impedance-bond	Cross-bond	None of these
196.	A bond which is made of standard copper conductors with M.S. ferrules at the either end, pressed on the conductors and bent to shape	Signal bond	Impedance-bond	Cross-bond	Welded bond
197.	A track provided with 25kV, AC, 50 Hz single phase overhead equipment	un-wired track	Traction track	Wired track	None of these
198.	All traction rails of loco shed and loco/EMU stabling sidings shall be provided with cross-bonds at distances of not more than	100 m apart.	200 m apart.	150 m apart.	None of these
199.	In a tunnel all the traction rails shall be provided with rail-bonds	100 m apart.	200 m apart.	over the entire length & 50 M both side	None of these
200.	Both the rails of a wired track on a weigh-bridge shall be provided with rail-bonds for a length of	50 m	75 m	85 m	None of these
201.	Bus coupler isolator	BC	BX	BM	None of these
202.	Single Pole Isolator at switching station	SF	SP	SM	None of these
203.	Single Pole isolator at substation	SF	SP	SM	None of these
204.	Isolator for main line	SF	SP	SM	None of these
205.	Isolator for secondary line/loop/yard	SF	SP	SM	SS
206.	Electrified Route kilometer in Nagpur Division	750	870	800	None of these
207.	Electrified Track kilometer in Nagpur Division	2021	1725	1601	None of these
208.	Total No. of traction sub stations working in Nagpur Division	12	15	20	None of these
209.	Total number of OHE maintenance depot	10	15	20	None of these
210.	Total number of tunnels in Nagpur division in electrified section	8	11	14	None of these
211.	Total number of MPSEB fed TSS in Nagpur division in electrified section	7	8	9	None of these
212.	Total number of MSEB fed TSS in Nagpur division in electrified section	5	8	11	None of these
213.	Distance between centers of rails in BG line	1660	1765	1695	1676
214.	Normal rated current of OHE is	500 Amp	600 Amp	800 Amp	None of these
215.	Lightening arrestor provided on the 25 kV side is rated for	60 kV	48 kV	42 kV	None of these
216.	The OHE section which is isolated by operation of isolators is	elementary section	sub sector	Sector	None of these
217.	The purpose of AT providing at station for supply of	Both purpose	General lighting	Signal equipment	None of these
218.	Generally number of ATs provided at station	5	4	2	None of these
219.	Interrupter for main line	BC	BX	BM	None of these
220.	Interrupter for yard line	BC	BX	BM	BS



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221.	Bus coupler interrupter	BC	BX	BM	None of these
222.	No. of maximum contact splice permitted in one tension length	15	19	11	None of these
223.	Minimum distance between 2 splice	200 mtr	100 mtr	110 mtr	None of these
224.	Catenary splice should be provided when strand broken	30%	20%	10%	None of these
225.	The maximum distance between Isolator male female contact	500 mm	550 mm	600 mm	None of these
226.	Marking on height gauge from the top	6 mtr	8 mtr	4 mtr	None of these
227.	Retensioning of unregulated OHE done after	6 year	4 year	2 year	None of these
228.	POH of ATD done after	6 year	8 year	1 year	None of these
229.	Length of SS rope of winch type ATD	10.5 mtr	8 mtr	4 mtr	None of these
230.	Projection of insulated catenary from end of ROB & FOB should not be less than	5 mtr	10 mtr	2 mtr	None of these
231.	Maximum wear of insulator rod of PTFE neutral section	1 mm	2 mm	5 mm	None of these
232.	Level of PTFE assembly should be	0 mm	1 mm	2 mm	None of these
233.	During magnetization of SS rope magnetic effect should be	Repulsion	Nil	Attraction	None of these
234.	SS Rope should not be reused when ovality is more than	0.4 mm	0.8 mm	0.5 mm	None of these
235.	Stagger of main line contact wire at obligatory mast	Max.300 mm	Max.200 mm	Max.100 mm	None of these
236.	Stagger of turn out contact wire at obligatory mast	Max.200 mm	Max.100 mm	max 300 mm	None of these
237.	Sag of section insulator of Turn out and cross over	60 mm	0 mm	100 mm	None of these
238.	Current collection done by Oliver G after every	2 month	6month	3 month	None of these
239.	The deflection of leaning mast measured from Rail level at height of	1.86 mtr	1.85 mtr	2.85 mtr	None of these
240.	Dia. of the ST tube	26.40/36.70 mm	28.40/35.70 mm	38.40/35.70 mm	None of these
241.	Cross section of the BFB steady arm	32 x 32 mm	34 x 31 mm	32 x 31 mm	None of these
242.	Minimum implantation of diamond crossing	3.5mtr	3.0 mtr	3.9 mtr	None of these
243.	General provision of OHE mast in double line	Outside of both track	Inside of both track	both side of both track	None of these
244.	Maximum distance between anticreep centre and anchor mast is	650 mtr	750 mtr	760 mtr	None of these
245.	Maximum number of OHE mast between anticreep center and anchor mast.	14 nos.	10 nos.	15 nos.	None of these
246.	Maximum half tension length of OHE in tangent track	750 mtr	660 mtr	850 mtr	None of these
247.	Maximum half tension length of OHE in curve track	750 mtr	660 mtr	600 mtr	None of these
248.	Parallel run of pantograph in insulated overlap should be	8 mtr	2 mtr	6 mtr	None of these
249.	Parallel run of pantograph in uninsulated overlap should be	8 mtr	4 mtr	2 mtr	None of these
250.	Maximum length of PTFE N/S Aurther flury type	8 mtr	2 mtr	6 mtr	9.5 mtr
251.	Minimum axial distance between catenary & contact wire at section insulator is	456 mm	450 mm	460 mm	None of these
252.	Minimum cross section area of MS flat used for OHE bond	200 sq mm	250 sq mm	280 sq mm	None of these

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253.	General size of MS flat used for OHE bond	40 x 8 mm	40 x4mm	40 x 6 mm	None of these
254.	Impedance bond is provided by	TRD	S & T department	TRO	None of these
255.	Impedance bond provides low impedance path	S & T signal current	Traction return current	TRO	None of these
256.	Impedance bond provides high impedance path	S & T signal current	TRO	Engg	None of these
257.	Discharge rod is made of	4 pieces	2 pieces	3 pieces	None of these
258.	The consignment is treated as ODC if length is more than	13.816 mtrs	13.716 mtrs	14.716 mtrs	None of these
259.	The consignment is treated as ODC if height at middle is more than	3.743 mtr	2.743 mtr	4.743 mtr	None of these
260.	The consignment is treated as ODC if the height at corner is more than	3.743 mtr	2.763 mtr	2.134 mtr	None of these
261.	The consignment is treated as ODC if the width of bottom is more than	3.743 mtr	2.997 mtr	2.134 mtr	None of these
262.	The consignment is treated as ODC if the width of top is more than	3.743 mtr	2.763 mtr	0.610 mtr	None of these
263.	Number of competency certificate for unskilled class IV staff	TR 1	TR 2	TR 3	None of these
264.	Number of competency certificate for OHE Linemen	TR 3	TR 4	TR 2	None of these
265.	Number of competency certificate for OHE Supervisor	TR 3	TR 4	TR 2	None of these
266.	Air gap of ET 1 of pantograph	215 mm	220 mm	210 mm	None of these
267.	Air gap of ET 2 of pantograph	60 mm	70 mm	80 mm	None of these
268.	Minimum air pressure required for pantograph raising	5.5 kg/cm <sup>2</sup>	4.8kg/cm <sup>2</sup>	4.5 kg/cm <sup>2</sup>	None of these
269.	Minimum air pressure required for pantograph lowering	2 to 3.5 kg/cm <sup>2</sup>	2.5 to 3.5 kg/cm <sup>2</sup>	3 to 3.5 kg/cm <sup>2</sup>	None of these
270.	Minimum thickness of panto wearing strip	3.6mm	3.5 mm	2.5 mm	None of these
271.	Maximum depth of groove at pantograph	4 mm	2 mm	1 mm	None of these
272.	Static contact pressure of pantograph for AM 12	3.5 kg	2.5 kg	8.5 kg	7.5 kg
273.	Static contact pressure of pantograph for AM 18 B	11.5 kg	2.5 kg	12.5 kg	None of these
274.	Horizontal level of pantograph is	Above zero level	below zero level	zero level	None of these
275.	Horizontal level of pantograph is measured by	db meter	speed level meter	micro meter	None of these
276.	Lubrication of SS rope to be done	Half Yearly	yearly	Monthly	None of these
277.	Lubrication of SS rope done by	Balmerol rope lub oil 1000	Lub. Oil	Coconut oil	None of these
278.	Ovality of SS rope should be check at 3 places	350 mm apart	400 mm apart	300 mm apart	None of these
279.	End reversion of SS rope should be done, if SS rope is ok during	AOH	POH	BOTH	None of these
280.	Counter weight of winch type of ATD for main line	500 Kg	400 Kg	450 Kg	None of these
281.	Counter weight of winch type of ATD for tram way OHE	260 kg	450 kg	250 kg	None of these

SN	Question	A	B	C	D
282.	Counter weight of 3 pulley type of ATD for main line	260 kg	450 kg	250 kg	665 kg
283.	Counter weight of 3 pulley type of ATD for Yard	250 kg	400 kg	260 kg	None of these
284.	Tension ratio of regulated OHE in winch type of ATD is	6 is to 1	5 is to 2	5 is to 1	None of these
285.	Tension ratio of regulated OHE in 3 pulley type of ATD is	3 is to 1	5 is to 2	5 is to 1	None of these
286.	Length of SS rope for modified 3 pulley type ATD is	9 mtr	5mtr	8 mtr	None of these
287.	Length of SS rope for 3 pulley old type ATD is	7 mtr	9 mtr	5mtr	None of these
288.	No. of PG clamp provided in normal G jumper	1	8	4	None of these
289.	No. of PG clamp provided in normal F jumper	2	4	5	None of these
290.	No. of PG clamp provided in normal C jumper	3	7	2	None of these
291.	No. of PG clamp provided in normal ATJ jumper	1	2	5	None of these
292.	Catenary ending cone should be replaced	7 years	8 years	9 years	None of these
293.	Contact ending cone should be replace	6 years	8 years	7 years	None of these
294.	All PG clamps should be replaced during	AOH	Monthly maint.	POH	None of these
295.	Contact splice should be replaced	8 years	7 years	9 years	None of these
296.	Replaced contact splice should not be	used	reused	both	None of these
297.	Replaced Catenary ending cone should not be	reused	used	both	None of these
298.	Replaced Contact cone should not be	used	both	reused	None of these
299.	Average life of OHE Catenary wire is	20 years	40 years	60 years	None of these
300.	Average life of OHE Contact wire is	30 years	40 years	90 years	None of these
301.	Thickness of standard bracket tube	8 mm	10 mm	1 mm	None of these
302.	Use of 'G' jumper	Uninsulated over lap	Both over lap	insulated over lap	None of these
303.	Stagger of contact wire at curvature	+/- 300	+/- 310	+/- 200	None of these
304.	Stagger of catenary wire at tangent track	+/- 300	+/-100	+/-200	None of these
305.	Stagger of section insulator should be within the limit of	+/- 50 mm	+/- 100 mm	+/- 10 mm	None of these
306.	Stagger of catenary wire at curvature	+/-200	+/-250	+/-300	None of these
307.	Length of 'C' jumper	0.7 mtr	1.2 mtr	1.70 mtr	None of these
308.	No. of strands of small dropper	1	4	2	None of these
309.	No. of strands of large dropper	1	2	4	None of these
310.	Relative gradient of the contact wire in two adjacent spans on main lines	1.0 mm/M	1.8 mm/M	1.2 mm/M	1.5 mm/M
311.	Dia of each strands of large jumper	1.113 mm	1.013 mm	2.123 mm	None of these
312.	Max. permissible gradient of contact wire on main line	1.5 mm per M	6 mm per M	4 mm per M	3 mm per M
313.	Max. tension length of unregulated OHE	1.6 kms	1.7 kms	1.8 kms	2 kms
314.	Length of F-jumper	1.7 mtr	1.8 mtr	1.6 mtr	None of these
315.	Normal encumbrance for 72 m span	1.8 m	1.5 m	1.4 m	None of these
316.	Maximum length of parallel running of two OHEs at overlap.	10 mtrs	5 mtrs	3 mtrs	2 mtrs
317.	Dia of new contact wire	10.34 mm	15.5 mm	12.24 mm	None of these

SN	Question	A	B	C	D
318.	Short duration maximum horizontal clearance	100 mm	300 mm	200 mm	None of these
319.	Normal sag of regulated OHE	100 mm	90 mm	105 mm	None of these
320.	At T/O obligatory mast, location M/L OHE should be below T/O OHE by	100 mm minimum	70 mm minimum	60 mm minimum	50 mm minimum
321.	Normal tension in Kg. of Contact wire	1000 / 1250 kg	1000 / 1450 kg	1010 / 1250 kg	None of these
322.	Normal tension in Kg. of Catenary wire	1000 kg	1111 kg	1001 kg	None of these
323.	Cross section area of large jumper wire	103 sq mm	107 sq mm	105 sq mm	None of these
324.	Cross section area of contact wire	106 sq mm	109 sq mm	110 sq mm	107 sq mm
325.	Overall dia. of catenary wire	11.5 mm	10.5 mm	11.0 mm	None of these
326.	Overall dia. of large span wire	15.00 mm	14.70 mm	None of this	None of these
327.	Min. clearance bet. Two OHEs at un insulated overlap	150 mm	200 mm	350 mm	None of these
328.	Maximum tension length for regulated OHE	1500 m	1400 m	1200 m	None of these
329.	Min. length of mast below rail level for regulated OHE	1500 mm	1750 mm	1850 mm	None of these
330.	Cross section area of small dropper	17.65 sq mm	19.67 sq mm	19.64 sq mm	None of these
331.	No. of strands of catenary wire	19	17	21	None of these
332.	No. of strands of small jumper wire	19	35	20	None of these
333.	Normal implantation on main line.	2.21 M	2.36 M	2.40M	2.50M
334.	Distance of A dropper from support	2.35 mtr	2.15 mtr	2.45 mtr	2.25 mtr
335.	Minimum implantation	2.36 (critical)	2.6	2.3	None of these
336.	Minimum implantation permitted at main line	2.36 m	4.75 m	4.98 m	None of these
337.	Normal implantation of obligatory mast at turn out	2.50 M	3.0 M	3.5 M	None of these
338.	Discharge Rod cable to be replaced if %age of strands broken exceeds	20%	10%	5%	None of these
339.	Minimum clearance of ODC from OHE for power OFF at 15 kmph	200 mm	100 mm	80 mm	None of these
340.	At uninsulated overlap, the distance between two parallel running contact wire	200 mm	225 mm	250 mm	None of these
341.	On curved track, stagger of cont. wire is generally	200 mm	250 mm	300 mm	None of these
342.	At insulated over lap, the horizontal gap between two OHE is	200 mm	300 mm	400 mm	500 mm
343.	What is the size of type A drop arm	200 x 300 mm	250 x 350 mm	250 x 300 mm	None of these
344.	The minimum clearance of ODC , where speed restriction not required	220 mm	250 mm	300 mm	None of these
345.	Short duration maximum vertical clearance	220 mm	100 mm	200 mm	None of these
346.	Long duration maximum horizontal clearance	220 mm	100 mm	250 mm	None of these
347.	Long duration maximum vertical clearance	290 mm	350 mm	250 mm	None of these
348.	Normal implantation of portal	3 m	4.75 m	4.98 m	None of these
349.	Minimum working clearance from live OHE	3 Mtrs	2 Mtrs	1.5 Mtrs	None of these
350.	Minimum implantation of portal upright	3.00 mtrs	2. 50 mtrs	2.36 mtrs	None of these
351.	Length of G jumper	3.5 mtr	3.5 mtr	3.5 mtr	None of these

SN	Question	A	B	C	D
352.	Min. clearance of OHE for passing ODC with power block on at 15 KMPH	300 mm	250 mm	200 mm	None of these
353.	Distance bet. Male & female contact of isolator	300 mm	420 mm	480 mm	500 mm
354.	Minimum vertical clearance from OHE to earthed structure for short duration	380 mm	320 mm	220 mm	None of these
355.	Dia of adjustable dropper of SI	4 mm	7 mm	5 mm	None of these
356.	Distance of G jumper from obligatory mast	4.0 M	5.2 M	5.6 M	None of these
357.	Normal length of dwarf mast	4.1 m	4.5 m	4.3 m	None of these
358.	Height of the height gauge at level crossing	4.5 m	6.0 m	4.76-4.78 m	None of these
359.	Minimum height of contact wire at level crossing	4.5 m	6.0 m	5.50 m	None of these
360.	The span length chosen in multiple of	4.5 m	4.6 m	4.7 m	None of these
361.	Minimum implantation of obligatory mast	4.65 m	3.00 m	4.98 m	None of these
362.	Normal implantation of gantry mast	4.65 m	3.50 m	4.98 m	None of these
363.	Normal implantation at P.F	4.65 m	4.75 m	4.98 m	None of these
364.	Minimum implantation of obligatory mast	4.75 Mtrs	3 Mtrs	2.75 Mtrs	None of these
365.	Minimum implantation on platform	4.76 m	4.9 m	4.77 m	4.75 m
366.	The height gauge erected at level crossing with clear height above road level	4.76 Mtrs	4.80 Mtrs	4.67 Mtrs	None of these
367.	The length of conventional neutral section is	41.5 M	41.0 M	40.0 M	None of these
368.	The maximum distance between runners of section insulator	460 mm	560 mm	440 mm	None of these
369.	Max. length of turn out span	48 M	52 M	54M	None of these
370.	Dia. of small dropper	5 mm	4.0 mm	4.5 mm	None of these
371.	Minimum height of contact wire at over line structure	5.5 M	4.92 M	5.75 M	None of these
372.	Location of G jumper from support	5.5 mtr	5.7 mtr	5.6 mtr	None of these
373.	Minimum implantation on platform	5.5 Mtrs	4.75 Mtrs	3.0 Mtrs	None of these
374.	Max. Height of height gauge at LC gate.	5.6 M	5.56 M	4.67 M	4.76-4.78 M
375.	The min. height of contact wire at loco inspection pit	5.8 M	5.6 M	5.55 M	None of these
376.	Wind pressure adopted for OHE for green zone (Light)	50 kg/sq m	60 kg/sq m	65 kg/sq m	75 kg/sq m
377.	Max. permissible variation in Setting distance :	50 mm	30 mm	40 mm	None of these
378.	Size of G jumper should be	50 sq mm	95 sq mm	105 sq mm	None of these
379.	PTFE neutral section before stop signal should be at a minimum distance	500 Mtrs	400 Mtrs	300 Mtrs	200 Mtrs
380.	At insulated overlap, the distance between parallel running contact wire	560 mm	500 mm	550 mm	None of these
381.	Cross section area of catenary wire	67 sq mm	54.5 sq mm	62 sq mm	65 sq mm
382.	Maximum distance between two in span dropper	7 mtr	9 mtr	6 mtr	None of these
383.	Height of catenary wire at support	7.6 mtr	8.2 mtr	7.2 mtr	None of these
384.	Max. span of regulated Tramway type OHE	72 Mtrs	67.5 Mtrs	63 Mtrs	None of these

SN	Question	A	B	C	D
385.	The pantograph which is mostly used in traction system is	AM-10	AM-18	AM-15	AM-12
386.	The transverse flexibility of the panto pan is checked by force of	30 kgf	40 kgf	50 kgf	None of these
387.	Ladder should support on _____ while working on OHE	Contact wire	catenary wire	Mast	None of these
388.	Max. height above rail level for a width of 760 mm on either side of centre of unloaded vehicles	4265 mm	5550 mm	4470 mm	None of these
389.	Max. Height of X-class Locomotive above rail level for a width of 305 mm on either side of centre of empty locomotives.	5225 mm	5550 mm	4470 mm	None of these
390.	Allowance to be made for raising of tracks to permit modern track structure to be introduced	250mm	200mm	275mm	None of these
391.	If length of any package before loading exceeds _____ it is to be treated as ODC or out of gauge load.	13651 mm	13716 mm	13825 mm	None of these
392.	If width of any package before loading exceeds _____ it is to be treated as ODC or out of gauge load.	2885 mm	2970 mm	2997 mm	None of these
393.	If top width of any package before loading exceeds _____ it is to be treated as ODC or out of gauge load.	610 mm	622 mm	632 mm	None of these
394.	If height at centre of any package before loading exceeds _____ it is to be treated as ODC or out of gauge load.	2134 mm	2743 mm	2885 mm	None of these
395.	If height at corner of any package before loading exceeds _____ it is to be treated as ODC or out of gauge load.	2134 mm	2743 mm	2885 mm	None of these
396.	Min. clearance for movement of ODCs at unrestricted speed with power ON	250 mm	220 mm	200 mm	None of these
397.	Min. clearance for movement of ODCs at a restricted speed of 15 Km/h with power ON (ODCs would not be stopped under critical locations)	250 mm	220 mm	200 mm	None of these
398.	Physical clearance between contact wire and ODCs when moved under power OFF condition to prevent physical entanglement.	150 mm	125 mm	100 mm	None of these
399.	The minimum setting distance of the gantry upright which is normally aligned parallel to the track shall be	4.3 m	3.5 m	4.0 m	None of these
400.	Which is modern technology of Current collection inspection	Thermography	Ultrasonic tester	GPS based system	None of these
401.	ODC class of load having a gross clearance of 150 mm (6") and above but less than 230 mm (9") from fixed structures.	A Class	B Class	C Class	None of these
402.	ODC class of loads having a gross clearance of 230 mm (9") and above from the fixed structures all-round but infringe the standard moving dimension.	A Class	B Class	C Class	None of these
403.	ODC class of loads having gross clearance of less than 150 mm (6") but more than 80 mm (3") from fixed structures.	A Class	B Class	C Class	None of these
404.	Thermography of OHE done every	3 month	4 month	6 months	None of these

SN	Question	A	B	C	D
405.	Thermography of OHE in ghat section done every	6 months	12 months	8 months	None of these
406.	Maximum speed of tower wagon during Power block	25 kmph	15 kmph	10 kmph	None of these
407.	Maximum speed of tower wagon under Power block with raised platform	20	15	10	5
408.	MR pressure should be _____ kg/Sq.cm before running Tower wagon	5	7 - 8.5	4.5	None of these
409.	D' Check of engine should be done after	1500 Hrs.	600 Hrs.	300 Hrs.	None of these
410.	BP pressure should be in running condition _____ kg/Sq.cm.?	5	6	3 to 7	None of these
411.	Oil recommended for hydraulic transmission is _____?	HP-90	15W40	20W40	None of these
412.	Transmission system used in DETC	Electric	Mechanical	Hydraulic	None of these
413.	Make of transmission used in DHTC	TATA	Hindustan Motors	KPC	None of these
414.	In the event of electrical start failure, Tower wagon engine can be started _____	Manually	Mechanically	Remotely	None of these
415.	When water level become low in radiator, Tower wagon engine will be	Stopped	Come to idle	Continue to running	None of these
416.	Tower wagon engine come to idle and transmission will be disengaged if transmission oil temperature increased beyond	105 Degree	125 Degree	95 Degree	None of these
417.	In case of Lub oil pressure low, the Tower wagon will be	Stopped	Continue to running	Engine come to idle	None of these
418.	Speed potential of Mark-II, 4 wheeler tower wagon	30kmph	40kmph	50kmph	None of these
419.	Transmission used in Mark-II, 4 wheeler tower wagon	Traction motor system	gear box system	hydraulic system	None of these
420.	Brake system used in Mark-II, 4 wheeler tower wagon	Vacuum	Air brake	Electric	None of these
421.	Brake system used in 8-wheeler DHTC tower wagon	Vacuum	Air brake	Electric	None of these
422.	In 8-wheeler DHTC TW, A-9 valve is	Automatic	semi-automatic	Manually	None of these
423.	In 8-wheeler DHTC TW, solenoid valve is	SOV5	S-5	S9	None of these
424.	In 8-wheeler DHTC TW, _____ valve is used to start and run the engine.	CS2	S-5	S9	SOV5
425.	In 8-wheeler DHTC TW, _____ valve is used for speed control of engine with the help of CS3.	CS2	SOV1-4	SOV5	None of these
426.	In 8-wheeler DHTC TW, pressure switches _____ are used for forward/reverse clutch pressure for the safety of transmission	PS1 & PS4	PS2 & PS3	PS5 & PS7	None of these
427.	Raising time of pantograph is	1 to 5 sec	6 to 10 sec	10 to 15 sec	None of these
428.	Lowering time of pantograph is	> 1 sec	> 15 sec	> 10 sec	None of these
429.	The constant depth of the K series mast is	400 mm	350 mm	300 mm	None of these
430.	Dia of pulley modified 3 pulley type ATD is	400 mm	250 mm	251 mm	None of these

SN	Question	A	B	C	D
431.	Dia of pulley of 3 pulley old type ATD is	400 mm	250 mm	150mm	None of these
432.	Average life of panto graph is	90 years	60 years	12 years	None of these
433.	Thickness of large bracket tube	10 mm	17mm	9 mm	None of these
434.	Inner dia of standard bracket tube	15 mm	30 mm	16 mm	None of these
435.	Outer dia of large bracket tube	30 mm	16 mm	49 mm	None of these
436.	outer dia of standard bracket tube	10 mm	17mm	38 mm	None of these
437.	Inner dia of large bracket tube	40 mm	16 mm	49 mm	None of these
438.	Breaking load in kg of catenary wire	3820	3900	3920	None of these
439.	Breaking load in kg of contact wire	3935	3915	3905	None of these
440.	Breaking load in kg of feeder wire	6090	6880	6080	None of these
441.	Breaking load in kg of large span wire	6480	6090	7650	None of these
442.	Type of portal to be used for clear span of 30-40 M	N type	R type	G type	None of these
443.	Weight of small dropper wire Kg / Mtr	0.1747 kg/mtr	0.1756 kg/mtr	0.1846 kg/mtr	0.1746 kg/mtr
444.	Weight of large dropper wire Kg / Mtr	0.3746 kg/mtr	0.1756 kg/mtr	0.2746 kg/mtr	0.3421 kg/mtr
445.	Impedance of OHE single line without RC	0.45 OHM /KM	0. 48 OHM /KM	0.41 OHM /KM	None of these
446.	Weight of large jumper wire Kg / Mtr	0.882 kg/mtr	0.987 kg/mtr	0.988 kg/mtr	0.982 kg/mtr
447.	Weight of small jumper wire Kg / Mtr	0.95 2 kg/mtr	0.952 kg/mtr	0.952 kg/mtr	0.952 kg/mtr
448.	Weight of contact wire Kg / Mtr	0.9612 kg/mtr	0.9712 kg/mtr	0.9622 kg/mtr	None of these
449.	Overall dia. of G-jumper	9.10 mm	9.15 mm	15.2 mm	None of these
450.	Overall dia of C-jumper	9.15 mm	8.14 mm	9.14 mm	None of these
451.	Length of SS wire rope in 3 pulley type RE (New specification)	10. 5 mtrs	7 mtrs	8 mtrs	None of these
452.	Max. speed at section insulator (Runner trailing conditions)	100 KMPH	80 KMPH	45 KMPH	None of these
453.	Normal tension in Kg. of feeder wire	1000 kg	1111 kg	1010 kg	None of these
454.	Creepage distance of long creepage BT insulator	1000 mm	1100 mm	1200 mm	None of these
455.	Length of TT mast	12.21 mtr	12.00 mtr	11.80 mtr	None of these
456.	Maximum speed permitted at SI type of Neutral section	110 kmph	120 kmph	100 kmph	None of these
457.	The minimum clearance between the OVERHEAD LINE of 66kV to 132 kV and RAILWAY TRACK	14.60 mtr	15.0 mtr	10.0 mtr	None of these
458.	Cross section area of large span wire	140 sq mm	135 sq mm	130 sq mm	None of these
459.	Cross section of BFB mast	142 x 142 mm	152 x 152 mm	162 x 162 mm	None of these
460.	DIP of the OHE under high speed	15 mm	20 mm	30 mm	None of these
461.	DIP of the OHE under normal speed	15 cm	20 cm	25 cm	None of these
462.	Permissible tolerance on the height of contact wire at support on over bridge	15 mm	12 mm	10 mm	None of these
463.	Maximum permissible variation in implantation	15 mm	20 mm	30 mm	None of these
464.	Maximum permissible variation in rail level	15 mm	20 mm	25 mm	None of these
465.	The minimum clearance between the OVERHEAD LINE of 220kV to 400 kV and RAILWAY TRACK	15.0 mtr	10.0 mtr	17.90 mtr	None of these



SN	Question	A	B	C	D
466.	Equivalent Cu are of single track OHE	150 mm	140 mm	155 mm	None of these
467.	Cross section of RSJ mast.	150 x 150 mm	200 x 200 mm	200 x 150 mm	None of these
468.	Track separation at obligatory mast of turn out/ cross over	150-750 mm	500-750 mm	250-600 mm	None of these
469.	Cross section of special BFB Portal	152 x 152 mm	142 x 152 mm	142 x 142 mm	None of these
470.	On main line tracks, the lengths of two consecutive spans shall not normally differ by more than	17 mtr	19 mtr	18 mtr	None of these
471.	The minimum clearance between the OVERHEAD LINE of 500kV to 800 kV and RAILWAY TRACK	23.40 mtr	19.30 mtr	17.90 mtr	None of these
472.	The minimum clearance between the OVERHEAD LINE of 400kV to 500 kV and RAILWAY TRACK	19.30 mtr	10.0 mtr	17.90 mtr	None of these
473.	Dia of each strands of small jumper	2.2 mm	1.83 mm	1.84 mm	None of these
474.	Dia. of each strands of feeder wire	2.25 mm	2.12 mm	2.34 mm	None of these
475.	Dia of each strands of large span wire	2.2mm	2.3 mm	2.4 mm	2.1 mm
476.	Dia of each strands of catenary wire	2.3 mm	2.4 mm	2.2 mm	2.1 mm
477.	Embedded length of OHE mast in concrete	2.35 mtr	1.35 mtr	1.45 mtr	None of these
478.	Location of F jumper away from cut in insulator	2.8 mtr	2.5 mtr	3.5 mtr	None of these
479.	The height of drop mast above rail rod level	2.8 mtr	3.5 mtr	2.5 mtr	None of these
480.	Dia. of rod lacing for R-type portal	20 mm	22 mm	16 mm	None of these
481.	Permissible tolerance on the height of contact wire at support	20 mm	30 mm	15 mm	None of these
482.	Normal tension in Kg. Large span wire	2000 kg	4000 kg	2050 kg	None of these
483.	What is the size of type C-drop arm	250 x 300 mm	300 x 300 mm	200 x 300 mm	None of these
484.	PUSH UP of contact wire due to pantograph for 72 mtr span	260 mm	300 mm	350 mm	None of these
485.	Location of overlap type Neutral section from stop signal	2600 mtr	1600 mtr	1650 mtr	None of these
486.	The relative gradient of contact wire in adjacent spans	3 mm per M	0.5 mm per M	2 mm per M	1.5 mm per M
487.	What is the length of type B drop arm	3.50 mtr	3.05 mtr	4.00 mtr	None of these
488.	What is the length of type A drop arm	3.50 mtr	4.00 mtr	3.05 mtr	None of these
489.	What is the length of type C drop arm	3.50 mtr	4.00 mtr	3.05 mtr	None of these
490.	Dia. of standard bracket tube	30/28 mm	30/38 mm	20/38 mm	None of these
491.	Dia. of large bracket tube	30/29 mm	40/49 mm	30/38 mm	None of these
492.	BLOW OFF contact wire under wind pressure 88 kg/Sq.M	300 mm	350 mm	450 mm	None of these
493.	Cross section of TTC mast	300 x 225 mm	325 x 225 mm	300 x 325 mm	None of these
494.	What is the size of type B drop arm	300 x 300 mm	250 x 300 mm	250 x 250 mm	None of these
495.	Cross section of P type portal	300 x300 mm	400 x 250 mm	400 x 400 mm	None of these
496.	Dia. of ST tube	35 mm	45 mm	25 mm	None of these
497.	Distance between two C jumper unregulated OHE	350 mtr	450 mtr	400 mtr	None of these
498.	No. of strands of large span wire	37	39	38	None of these
499.	No. of strands of feeder wire	37	39	38	None of these
500.	Cross section area of large dropper	38.49 sq mm	37.48 sq mm	38.48 sq mm	None of these

SN	Question	A	B	C	D
501.	If mast, are located on both sides of track, the min. staggered distance is	4.5 Mtrs	15 Mtrs	9 Mtrs	None of these
502.	Cross section of G type portal	400 x 250 mm	400 x 200 mm	450 x 250 mm	None of these
503.	Cross section of R type portal	400 x 650 mm	600 x 600 mm	600 x 250 mm	None of these
504.	Cross section of N type portal	450 x 450 mm	550 x 450 mm	455 x 450 mm	None of these
505.	Location of C jumper from support	5.7 mtr	6.6 mtr	5.6 mtr	None of these
506.	The area of contact wire at condemning size corresponds to	74 Sq mm	69 Sq mm	60 Sq mm	None of these
507.	Total length of solid core Section insulator.	500 mm	400 mm	600 mm	None of these
508.	Total length of bracket insulator.	500 mm	550 mm	540 mm	None of these
509.	Cross section area of small jumper wire	51 sq mm	31 sq mm	50 sq mm	None of these
510.	Total length of post insulator.	520 mm	600 mm	420 mm	None of these
511.	Length of Neutral section span	54 Mtrs	49 Mtrs	45 Mtrs	41 Mtrs
512.	Total length of 9 Tonne insulator.	542 mm	547 mm	552 mm	None of these
513.	Dia. of register arm tube	55 mm	45 mm	25 mm	None of these
514.	Normal permissible current density for OHE	6 Amp. /Sq mm	5 Amp. /Sq mm	4 Amp. /Sq mm	None of these
515.	Retensioning of unregulated OHE to be done every	6 months	12 months	24 month	None of these
516.	Use of N type portal for	6 tracks	2 tracks	4 tracks	None of these
517.	Use of O type portal for	6 tracks	2 tracks	4 tracks	None of these
518.	The approximate weight of section insulator assembly is	60 Kg.	70 Kg	66 Kg	None of these
519.	Max. span in unregulated tramway type OHE	60 Mtrs	30 Mtrs	45 Mtrs	None of these
520.	Location of SI type neutral section after stop signal	600 mtr	500 mtr	800 mtr	400 mtr
521.	Distance between two C jumper regulated OHE	650 mtr	450 mtr	350 mtr	None of these
522.	Cross section of O type portal	650 x 650 mm	550 x 550 mm	560 x 560 mm	None of these
523.	Where earth wire is provided the max. span over LC gate is	67.5 M	58.5 M	54 M	None of these
524.	Size of pantograph raise board	680 x 452mm	750 x 460mm	600 x 400 mm	None of these
525.	Dia. of large dropper	7 mm	0.7 mm	6.7 mm	None of these
526.	At cross type OHE facing turn out, the anchor span should not be more than	54 m	65 m	60 m	None of these
527.	The types of pantograph used in traction system are	AM-12	AM-18	A & B	None of these
528.	Length of carbon strip of AM-12 panto graph from center of pantopan is	500 mm	520 mm	550 mm	None of these
529.	Length of carbon strip of AM-18 panto graph from center of pantopan is	522 mm	545 mm	632 mm	None of these
530.	Horn to horn length of AM-12 pantograph is	1800 mm	1700 mm	1600 mm	None of these
531.	Vertical height of AM-12 pantograph horn is	200 mm	300 mm	400 mm	None of these
532.	Vertical height of AM-18 pantograph horn is	306 mm	325 mm	430 mm	None of these
533.	Horizontal height of AM-12 pantograph horn is	306 mm	325 mm	380 mm	None of these

SN	Question	A	B	C	D
534.	Horizontal height of AM-18 pantograph horn is	384 mm	325 mm	380 mm	None of these
535.	The maximum permitted displacement of the pan at the middle cross member should be	36 +/- 5 mm	32 +/- 5 mm	30 +/- 5 mm	None of these
536.	Length of carbon strip of panto graph from center of pantopan is known as	A-parameter	B-parameter	C-parameter	None of these
537.	Horn to horn length of pantograph is known as	A-parameter	B parameter	C-parameter	None of these
538.	Vertical height of pantograph horn is known as	A-parameter	B parameter	C parameter	None of these
539.	All transmission line tower should be earthed by earthing electrodes	Individually	Regularly	Alternatively	None of these
540.	Allowable bearing pressure generally adopted for average good soil in banks and cuttings	10000 kg/Sq.m	11000 kg/Sq.m	12000 kg/Sq.m	None of these
541.	Allowable bearing pressure generally adopted for new bank and bad soils In banks and cuttings	5000 kg/Sq.m	5500 kg/Sq.m	6000 kg/Sq.m	None of these
542.	Allowable bearing pressure generally adopted for moorum soil in cuttings	22000 kg/Sq.m	25000 kg/Sq.m	27000 kg/Sq.m	None of these
543.	Allowable bearing pressure generally adopted for dry black cotton soil	15000 kg/Sq.m	15500 kg/Sq.m	16000 kg/Sq.m	16500 kg/Sq.m
544.	Allowable bearing pressure generally adopted for wet black cotton soil	6000 kg/Sq.m	7000 kg/Sq.m	8000 kg/Sq.m	None of these
545.	Wind pressures adopted as Green zone (light)	110kgf/sq.m	75kgf/sq.m	65kgf/sq.m	None of these
546.	Wind pressures adopted as Yellow zone (medium)	110kgf/sq.m	75kgf/sq.m	112.5kgf/sq.m	None of these
547.	Wind pressures adopted as Red zone (heavy)	130kgf/sq.m	112.5kgf/sq.m	125.5kgf/sq.m	150kgf/sq.m
548.	Max. permissible speed in short neutral sections is	140kmph	160kmph	180kmph	200kmph
549.	While providing short neutral section of section insulator assembly type half tension length shall also not exceed	400m	500m	600m	None of these
550.	In case of overlap type neutral section, this distance should preferably be 1600 m away on section with gradient up to	1:250	1:300	1:350	None of these
551.	In case of overlap type neutral section, this distance should preferably be 2500 m away on section with gradient up to	1:200	1:300	1:400	None of these
552.	Where a stop signal is located after the neutral section, the distance between the neutral section and the stop signal should be kept at least _____	400m	500m	600m	None of these
553.	The section insulator is to be located beyond the point where the track centre distance between the two tracks is equal to or more than	1.55m	1.65m	1.7m	None of these
554.	If section insulator is erected with free ends of the runners away from the centre of the turn out this distance may be reduced to	1.45m	1.55m	1.65m	None of these
555.	In double line section, the runners should be in the	Leading	Trailing direction	Any direction	None of these

SN	Question	A	B	C	D
		direction			
556.	With unregulated overhead equipment tension lengths up to _____ may be adopted.	1500m	2000m	2500m	None of these
557.	the obligatory structure should be located between points where separation between the main and the turnout track centers are	550 and 150 mm	600 and 100 mm	650 and 100 mm	700 and 150 mm
558.	Location of double bracket structure should remain within permissible zone of track separation	150-550mm	100-600mm	150-700mm	None of these
559.	Weight (kg/m) of Catenary wire is	0.4973	0.5973	0.6973	None of these
560.	Weight (kg/m) of Contact wire is	0.8612	0.9012	0.9612	None of these
561.	Weight (kg/m) of large span wire(130) is	1.1692	1.1002	1.1502	None of these
562.	Weight (kg/m) of small jumper(50) is	0.9	0.952	0.852	None of these
563.	Weight (kg/m) of large jumper(105) is	0.9	0.952	0.982	None of these
564.	Weight (kg/m) of small dropper(50) is	0.1746	0.19	0.2	None of these
565.	Weight (kg/m) of large dropper(105) is	0.4021	0.4521	0.3221	0.3421
566.	Weight (kg/m) of earth wire(50) is	0.325	0.318	0.29	None of these
567.	Distance between holes of 9T insulator	542	535	555	None of these
568.	Distance between holes of Bracket tube Insulator	475	525	500	None of these
569.	Distance between holes of Stay arm Insulator	475	550	500	525
570.	Angle of standard anchor arrangement is	40	45	50	None of these
571.	The minimum value of BDV of transformer oil for 220 kV	56 kV	60 kV	50 kV	None of these
572.	The minimum value of BDV of transformer oil for 132 kV	56 kV	40 kV	50 kV	None of these
573.	Specific resistance of transformer oil is at 90 degree Celsius, more than	$2 \times 10^{12}$ ohm cm	$3 \times 10^{12}$ ohm cm	$1 \times 10^{12}$ ohm cm	None of these
574.	Reconditioning of transformer to be done when specific resistance is between	$0.2 \times 10^{12}$ to $1 \times 10^{12}$ ohm cm	$0.1 \times 10^{12}$ to $1 \times 10^{12}$ ohm cm	$0.3 \times 10^{12}$ to $3 \times 10^{12}$ ohm cm	None of these
575.	Transformer oil should be replaced when specific resistance is less than	$0.1 \times 10^{12}$ ohm cm	$0.1 \times 20^{12}$ ohm cm	$0.2 \times 10^{12}$ ohm cm	None of these
576.	Maximum water content in transformer oil for 132 kV	40 ppm	10 ppm	20 ppm	None of these
577.	Maximum water content in transformer oil for 220 kV	40 ppm	30 ppm	20 ppm	None of these
578.	132 kV transformer oil should be reconditioned, if water content is more than	40 ppm	30 ppm	10 ppm	None of these
579.	220 kV transformer oil should be reconditioned, if water content is more than	30 ppm	10 ppm	20 ppm	None of these
580.	Maximum value of Tan delta of transformer oil at 90 degree Celsius is	0.002	0.003	0.0025	None of these
581.	Transformer oil should be replaced if tan delta is more than	0.003	0.0025	0.002	None of these
582.	Transformer oil should be replaced if acidity is more than	0.5 mg	0.3 mg KOH/gm	0.4 mg KOH/gm	None of these

SN	Question	A	B	C	D
		KOH/gm			
583.	Interfacial tension of transformer oil should be more than	0.115N/m	0.019N/m	0.015N/m	None of these
584.	Transformer oil should be replaced , when interfacial tension is less than	0.015N/m	0.019N/m	0.018N/m	None of these
585.	Flash point of transformer oil should be more than	145 Degree C	140 Degree C	150 Degree C	None of these
586.	Reconditioning of transformer oil should be done if flash point is between	115 to 140 Degree C	100 to 140 Degree C	125 to 140 Degree C	None of these
587.	Transformer oil should be replaced, if flash point is less than	225 Degree C.	125 Degree C.	135 Degree C.	None of these
588.	Contact resistance of CB when closed should be less than	100 micro ohm	110 micro ohm	150 micro ohm	None of these
589.	Meggering of CB should be done by megger	3.5 kV	4.5 kV	2.5 kV	None of these
590.	Meggering of control circuit CB should be done by megger	1500 v	500 v	600 v	None of these
591.	The IR value between fixed contact and earth should be more than	100 M ohm	1900 M ohm	1000 M ohm	None of these
592.	The IR value between moving contact of CB and earth should be more than	1000 M ohm	1901 M ohm	1000 M ohm	None of these
593.	The IR value between fixed contact and moving contact of CB should be more than	1000 M ohm	1200 M ohm	2000 M ohm	None of these
594.	There should be continuity between moving contact and fixed contact when CB closed is	NO	YES	BOTH	None of these
595.	The setting of 25 kV CB for air pressure alarm is	13.6 kg/cm2	13.2 kg/cm2	12.2 kg/cm2	None of these
596.	The setting of 25 kV CB for air pressure trip is	13.6 kg/cm2	13.2 kg/cm2	12.2 kg/cm2	12.0 kg/cm2
597.	The setting of 25 kV CB for gas pressure alarm is	4.5 kg/cm2	5.5 kg/cm2	6.5 kg/cm2	None of these
598.	The setting of 25 kV CB for gas pressure trip is	4.4 kg/cm2	5.0 kg/cm2	4.0 kg/cm2	None of these
599.	The normal resistance of closing coil of 25 kV CB is	36 ohm	33 ohm	34 ohm	None of these
600.	The normal resistance of closing coil of 220 kV CB is	63 ohm	37ohm	32 ohm	20.07 ohm
601.	The normal resistance of trip coil of 25 kV CB is	33 ohm	37ohm	32 ohm	None of these
602.	The normal resistance of trip coil of 220 kV CB is	20.09 ohm	21.07 ohm	20.07 ohm	None of these
603.	Closing time of 220 kV CB less than	45 m sec	40 m sec	50 m sec	None of these
604.	Opening time of 220 kV CB less than	45 m sec	40 m sec	50 m sec	35 m sec
605.	Closing time of 25 kV CB less than	100 m sec	45 m sec	40 m sec	None of these
606.	Opening time of 25kV CB less than	45 m sec	40 m sec	43 m sec	None of these
607.	Air pressure drop in one operation for 25 kV CB should be less than	1.6 kg/cm2	1.2 kg/cm2	2.2 kg/cm2	None of these
608.	Minimum value of IR between fix contact and earth of interrupter	1200 M ohm	1000 M ohm	1050 M ohm	None of these
609.	Minimum value of IR between moving contact and earth of interrupter	1050 M ohm	1000 M ohm	1200 M ohm	None of these
610.	Minimum value of IR between moving contact and fix contact of interrupter	1050 M ohm	1150 M ohm	1000 M ohm	None of these
611.	There should be continuity between fix contact and moving contact	Yes	no	both	None of these

SN	Question	A	B	C	D
	when BM is closed				
612.	Coil resistance of closing coil of BM	36 Ohm	26 Ohm	16 Ohm	None of these
613.	Contact resistance of BM when closed	<110 micro ohm	<150 micro ohm	<100 micro ohm	None of these
614.	If temperature is increases solubility of H <sub>2</sub> , N <sub>2</sub> , CO, O <sub>2</sub> will	increase	decrease	both	None of these
615.	If temperature is increases solubility of CO <sub>2</sub> , C <sub>2</sub> H <sub>2</sub> , C <sub>2</sub> H <sub>4</sub> & C <sub>2</sub> H <sub>6</sub> will	increase	decrease	both	None of these
616.	The solubility of CH <sub>4</sub> will	increase	decrease	remain constant	None of these
617.	Solubility of Hydrogen gas in transformer oil at 25 degree Celsius	7% of volume	8% of volume	9% of volume	None of these
618.	Solubility of Oxygen gas in transformer oil at 25 degree Celsius	8% of volume	16% of volume	9% of volume	None of these
619.	Solubility of Argon gas in transformer oil at 25 degree Celsius	8% of volume	16% of volume	15% of volume	None of these
620.	Solubility of Nitrogen gas in transformer oil at 25 degree Celsius	8.6% of volume	16% of volume	15% of volume	None of these
621.	Solubility of Carbon monoxide gas in transformer oil at 25 degree Celsius	8% of volume	9% of volume	16% of volume	None of these
622.	Solubility of Carbon dioxide gas in transformer oil at 25 degree Celsius	120% of volume	16% of volume	15% of volume	None of these
623.	Solubility of Methane gas in transformer oil at 25 degree Celsius	16% of volume	15% of volume	5% of volume	30% of volume
624.	Solubility of Ethane gas in transformer oil at 25 degree Celsius	280% of volume	16% of volume	15% of volume	None of these
625.	Solubility of Ethylene gas in transformer oil at 25 degree Celsius	380% of volume	280% of volume	8.6% of volume	None of these
626.	Solubility of Acetylene gas in transformer oil at 25 degree Celsius	400% of volume	16% of volume	15% of volume	None of these
627.	Solubility of Propylene gas in transformer oil at 25 degree Celsius	16% of volume	15% of volume	5% of volume	400% of volume
628.	Solubility of Propane gas in transformer oil at 25 degree Celsius	16% of volume	1900% of volume	8.6% of volume	None of these
629.	Solubility of Butane gas in transformer oil at 25 degree Celsius	380% of volume	280% of volume	4000% of volume	None of these
630.	Range of Methane CH <sub>4</sub> gas level in PPM in transformer oil for 0 - 4 years	10 to 30	10 to 40	20 to 30	None of these
631.	Range of Ethane C <sub>2</sub> H <sub>6</sub> gas level in PPM in transformer oil for 0 - 4 years	10 to 40	10 to 30	20 to 30	None of these
632.	Range of Acetylene C <sub>2</sub> H <sub>2</sub> gas level in PPM in transformer oil for 0 - 4 years	10 to 40	10 to 16	20 to 30	None of these
633.	Range of Hydrogen H <sub>2</sub> gas level in PPM in transformer oil for 0 - 4 years	20 to 150	10 to 16	20 to 30	None of these
634.	Range of Carbon Monoxide CO gas level in PPM in transformer oil	200 to 400	100 to 300	200 to 300	None of these

SN	Question	A	B	C	D
	for 0 - 4 years				
635.	Range of Carbon Dioxide CO <sub>2</sub> gas level in PPM in transformer oil for 0 - 4 years	2000 to 4000	3000 to 4000	3000 to 4050	None of these
636.	Range of Methane CH <sub>4</sub> gas level in PPM in transformer oil for 4 - 10 years	30 to 80	10 to 16	20 to 30	None of these
637.	Range of Ethane C <sub>2</sub> H <sub>6</sub> gas level in PPM in transformer oil for 4 - 10 years	30 to 55	30 to 50	40 to 50	None of these
638.	Range of Acetylene C <sub>2</sub> H <sub>2</sub> gas level in PPM in transformer oil for 4 - 10 years	10 to 16	10 to 30	15 to 30	None of these
639.	Range of Hydrogen H <sub>2</sub> gas level in PPM in transformer oil for 4 - 10 years	150 to 300	10 to 16	20 to 30	None of these
640.	Range of Carbon Monoxide CO gas level in PPM in transformer oil for 4 - 10 years	350 to 500	400 to 500	300 to 500	None of these
641.	Range of Carbon Dioxide CO <sub>2</sub> gas level in PPM in transformer oil for 4 - 10 years	2000 to 5000	4000 to 5000	1000 to 5000	None of these
642.	Range of Methane CH <sub>4</sub> gas level in PPM in transformer oil for 10 years	30 to 130	10 to 16	20 to 30	None of these
643.	Range of Ethane C <sub>2</sub> H <sub>6</sub> gas level in PPM in transformer oil for 10 years	30 to 100	30 to 110	50 to 110	None of these
644.	Range of Acetylene C <sub>2</sub> H <sub>2</sub> gas level in PPM in transformer oil for 10 years	10 to 50	10 to 40	20 to 40	None of these
645.	Range of Hydrogen H <sub>2</sub> gas level in PPM in transformer oil for 10 years	200 to 500	200 to 600	100 to 500	None of these
646.	Range of Carbon Monoxide CO gas level in PPM in transformer oil for 10 years	200 to 600	100 to 500	500 to 700	None of these
647.	Range of Carbon Dioxide CO <sub>2</sub> gas level in PPM in transformer oil for 10 years	1000 to 10000	4000 to 10000	5000 to 10000	None of these
648.	Length of K series mast is	8.3 mtr	9.3 mtr	9.9 mtr	None of these
649.	For parallel operation of transformer in TSS % impedance of both TR must be	same	different	A or B	None of these
650.	For parallel operation of transformer in TSS incoming voltage of both TR must be	different	same	A or B	None of these
651.	For parallel operation of transformer in TSS incoming Frequency both TR must be	same	different	A or B	None of these
652.	For parallel operation of transformer in TSS polarity of both TR must be	B or C	different	same	None of these
653.	For parallel operation of transformer in TSS turn ratio of both TR must be	B or C	same	different	None of these

SN	Question	A	B	C	D
654.	For parallel operation of transformer in TSS tap position of both TR must be	same	B or C	different	None of these
655.	No. of fan used in TSS for cooling of 13.5 MVA transformer	12	29	17	None of these
656.	Approximate operating time of CB of TSS is	100 m sec	50 m sec	60 m sec	None of these
657.	Approximate operating time of MTR of TSS is	100 m sec	50 m sec	60 m sec	15 m sec
658.	Approximate operating time of ITR of TSS is	12 m sec	100 m sec	50 m sec	None of these
659.	Approx. angle of OHE load is	25.9 Degree	36.9 Degree	46.9 Degree	None of these
660.	Approx. power factor of OHE load (without power factor improvement) is	10.8	1.8	0.8	None of these
661.	CT ratio of primary side of the transformer is	200/100/5	400/200/5	500/100/5	None of these
662.	CT ratio of secondary side of the transformer is	1500/750/5	1000/500/5	Both	None of these
663.	HV Side bushing CT ratio of 220 kV is	750/5	500/5	900/5	200/5
664.	LV Side bushing CT ratio of 220 kV is	1600/7.91	1600/4.91	2600/4.91	None of these
665.	HV Side bushing CT ratio of 132 kV is	200/5	750/5	500/5	None of these
666.	LV Side bushing CT ratio of 132 kV is	1600/7.91	1600/4.91	1000/5.11	None of these
667.	No. of bushing CT in HV side of transformer	8	2	6	None of these
668.	Outer dia of earthing electrode is	68.4 mm	28.4 mm	16.4 mm	48.4 mm
669.	Dia of the inner hole of earthing electrode is	16 mm	12 mm	22 mm	None of these
670.	Size of MS flat connected to secondary of PT to earth	55mm x 8 mm	60mm x 5 mm	50mm x 6 mm	None of these
671.	Size of MS flat connected to secondary of CT to earth	50mm x 6 mm	55mm x 8 mm	60mm x 5 mm	None of these
672.	Size of MS flat connected to secondary of AT to earth	55mm x 8 mm	60mm x 5 mm	80mm x 5 mm	50mm x 6 mm
673.	Weight of buried rail per meter is	60 Kg	52 Kg	82 Kg	None of these
674.	The ground terminal of LV LA is connected to earth electrode by MS flat	50mm x 6 mm	60mm x 5 mm	80mm x 5 mm	None of these
675.	The ground terminal of HV LA is connected to earth electrode by MS flat	55mm x 8 mm	60mm x 5 mm	75mm x 8 mm	None of these
676.	The diameter of earthing electrode 132 kV system is	45 to 56 mm	32 to 36 mm	30 to 48 mm	None of these
677.	The diameter of earthing electrode 220 kV system is	45 to 56 mm	32 to 56 mm	30 to 48 mm	32 to 40 mm
678.	The Max. permissible combined earth resistance at TSS	0.25 Ohm	0.5 Ohm	1 Ohm	None of these
679.	Max. limit of acidity of transformer oil in service	0.5 mg KOH/g of oil	0.3 mg KOH/g of oil	0.2 mg KOH/g of oil	None of these
680.	Max. permissible combined earth resistance at a switching station (SP/SSP)	0.5 Ohm	1 Ohm	2 Ohm	None of these
681.	Dead time of Auto reclosure of SF/6 CB	0.5 sec	2 sec	5 sec	None of these
682.	VA capacity of type I PT is	100 VA	75 VA	50 VA	30 VA
683.	The electrode gap of oil test for BDV	2.0 mm	2.5 mm	4.0 mm	None of these
684.	The minimum IR value of the power conductor is	80 Mega Ohm	100 Mega Ohm	120 Mega Ohm	None of these
685.	In case of 132 kV lines under maximum temperature condition, in	6.1 m	9.1 m	7.0 m	None of these



SN	Question	A	B	C	D
	still air, the minimum clearances is in open route				
686.	Which gas is generated at positive plate of conventional battery is	oxygen	hydrogen	A & B	None of these
687.	Which gas is generated at negative plate of conventional battery is	oxygen	Hydrogen	nitrogen	None of these
688.	Which gas is generated at positive plate of VRLA battery is	oxygen	Hydrogen	nitrogen	None of these
689.	Which gas is generated at negative plate of VRLA is	Oxygen	Hydrogen	BOTH	None of these
690.	Which gas lost in conventional battery through vent holes	oxygen	Hydrogen	BOTH	None of these
691.	Which plate of the VRLA battery never fully charge even the cell is fully charged	Negative plate	Positive plate	both plate	None of these
692.	In VRLA battery the which gas is evolved at the positive plate is absorbed by the negative plate without being released to the outside.	Hydrogen	oxygen	nitrogen	None of these
693.	In VRLA battery the which plate always in state of partial discharge	Negative plate	Positive plate	both plate	None of these
694.	In Which battery no loss of water	VRLA battery	Conventional battery	both battery	None of these
695.	In which battery the requirement of space is less	Conventional battery	both battery	VRLA battery	None of these
696.	In which battery required volume is less	both battery	VRLA Battery	Conventional battery	None of these
697.	The weight of which battery is less	VRLA Battery	Conventional battery	both battery	None of these
698.	What is the maximum self discharge rate of conventional battery per week	8%	4%	14%	None of these
699.	What is the maximum self discharge rates of VRLA battery per week	0.50%	0.80%	0.60%	None of these
700.	The % requirement of the space in VRLA battery is of conventional battery is	30%	50%	60%	None of these
701.	The % reduction in volume of VRLA battery than conventional battery is	40%	70%	30%	None of these
702.	The % reduction weight of VRLA battery than conventional battery is	60%	70%	30%	None of these
703.	In which battery transit damages are high	both battery	Conventional battery	VRLA battery	None of these
704.	In which battery transit damages are low	VRLA battery	both battery	Conventional battery	None of these
705.	Which battery is factory charged battery	Conventional battery	both battery	VRLA battery	None of these
706.	In which battery initial charging is required at site	VRLA battery	Conventional battery	both battery	None of these

SN	Question	A	B	C	D
707.	The installation time of which battery is less	both battery	VRLA battery	Conventional battery	None of these
708.	The installation time of which battery is more	Conventional battery	VRLA battery	both battery	None of these
709.	In which battery initial charging is not required at site	both battery	Conventional battery	VRLA battery	None of these
710.	In which battery initial charging cannot be done at factory	VRLA battery	Conventional battery	both battery	None of these
711.	% Saving of time in VRLA Battery than conventional battery	80%	100%	60%	None of these
712.	In which battery explosion proof safety valve plugs provided	VRLA battery	both battery	Conventional battery	None of these
713.	In which battery post corrosion is not usually observed	VRLA battery	Conventional battery	both battery	None of these
714.	Normal ventilation is not sufficient for which battery	VRLA battery	both battery	Conventional battery	None of these
715.	Proper exhaust for ventilation is must for which battery	both battery	Conventional battery	VRLA battery	None of these
716.	Proper exhaust for ventilation is not must for which battery	Conventional battery	none of these	both battery	VRLA Battery
717.	Separate battery room with acid resistant flooring is not required for which battery	VRLA battery	both battery	Conventional battery	None of these
718.	Separate battery room with acid resistant flooring is required for which battery	VRLA battery	both battery	Conventional battery	None of these
719.	% Setting of EFR I for primary current is	20%	10%	50%	None of these
720.	% Setting of EFR I for secondary current is	10%	20%	50%	None of these
721.	% Bias setting of differential relay is	30%	10%	50%	None of these
722.	Number of competency certificate for Protective relay staff	TR 2	TR 7	TR 5	None of these
723.	Number of competency certificate for RCC Skilled staff	TR 2	TR 5	TR 6	TR 8
724.	Number of competency certificate for RCC Supervisor	TR 6	TR 9	TR 5	None of these
725.	Unbalance current protection relay is used for	Transformer	OHE	Capacitor bank	None of these
726.	Under voltage relay is used for protection for	PT	Capacitor bank	Transformer	None of these
727.	Over voltage relay is used for protection for	Capacitor bank	Transformer	OHE	None of these
728.	Setting of under voltage relay for cap bank is	90%	75%	80%	None of these
729.	Setting of over voltage relay for capacitor bank is	80%	130%	90%	None of these
730.	Setting of unbalance current relay for capacitor bank is	80%	130%	90%	30%
731.	Approximate operating time of Instantaneous static OCR of TSS is	12 m sec	100 m sec	30 m sec	None of these
732.	Approximate operating time of static DPR of TSS is	50 m sec	60 m sec	100 m sec	None of these
733.	Approximate operating time of static WPC Relay of TSS is	100 m sec	30 m sec	60 m sec	None of these

SN	Question	A	B	C	D
734.	Approximate operating time of static EFR of TSS is	25 m sec	30 m sec	60 m sec	None of these
735.	Approximate operating time of static Differential Relay of TSS is	30 m sec	60 m sec	50 m sec	35 m sec
736.	Approximate operating time of auxiliary relay of TSS is	30 m sec	10 m sec	60 m sec	None of these
737.	Approximate operating time of panto flash over relay of TSS is	25 m sec	30 m sec	40 m sec	None of these
738.	Operating temperature range for TSS Relay	0 to +75 Degree C	0 to +65 Degree C	5 to +65 Degree C	None of these
739.	PT voltage required for DPR relay	100 V	115 V	125 V	110 V AC
740.	PT voltage required for WPC relay	100 V	110 V AC	115 V	None of these
741.	PT voltage required for Pantoflash over relay	125 V	150 V AC	110 V AC	None of these
742.	CT secondary rating of OCR relay is	15 Amp	19 Amp	1 Amp	5 Amp
743.	CT secondary rating of EFR relay is	4 amp	5 Amp	15 Amp	None of these
744.	CT secondary rating of DFR relay is	5 Amp	15 Amp	19 Amp	None of these
745.	CT secondary rating of Instantaneous OCR relay is	15 Amp	19 Amp	5 Amp	None of these
746.	CT secondary rating of IDMT OCR relay is	15 Amp	19 Amp	1 Amp	5 Amp
747.	DPR characteristic angle is	75 Degree	70 Degree	80 Degree	None of these
748.	Distance for feeder protection zone 1	TSS to TSS	TSS to SP	TSS to SSP	None of these
749.	Distance for feeder protection zone 2	SP to Next SP	TSS to SSP	TSS to Next TSS	None of these
750.	Setting of the WTI relay alarm at	70 Degree C.	80 Degree C.	100 Degree C.	90 Degree C.
751.	Setting of the WTI relay trip at	70 Degree C.	95 Degree C.	120 Degree C.	None of these
752.	Setting of the OTI relay alarm at	80 Degree C.	70 Degree C.	95 Degree C.	None of these
753.	Setting of the OTI relay trip at	70 Degree C.	95 Degree C.	105 Degree C.	None of these
754.	No. of MCB used at RTU	01 No.	05 Nos.	2 Nos	None of these
755.	Rating of MCB used at RTU	2 Amp	5 Amp	1 Amp	None of these
756.	Number of competency certificate for T/W Driver	TR 6	TR 2	TR 5	TR 4
757.	New dia of wheel of 8 wheeler tower wagon is	925 mm	815 mm	915 mm	None of these
758.	Condemn dia of wheel of 8 wheeler tower wagon is	857 mm	858 mm	859 mm	None of these
759.	On Mark-III Tower wagon capacity of battery used	12 Volts	24 Volts	110 Volts	None of these
760.	Air filter should be replaced after _____ Hrs.	600 Hrs.	1000 Hrs.	1500 Hrs.	None of these
761.	Lub oil pressure in idle condition should be _____ kg/Sq.cm?	7.5	5	1.5	None of these
762.	Minimum fuel in tank should be _____?	50% of tank capacity	30% of tank capacity	75% of tank capacity	None of these
763.	Air filter should replaced when vacuum indication shows	Green indication	Red indication	Yellow indication	None of these
764.	Battery used in 8 Wheeler Tower wagon	12 Volts & 24 Volts	24 Volts & 110 Volts	100 Volts only	None of these
765.	When fuel oil & lub oil to be replaced?	During 'B' Check	During 'C' Check	During 'D' Check	None of these

SN	Question	A	B	C	D
766.	Maximum TMs can be isolated in case of failure in TMs in DETC	1	2	3	None of these
767.	MOLR (Motor Over Load Relays) are	By passing type	Resetting type	Non resetting type	None of these
768.	In case of absence of regular T/W driver, the person authorized to drive T/W should have competency certificate	TR-09	TR-04	TR-02	None of these
769.	Axle load of Mark-II, 4 wheeler tower wagon	6.8 Tonne	7.8 Tonne	8.8 Tonne	None of these
770.	Pay load of Mark-II, 4 wheeler tower wagon	1 Ton	2 Ton	3 Tonne	None of these
771.	Axle capacity of 8-wheeler DHTC tower wagon	50Tonne	40Tonne	30Tonne	20Tonne
772.	Number of powered axles in 8-wheeler DHTC tower wagon	1	2	3	None of these
773.	Number of non-powered axles in 8-wheeler DHTC tower wagon	1	2	3	None of these
774.	Max. operating speed of 8-wheeler DHTC tower wagon	40kmph	80kmph	110kmph	None of these
775.	Tare weight of 8-wheeler DHTC tower wagon	42.8Tonne	45Tonne	50.6Tonne	56.8Tonne
776.	Compression ratio in 8-wheeler DHTC tower wagon engine	12.5	14.1	15.5	None of these
777.	Power transmitted through _____ in 8-wheeler DHTC tower wagon engine	Gear train	Pulley & belt	Carden shaft and axle drive	None of these
778.	Lifting time for platform in 8-wheeler DHTC tower wagon engine	1 min.	2 min.	30 sec	45 sec
779.	Rotation of platform in 8-wheeler DHTC tower wagon	Not available	+/- 90 degree	+/- 45 degree	None of these
780.	In 8-wheeler DHTC TW, _____ is the heart of pneumatic braking system	A9 valve	Distributor valve	Brake cylinder	None of these