

### Question Bank for TRD Fitter

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	thermameter	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

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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
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 filteration 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

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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
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

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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
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 impedance	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

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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
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

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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 fault	Low impedance fault	both impedance fault	None of these
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

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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
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

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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



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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
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

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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
221.	Bus coupler interrupter	BC	BX	BM	None of these