

Model Question of TRD (PSI)

1. For a series connected circuit which statement shall be incorrect?
 - a) Current shall be equal to all loads.
 - b) Current through all loads shall be equal but voltage drops shall be different.
 - c) Current shall differ to different points of circuit.
 - d) Circuit current shall depend on total resistance of the circuit.

2. What is correct in connection with Ohm's law?
 - a) It states the relation among the voltage, current & resistance in a closed circuit.
 - b) Circuit current is proportional to the voltage imposed.
 - c) Circuit current is inversely proportional to the circuit resistance.
 - d) Temperature has no effect on this relation.

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

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

5. TR-5 permits a PSI artisan for –
 - a) Issuing PTW.
 - b) Receiving PTW of EHV lines
 - c) Commissioning of new installations.
 - d) Shutting down 25KV installations according to instructions of TPC.

6. Which method of safety is generally not adopted during power block on a Sub-Sector?
 - a) PTW
 - b) Prohibition of AC engines to enter in power block section.
 - c) To tripe Feeder CB.
 - d) Application of Discharge Rods.

7. What care should be considered while clamping a discharge rod on a mast?
 1. Cable and lug connection.
 2. Availability of discharge rod on both sides of the spot.
 3. Availability of Structure bond.
 4. Distance between consecutive discharge rods.
 - a) 1, 2 b) 2, 3 c) 2, 4 d) all of the above.

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

9. What is incorrect for a 40AH capacity battery?
 - a) 1 ampere for 40 hours
 - b) 40 ampere for 1 hours
 - c) 4 ampere for 10 hours
 - d) A rate of current supply as 40 ampere per hour.

10. Which device is used to protect the transformer from excessive internal pressure?
 - a) PRD
 - b) Buchholtz Relay
 - c) MOLG
 - d) Drain Cork.

11. What it indicates, if the terminal connection of a transformer appear bad in colour.
 - a) Abnormal heating of terminals due to loose connection
 - b) Transformer Over load
 - c) Higher EPR.
 - d) Non of the above.

12. Oil temperature trip facility is given since at higher temperatures a) Transformer oil becomes thick and immovable. b) Insulating properties of insulations impair sharply. c) Buchholtz relay trips. d) It becomes difficult to operate tap changer due thickened transformer oil.
13. During maintenance, it is found that oil level in OIP Condenser bushing is low from the set value what action should be taken?
 a) Transformer can be taken on load. b) Bushing shall be replaced.
 c) On lowest tap transformer can be taken on load.
 d) Tan- δ and Capacitance test shall be done and action shall be taken according to results.
14. Which Instrument is used for PI checking?
 a) Ammeter , Voltmeter , Watt meter b) Earth Tester c) Megger d) BDV Tester.
15. During half yearly maintenance ,oil sample for BDV test should be taken –
 a) Just after shutting down the transformer. b) After cooling of transformer oil.
 c) After keeping the transformer at 5 No. Tap for half an hour.
 d) Sample bottle should be filled by taking small quantities over a considerable time during the maintenance.
16. What does it mean by R60/R10 in relation with PI?
 a) Resistance of 60 Ω and 10 Ω .
 b) Megger readings after 10 sec. and 60 sec. respectively .
 c) Megger readings after 10 sec. and 60 sec when rotation of handle has been stopped.
 d) Non of the above.
17. Factor that affects insulation resistance?
 a) Size of winding b) Temperature c) Moisture d) all of the above.
18. What is incorrect about Oil filtration?
 a) Initially IR falls with rise of temperature.
 b) With filtering out dirt and moisture BDV improves.
 c) Oil filtration do not permits dissolved gases to escape out from oil.
 d) IR value increases with fall of oil temperature when filtration plant is shut-off.
19. Location of PRD?
 a) Behind control panel b) below marshaling box c) Above bell tank d) beside conservator tank.
20. What is common among TPI, DPI, SPI and BPI?
 a) A CB is connected to all of them. b) All of them is used for transformer isolation.
 c) All are located in a FP. d) Each of them is a type of isolator.
21. Out of the following, what is not the type operating mechanism of a CB or BM?
 a) Air open/ Air Close b) Spring open / spring close c) Air open / spring close. d) ONAN / ONAF
22. What is not compulsory for maintenance of CB / BM?
 a) To obtain PTW from TPC. b) To open SPI/DPI from both sides.
 c) To keep switch gear on local control. d) To keep 110 volt DC supply switched off during the work.
 e) Non of the above.
23. Catenary indication is a must for Closing Operation of -----
 a) Doors of control panel of TSS. b) Sectioning BM of SSP c) HV CB d) Bridging BM.

24. Bus –bar connection gets bad in colour, what it indicates for?
 a) Bus Bar is getting hot due to bad connection. b) Connection is alright and bus bar do not getting hot.
 c) General climatic effect on bus-bar. d) Poor quality of bus- bar material.
25. To deduce average PF of a TSS over a month, what items of meter reading of that TSS for the month shall be used?
 a) KVAH, KVARH b) KVAH, KWH c) KVA, KVAR d) KVA, KW.
26. Under voltage relay is related with –
 a) All BM of TSS b) Paralleling BM of SP and SSP. c) Sectioning BM of SSP d) Bridging BM of SP.
27. For a 132KV/25kV traction transformer, how many CT are required to Differential Protection?
 a) 2 No LV taret CT b) 2No. HV taret CT c) HV Gantry-CT, LV taret CT d) HV and LV taret CT
28. OCR –T is protection from?
 a) Sustained over Currents due to over load. b) Sudden rise of current due to earth fault.
 c) Over current due to earth fault away from TSS.
 d) Sudden rise of current by 200% of normal current due to any reason.
29. Which relay gets its input from both the CT and PT?
 a) OCR b) DPR c) EFR d) DFR
30. What would you do, if you want to change the tripping current of a CB?
 a) It might not be done; the CB would have been replaced. b) CT would have been replaced.
 c) Relay setting should be adjusted. d) Battery voltage should be changed.
31. Earth –Screen is a protection against –
 a) Touch Voltage b) Step Voltage c) Lightning Stroke d) Earth Fault.
32. CTD is an interlock arrangement –
 a) It is a false statement b) CB tripping and 110 volt DC supply
 c) CB tripping and auto recloser. d) High voltage and alarm.
33. The secondary winding of a CT should not be open circuited if primary is charged a)
 There is no such restriction. b) Primary becomes Over-Voltage
 c) CT winding will burn –out. d) CB can not be closed
34. Most suited place for cable storage is –
 a) Moist and Dark b) Moist and Sun light c) Dry and dark d) Dry and Sun light.
35. Cable laying should be done in cable trenches ;due to
 a) Ease of maintenance. b) Mechanical protection
 c) Eases of identification during maintenance. d) all of the above.
36. What you understand about size of a cable if it is said 70 Sq mm two core cable a)
 Cross sectional area of the cable is 70 sq mm. b) Size of each core is 70 sq mm
 c) Size of one core is 35 sq mm d) Cable is to be used for CLS purposes.
37. Cable size of discharge –rod used in 25KV OHE is –
 a) Multi-core 40 sq. mm b) Single Core 40 sq. mm
 c) Multi-core 20 sq. mm d) Single Core 20 sq. mm

38. To crimp a lug properly on the cable core, how many strands are permitted to cut?

- a) 0 b) 1 c) 2 d) 3

39. The insulation resistance of a cable depends on –

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

40. Hand tool used to put the lug on cable core tightly is –

- a) Torque Rinch b) Ring Spanner c) Crimping tool d) LN key

41. According to Ohm's law which relation is incorrect?

a) $I = \frac{V}{R}$ b) $R = \frac{V}{I}$ c) $V = I \times R$ d) $V = \frac{I}{R}$

42. Which one is incorrect to natural magnet?

- a) Loss of magnetic properties on heating. b) Similar poles repel and opposite attract each other.
c) A magnet attracts all metals. d) Small pieces of a magnet shall also be a magnet.

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

- a) 0°C b) 180°C c) 90°C d) 270°C

44. ACTM has relation with?

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

45. What do you mean by unit consumed in connection with Electric Meter Reading?

- a) KVA b) KVAR c) KWH d) KA

46. Identify the symbol of Infinity.

- a) MΩ b) & c) ∞ d) °C

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

Work on OHE. b) 25KV isolator operation.

c) Switching operation in Switching Station despite of permission granted by TPC.

d) Commissioning of new installations.

48. SPG of distilled water is ?

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

49. Electrolyte bubbling heavily, it is a indication of?

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

50. What is used for cooling of a transformer?

- a) Conservator tank b) Radiator c) Breather d) Core.

51. ONAN / ONAF are the types of –

- a) Transformer cooling system. b) Winding c) Tap Changer d) Earthing.

52. Transformer oil sample Crackles on heating ; it is an indication of –

- a) Increased acid content. b) Too cold sample c) Excessive Water content d) Improved BDV .

53. What is incorrect in context of Buchholtz Relay?
a) It is an electromechanical relay. b) It protects transformer from internal faults.
c) It requires collection of gas to operate. d) It is situated between bell tank and conservator tank.
54. WTI indicates?
a) Average Temperature of transformer winding. b) Maximum temperature of transformer winding.
c) Minimum temperature of transformer winding. d) Maximum permissible temperature of transformer winding.
55. Which test is not performed on transformer oil?
a) IR b) DGA c) BDV d) PPM
56. Which test should be done to know water quantity present in oil sample?
a) Crackle Test b) PPM c) Colour Test d) Tan- δ Test.
57. While meggering a transformer , ----- temperature should also be recorded along with the megger reading.
a) Air b) MOLG c) OTI d) a & c
58. Generally spark gap for 25KV bushing of traction transformer is
a) 16.5 cm b) 25 cm c) 75 cm d) 1mt.
59. Bushing CT is associated with?
a) Power Transformer b) AT- 100KVA c) AT at SP d) Feeder CB.
60. Out of the following, what is not there in the pole unit of CB/BM?
a) Fix and Moving Contact. b) Arc quenching medium.
c) Main and Arcing Contact. d) Auxiliary contact.
61. In a 25KV CB/BM air pressure is maintained by -----
a) Compressor b) Air pressure limit switch c) Safety valve d) TPC.
62. The abnormal conditions ,LA protects from, is ---
a) Short circuit b) Open circuit c) Low voltage d) Voltage surge.
63. In a TSS, voltage ratio of 100KVA AT is ---
a) 100KV /230 volt b) 100KV/440 volt c) 25KV/230 volt d) 25KV/ 440volt.
64. On a SSP over lap, which side of OHE gets parallel by the paralleling BM of that SSP?
a) TSS b) SP c) middle d) both side
65. Bus-bar connection should be opened, cleaned and retighten if -
a) CB trips on WTI indication. b) Pre-monsoon is being done.
c) Bus -bar is bad in colour. d) Non of the above.
66. In a Traction Transformer ,Bushing CT is used for -
a) OCR b) DPR c) EFR d) DFR
67. Differential protection works against which type of fault?
a) Internal faults b) Over voltage c) Over current d) Low oil level.

68. What is correct about WPC relay?
 a) One No in SP b) two No. in SP c) one No. in TSS d) two No. in TSS.
69. What is correct about WPC relay?
 a) One No in SP b) two No. in SP c) one No. in TSS d) two No. in TSS.
70. While storing cables ,its ends should be properly covered by something like plastic etc.-
 a) It is of no use. b) Such action is wrong. c) It must be done. e) It is sufficient to cover only one end.
71. Which type of material is classified as per temperature?
 a) Conductor b) Insulating c) Semi conducting d) Magnetic.
72. Magnetic poles are generally known as -----.
 a) North- South b) East- West c) EMF- MMF d) UP-DOWN.
73. When current is flown through the wire, wound on a iron piece ,the iron piece becomes.
 a) Natural Magnet b) Electro-Magnet c) Steel d) Mild Steel.
74. According to thermal classification of insulating materials category Y materials are suitable for temperature limit -----.
 a) Above 0°C, up to 80°C b) Above 0°C, up to 90°C c) Up to 150°C d) Above 180°C.
75. Direction of electric current flow is –
 a) From high voltage to low voltage. b) Low voltage to high voltage.
 c) Between two points that's voltage is same. d) There is no such rule.
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 a) From high voltage to low voltage. b) Low voltage to high voltage.
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77. What do you mean by Range in context with Megger ?
 a) Max value of MΩ on scale. b) Voltage. c) RPM of rotating handle. d) Initial value of MΩ on scale.
78. What you expect from a battery kept on high charging rates for a long time?
 a) Nothing special. b) Plates may be damaged by getting very hot.
 c) Change of polarity d) Increased capacity.
79. What are the conditions for better performance of a battery set?
 1. Equal cell voltages. 2. Equal AH 3. Equal SPG of Electrolyte. 4. Correct connection.
80. OTI indicates?
 a) Average temperature of transformer oil. b) Maximum temperature of transformer oil.
 c) Minimum Temperature of Transformer oil d) Maximum permissible temperature of transformer oil.

Fill in the blanks:-

81. Normal working air pressure for 25KV CB/BM is -----.
82. In 25KV CB/BM, ----- is used for safety of Air Cylinder.
83. Single earth-pit resistance should not be more than -----.
84. LA rating for 132KV system is -----.
85. Voltage ratio of PT type II -----.
86. KVA rating of AT normally used for CLS is -----.

87. Control circuits for switching stations works on ----- volts DC.
88. Unit to indicate battery capacity is -----.
89. The Meter used for measurement of Insulation Resistance is -----.
90. ----- Circuit converts DC supply into AC supply.

True & False:-

91. Resistance of conductors decreases with increase in temperature. (True/False)
92. Electrical Clearance and Working clearance are the two different name of the same vary fact. (True/False)
93. Electrolyte is an example of conducting material. .(True/False)
94. The Voltage increases with increase of the size of cell. (True/ False)
95. In a TSS, concrete wall between both the transformers is known as Baffel –Wall. (true/false).
96. In case of Auto transformer, both the primary and secondary terminals are connected with the same winding.(true/false)
97. ITR is a auxiliary relay for transformer protection. (true/false)
98. There is a fuse in the secondary of the PT. (true/false).
99. 230 volt AT winding should be meggered from 500 volt megger. (true/false).
100. Armor is meant for mechanical protection of the cable.(true/false).

-----X-----

Answer Sheet

01	C	17	D	33	C	49	A	65	C
02	D	18	C	34	C	50	B	66	D
03	D	19	C	35	D	51	A	67	A
04	C	20	D	36	B	52	C	68	D
05	C	21	D	37	B	53	A	69	B
06	C	22	E	38	A	54	B	70	C
07	D	23	D	39	D	55	A	71	B
08	A	24	A	40	C	56	B	72	A
09	D	25	D	41	D	57	C	73	B
10	A	26	D	42	C	58	B	74	D
11	A	27	D	43	C	59	A	75	A
12	B	28	A	44	D	60	D	76	A
13	D	29	B	45	C	61	B	77	B
14	C	30	C	46	C	62	D	78	B
15	A	31	C	47	D	63	C	79	D
16	B	32	B	48	A	64	B	80	B

Fill in the blanks: -

81	15 KG/Cm ²
82	Safety Valve
83	10.0 Ohms
84	120 KV
85	25 KV/ 110 Volts
86	10
87	63 Amp
88	AH
89	Megger
90	Invertor

True &false:-

91	False
92	False
93	True
94	False
95	True
96	True
97	True
98	True
99	True
100	True