

ELECTRICAL

1. Fan blade thickness in modified fan of Traction Alternator is
 - A. 6 mm
 - B. 2 mm
 - C. 10 mm
 - D. 20 mm

2. The total no. of carbon brushes used in Traction Alternator are
 - A. 10
 - B. 6
 - C. 4
 - D. 8

3. FTTM (No Power take of Unit) type PT 70 AZ is not used in
 - A. WDP₂
 - B. WDP₁
 - C. WDM_{2C}
 - D. WDM₂

4. In WDP₂ locomotive output of Traction Alternator at 400 rpm is
 - A. 120 HP
 - B. 160 HP
 - C. 140 HP
 - D. 200 HP

5. The carbon brush grade used in Traction Alternator type 10102 DW is.....
 - A. HM6

- B. EGO
 - C. EG14D
 - D. EG225
6. Bearing used in Front Track Traction Motor (PTC) type 70 AZ are
- A. NU314, 6314
 - B. NU310, 6313
 - C. NU320, 6313
 - D. NU330, 6314
7. The Auxiliary Machine type 3101 AY and 3101 AY1 are
- A. Interchangeable
 - B. Non interchangeable
 - C. Fitted in WDM4
 - D. Fitted in WDS4
8. No. of main poles in Auxiliary Generator type 3101 AY1 are
- A. 4 pole
 - B. 6 pole
 - C. 2 pole
 - D. 8 pole
9. The direction of rotation of Auxiliary M/Cs type 3101 AY1 is
- A. CCW from commutator end
 - B. CW from commutator end
 - C. CCW from pinion end
 - D. CW from pinion end
10. The continuous rating of Auxiliary M/C type 3101 AY used as (V,A, rpm) exciter is

- A. 75V, 250 A, 2380 rpm
 - B. 70V, 250 A, 2380 rpm
 - C. 75V, 200 A, 2380 rpm
 - D. 75V, 250 A, 2280 rpm
11. The continuous rating of Auxiliary M/C type 3101 AY used as a Aux. Gen. (V,A, RPM) is
- A. 75V, 160 A, 920 to 2380 rpm
 - B. 70V, 150 A, 920 to 2380 rpm
 - C. 75V, 170 A, 920 to 2380 rpm
 - D. 75V, 180 A, 920 to 2280 rpm
12. The total nos. of main pole in Auxiliary Machine type AG-51 are
- A. 8
 - B. 2
 - C. 6
 - D. 4
13. The brush grade used in Auxiliary Machine type 3101 AY is
- A. EG 251
 - B. EG14D
 - C. HM6
 - D. EGO
14. Gear ratio of Eddy current clutch gear unit (Right angle gear box) is
- A. 1:1.312
 - B. 1:1.321
 - C. 1:1.231

D. 1:1.213

15. The continues rating of ECC (Eddy current clutch) is (KW, RPM)...
- A. 60KW, 1000 rpm
 - B. 60KW, 1200 rpm
 - C. 80KW, 1000 rpm
 - D. 80KW, 1200 rpm
16. The nominal air gap between inner and outer drum of ECC (Eddy current clutch) is
- A. 0.8 to 1.2mm
 - B. 1.9mm to 2 mm
 - C. 2mm to 3 mm
 - D. 9mm to 4mm
17. In ECC (Eddy current clutch), clutching of inner and outer drum is through
- A. Mech. Clutch
 - B. Electrical clutch
 - C. Magnetic clutch
 - D. By pulley arrangement
18. The brush grade used in ECC (Eddy current clutch) is
- A. EG 55
 - B. EG225
 - C. EG14D
 - D. EGO
19. The Auxiliary Generator has total numbers of magnetic poles

- A. 40
- B. 80
- C. 10
- D. 20

20. Type of the bearings used in the vertical shaft of the ECC is

- A. K639/K632
- B. K635/K632
- C. K636/K632
- D. K655/K632

21. Type of the bearings used in the horizontal shaft of the ECC is

- A. K45290/K45220
- B. K45291/K45220
- C. K45280/K45220
- D. K45285/K45220

22. Breaking blower (BKBL) motor have total numbers of inter pole

- A. 4
- B. 6
- C. 8
- D. 10

23. ETS-2 is set at temp. Degree centigrade

- A. 64 °C
- B. 68 °C
- C. 90 °C
- D. 86 °C

24. Clearance between brush holder and slip ring of Traction Alternator type 10106 AZ is
- A. 2 to 3 mm
 - B. 3 to 4 mm
 - C. 4 to 5 mm
 - D. 1 to 2 mm
25. The bearing used in rotor of Traction Alternator type 10106 AZ is
- A. NU 330
 - B. NH 330
 - C. NU314
 - D. NH 300 EM/C4
26. Gearbox oil capacity of Traction Alternator type 10106 AZ (In WDP1 loco) is
- A. 1 Lts.
 - B. 2.6 Lts.
 - C. 4 Lts.
 - D. 5 lts.
27. Total numbers of carbon brushes used in BKBL/Grid blower motors are
- A. 12
 - B. 24
 - C. 8
 - D. 6
28. The brush grade used in T/M type 5002 AZ is.....
- A. EG14D

- B. EG15D
 - C. EG225
 - D. EG55
29. How many poles are in rotor winding of traction Alternator type 10106 AZ
- A. 10 poles
 - B. 8 poles
 - C. 12 poles
 - D. 6 pole
30. The stator winding of Traction Alternator type 10106 AZ (In WDP1 loco) is connected as
- A. Star connected
 - B. Delta Connected
 - C. Star connected with two parallel path per phase
 - D. Delta connected with two parallel path per phase
31. Tacho-generator have total numbers of magnetic poles
- A. 4
 - B. 2
 - C. 6
 - D. 8
32. The brush grade used in Traction Alternator type 10106 AZ is
- A. EG15
 - B. EG55
 - C. HM6
 - D. EGO

33. Traction Alternator type 10106 AZ is used in which type of loco
- A. WDP1
 - B. WDM2
 - C. WDP2
 - D. WDP4
34. Total number of brush holder assembly fitted in Traction Alternator are
- A. 4
 - B. 6
 - C. 9
 - D. 2
35. Traction Alternator type 10106 AZ (WDP1) is used up to (RPM, HP)
- A. 1000rpm, 2000HP
 - B. 1000rpm, 1800HP
 - C. 1000rpm, 2300 HP
 - D. 1050 rpm, 3150 HP
36. Total numbers of interlopes fitted in Traction Generator GE type are
- A. 10
 - B. 6
 - C. 12
 - D. 8
37. Tacho generator output voltage is ...
- A. A/C single phase

- B. DC
 - C. A/C three phase
 - D. Pulsating DC
38. Brush size of Traction Gen. GE type is
- A. $3/4 \times 11/4 \times 2-1/2$ inch
 - B. $3/4 \times 4/11 \times 2-1/2$ inch
 - C. $4/3 \times 11/4 \times 2-1/2$ inch
 - D. $4/3 \times 11/4 \times 2-1/2$ inch
39. Condemning size of brush for Traction Gen. GE type is.
- A. $13/16$ inch
 - B. $12/16$ inch
 - C. $13/15$ inch
 - D. $13/18$ inch
40. Brush holder to commutator clearance of GE type Traction Gen. is
- A. $3/32$ to $1/8$ inch
 - B. $3/32$ to $1/25$ inch
 - C. $32/3$ to $1/40$ inch
 - D. $3/32$ to $1/60$ inch
41. Run out of commutator of Traction Gen. After reconditioning is
- A. 0.002"
 - B. 0.005"
 - C. 0.006"
 - D. 0.007"
42. Oscillator card is also known as.....

- A. 188 card
 - B. 187 card
 - C. 253 card
 - D. 254 card
43. Traction motor-165 is a
- A. D.C. Series Motor
 - B. A.C. Series Motor
 - C. D.C. Shunt Motor
 - D. Induction Motor
44. Main field resistance of TM-165 at 25 °C in m- ohm
- A. 10 m ohm
 - B. 6.5 m ohm
 - C. 20 m ohm
 - D. 30 m ohm
45. Weight of complete TM-165 with pinion & axle caps is.
- A. 3500 kg
 - B. 2800 kg
 - C. 3340 kg
 - D. 3600 kg
46. Nominal new diameter of Commutator for TM-165 in mm is
- A. 422 mm
 - B. 200 mm
 - C. 550 mm
 - D. 500 mm
47. In bearing NU-300 EM/C4 ; C4 stands for
- A. Class of Radial clearance

- B. Bearing with extra load carrying capacity
 - C. Machined brass cage
 - D. Angle ring
48. Inner diameter of bearing NH 320EM /C4 is
- A. 400 mm
 - B. 200 mm
 - C. 300 mm
 - D. 100 mm
49. TM-165 brush Holder assembly Spring pressure is.
- A. 2 kg
 - B. 4.5 kg
 - C. 10 kg
 - D. 12 kg
50. Which class of insulation is used in TM-165M
- A. A
 - B. B
 - C. C
 - D. H
51. HP of TM type 165M is
- A. 600HP
 - B. 800HP
 - C. 333HP
 - D. 700HP
52. How many numbers of compoles are fitted in TM-165M
- A. 4
 - B. 5

- C. 6
 - D. 7
53. What is the condemning dia. size of comm. of Traction Motor type 165M is (diameter in mm)
- A. 420 mm
 - B. 430 mm
 - C. 390 mm
 - D. 500 mm
54. „K“ value of 18 teeth Traction Motor pinion in mm is
- A. Max. 88.72 mm to Min.86.99 mm
 - B. Max. 89.74 mm to Min.87.02 mm
 - C. Max. 90 mm to Min.88 mm
 - D. Max. 84.02 mm to Min.82.02 mm
55. Max. rpm of Traction Motor type 165M is.....
- A. 2275 rpm
 - B. 2375 rpm
 - C. 2175 RPM
 - D. 2475 RPM
56. At which temperature Traction Motor type -165M pinion is mounted on shaft (in degree centigrade)
- A. 170°C above ambient temperature
 - B. 140°C above ambient temperature
 - C. 200°C above ambient temperature
 - D. 500°C above ambient temperature
57. Traction Motor type -165M pinion never be heated above
- A. 100°C

- B. 150°C
 - C. 220°C
 - D. 300°C
58. Which type of bearing fitted in pinion end of Traction Motor type -165
- A. NU320
 - B. NU330
 - C. NU328
 - D. NU326
59. Which type of bearing fitted in comm. End of Traction Motor type -165
- A. NU320
 - B. NU330
 - C. NH320
 - D. NI350
60. Gap between holder assembly and Comm. of Traction Motor type -165M (in mm) is
- A. 10mm to 11mm
 - B. 7mm to 8 mm
 - C. 1.6 mm to 2.4 mm
 - D. 4.5 mm to 6.5 mm
61. New commutator diameter of Traction Motor type 7362 CGL make (in mm) is...
- A. 300mm
 - B. 490mm
 - C. 380mm

- D. 600mm
62. Minimum usable diameter of Comm. of Traction Motor type 7362 in mm is....
- A. 400mm
 - B. 600mm
 - C. 360mm
 - D. 500mm
63. What is the brush spring pressure of Traction Motor type 7362 Brush holder
- A. 3.0 kg to 3.6 kg
 - B. 8.0 kg to 9.0 kg
 - C. 9.0 kg to 10.0 kg
 - D. 10.0 kg to 11.0 kg
64. Reference mixer card is also known as
- A. 253 card
 - B. 186 card
 - C. 188 card
 - D. 187 card
65. Which coil are fitted in pilot valve of EDC GE Gov.
- A. Coil + clutch coil
 - B. Stabilizing coil + clutch coil
 - C. Speed coil + Stabilizing coil
 - D. Speed coil only
66. Speed coil balancing current of GE Gov. is
- A. 500MA
 - B. 400 MA

- C. 150MA
 - D. 475 MA
67. Which component of GE Governor shut down the locomotive when LWS operated
- A. Speed coil
 - B. Stabilizing coil
 - C. Clutch coil
 - D. LCR
68. In running condition (without load) the LCR position in GE Gov. is at „O“ clock
- A. 1 Hours
 - B. 10 Hours
 - C. 11 Hours
 - D. 5 Hours
69. LCR position on Idle condition in WW Gov. is at „O“ clock
- A. 11 Hours
 - B. 12 Hours
 - C. 17 Hours, 30 minute
 - D. 15 Hours
70. LCR position of WW Governor (Clock) on full load HP is
- A. 11 Hours
 - B. 12 Hours
 - C. 08 Hours
 - D. 15 Hours
71. Which solenoids are operate on idle condition in WW Gov.
- A. A Solenoid

- B. B Solenoid
 - C. A Solenoid
 - D. None
72. Which solenoid operated when LWS worked in WW Gov. is
- A. C Solenoid
 - B. B Solenoid
 - C. D Solenoid
 - D. None
73. Low lube oil shut down pressure setting in WW governor fitted locomotive.
- A. 2.0 Kg/cm²
 - B. 1.3 Kg/cm²
 - C. 2.5 Kg/cm²
 - D. 3.0 Kg/cm²
74. On 3rd notch solenoid operated in WW governor
- A. D Solenoid
 - B. A Solenoid
 - C. C Solenoid
 - D. A-C Solenoids
75. In WW Governor which solenoid operated on operation of Low Lube oil plunger.
- A. C Solenoid
 - B. CD Solenoids
 - C. AD Solenoids
 - D. None

76. Traction Motor (make-CGL-Q7362) has total numbers of interpole...
- A. 6
 - B. 10
 - C. 4
 - D. 8
77. Current rating of MB1 circuit breaker in WDM₂ DC/DC loco is
- A. 100 Amp
 - B. 150 Amp
 - C. 200 Amp
 - D. 250 Amp
78. Cardex is the system used for.....
- A. Maintenance procedure
 - B. Maintenance record keeping
 - C. Overhauling of cards
 - D. Used a term of electrical troubleshooting
79. Current rating of MB2 circuit breaker in WDM₂, DC/DC loco is
- A. 100 Amp
 - B. 250 Amp
 - C. 200 Amp
 - D. 150 Amp
80. The higher temperature of the electrolyte in the battery caused life of battery to..
- A. Increased

- B. No effect on life of battery
 - C. Decreased
 - D. Excess temp. is must for good life
81. Blowing air pressure in TG/TA is recommended between...
- A. 0.2 Kg/cm²
 - B. 2 to 4 Kg/cm²
 - C. 8 to 10Kg/cm²
 - D. Pressure of the blowing air is not specified
82. Which type of Traction Alternator used in WDP₁ loco is
- A. TG10931AZ
 - B. TA10102 CW
 - C. TA10102 DW
 - D. TA10106AZ
83. The function of slip rings in Traction Alternator is
- A. Work as commutator
 - B. Work as a current collector
 - C. Work for balancing of Tr. Alt. rotor
 - D. None of the above
84. The full form of SAR is a
- A. Speed adjusting relay
 - B. Speed adjusting resistance
 - C. Safety auxiliary relay
 - D. None of the above
85. Generator field cover load relay operating current limit is..
- A. 50 Amp
 - B. 100 Amp

- C. 280 Amp
 - D. 400 Amp
86. Front light bulb is rated at voltage...
- A. 32 volt
 - B. 24 volt
 - C. 12 volt
 - D. 72 Volt
87. Which safety is provided for diesel engine
- A. Cattle Guard
 - B. Heat light
 - C. LWS
 - D. F/Light
88. The function of Field Control Penal in diesel Electric locomotive is.
- A. To control the head light voltage
 - B. To control the battery charging voltage
 - C. To control the exciter field voltage
 - D. To control the Techo Generator voltage
89. The voltage limit of Traction Generator 10931 AZ is at....
- A. 685V
 - B. 800V
 - C. 770V
 - D. 1100V
90. Total nos. of capacitors used in power rectifier panel of AC/DC locos are.....
- A. 06

- B. 08
 - C. 12
 - D. 04
91. In AC/DC loco time delay relay (TDR) is provided for time delay of
- A. 4 seconds
 - B. 8 seconds
 - C. 1.8 seconds
 - D. 12 seconds
92. The generator used on WDM₂ diesel locomotive is
- A. Shunt Generator
 - B. Separately excited generator
 - C. Compound generator
 - D. None of the above
93. If a supply of wire no.0 or 8 nos. breaks up, what will happen
- A. Loco will not move to any direction
 - B. Loco will move only one direction
 - C. Loco will move in both direction
 - D. Loco will move in both direction
94. The lubrication of roller bearings in Traction Alternator/ Traction Generator is done by
- A. Through greasing externally
 - B. No lubrication is required
 - C. Through gear of Aux. Gen. Exciter & idler gear

- D. Once lubrication done during overhauling is sufficient
95. Ovality of Tr. Alternator slip rings is allowed up to
- A. 0.010"
 - B. .002"
 - C. .005"
 - D. .006"
96. Current rating of a single diode used in power rectifier AR 5400 A in Amps...
- A. 1000 Amp
 - B. 5000 Amp
 - C. None of these
 - D. 2500 Amp
97. Resistance found defective while checking power reduction through WSR relay is ...
- A. BHER
 - B. EFR
 - C. WR 8,9,10
 - D. LAR
98. Reserve control diode fitted in diesel loco is for
- A. Blocking the reserve flow of current to Tr. Gen.
 - B. Blocking the reserve flow of current to Aux. Gen.
 - C. Blocking the reserve flow of current to Techo Gen.
 - D. Blocking the reserve flow of current to fuel motors
99. Which relay has lowest value of coil resistance.....
- A. ERR

- B. GR
 - C. ERR
 - D. ESR-1
100. On which type of loco thyrite resistor is fitted
- A. WDM₂
 - B. WDM₃
 - C. WDS₆
 - D. YDM₄
101. GFLORE relay is provided in AC/DC locos for safety of
- A. Phase to Phase shorting of Tr. Alt.
 - B. Flash over between GF contacts
 - C. Earthing of Tr. Alternator
 - D. GF Contactor
102. If SAR relay is not energized what will happen
- A. Engine will over speed
 - B. Engine will start
 - C. Engine will start normally but GF will not P/up
 - D. Engine will start normally but could not be notched up
103. OST RPM is adjusted by which SAR of ECP
- A. SAR-1
 - B. SAR-2
 - C. SAR-3
 - D. SAR-4
104. Welding of FS contactor tips will give the indication of
- A. Ground relay operating

- B. EP contactor fluctuating
 - C. Wheel slip on 1st notch onwards
 - D. GF not picking up
105. If the reference voltage is more than 24.4 volts, the defects in
- A. LCP
 - B. SP
 - C. GCR
 - D. Pilot valve
106. In MU operation both the loco can be shut down through...
- A. Stop Button
 - B. OST
 - C. MUSD
 - D. Lube oil plunger
107. The wires connected on PCS by pass switch are
- A. 30K-46
 - B. 18A-4
 - C. 6H-4
 - D. 30K-4
108. The combination of Tr. Motors across WSR-1 in parallel is
- A. 1,5
 - B. 2,4
 - C. 3,4
 - D. 2,3
109. The combination of Tr. Motors across WSR-3 in parallel is
- A. 3,6

- B. 2,5
 - C. 3,4
 - D. 4,6
110. No load voltage is checked on wire No.
- A. 34G-36
 - B. 34-36
 - C. GK-2-GA
 - D. 34E-36
111. GCR resistance is a part of
- A. ECP
 - B. VRP
 - C. TRP
 - D. EXCP
112. The gap between ECC slip rings & brush holder is to be kept
- A. 5mm
 - B. 8mm
 - C. 2mm
 - D. 15mm
113. Reverser Contactor used on diesel loco is
- A. To change the direction of field
 - B. To use the Dynamic braking
 - C. To pass the power supply to T/Motors
 - D. None of the above
114. MCOS is used in WDP1 loco in case of trouble
- A. Power Ground

- B. Wheel Slip
 - C. EP Contactor fluctuates
 - D. Power ground or wheel slip operates
115. What is minimum length of split brush of Traction Motor type 165-M when brush becomes inoperative (in mm)
- A. 60 mm
 - B. 20 mm
 - C. 27.8 mm
 - D. 50.0 mm

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Q. No.	ANSWER	Q. No.	ANSWER	Q. No.	ANSWER
1.	A	26.	A	51.	C
2.	C	27.	C	52.	A
3.	D	28.	A	53.	C
4.	A	29.	B	54.	A
5.	A	30.	C	55.	A
6.	A	31.	C	56.	A
7.	A	32.	C	57.	C
8.	B	33.	A	58.	B
9.	A	34.	D	59.	C
10.	A	35.	A	60.	C
11.	A	36.	C	61.	C
12.	D	37.	C	62.	C
13.	A	38.	A	63.	A
14.	A	39.	A	64.	B
15.	A	40.	A	65.	C
16.	A	41.	A	66.	D
17.	C	42.	C	67.	C
18.	D	43.	A	68.	A
19.	A	44.	C	69.	C
20.	A	45.	C	70.	D
21.	A	46.	A	71.	D
22.	A	47.	A	72.	C
23.	B	48.	D	73.	B
24.	A	49.	B	74.	C
25.	A	50.	D	75.	D

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Q. No.	ANSWER	Q. No.	ANSWER	Q. No.	ANSWER
76.	C	90.	A	104.	C
77.	C	91.	C	105.	A
78.	B	92.	B	106.	C
79.	D	93.	B	107.	D
80.	C	94.	C	108.	A
81.	B	95.	B	109.	D
82.	D	96.	C	110.	B
83.	B	97.	C	111.	A
84.	C	98.	B	112.	C
85.	C	99.	B	113.	A
86.	B	100.	B	114.	D
87.	C	101.	A	115.	C
88.	C	102.	A		
89.	C	103.	C		