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ROLL NUMBER

**WRITTEN TEST FOR THE POST OF JR.TECH.ASST. (ELECTRICAL) –A TO
TECHNICAL ASST.(ELECTRICAL)-A**

DATE: 28/09/2023

TIME: 10 A.M To 11

DURATION: 60 MINUTES

Total Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Write your Roll Number on the top of the Question Booklet and in the answer sheet.
2. Each question carries 1 mark.
3. There will not be any Negative Marking.
4. Write legibly the alphabet of the most appropriate answer (A, B, C or D) in the separate answer sheet provided.
5. Over-writing is not permitted.
6. Candidate should sign in the question paper and answer sheet.
7. No clarifications will be given.
8. Candidate should hand over the answer sheet to the invigilator before leaving the examination hall.

Signature of the Candidate

Rupa Reddy
28/9/2023

Junior Technical Assistant Electrical -A to Technical Assistant Electrical – A 28/9/2023

1. A rheostat differs from potentiometer in the respect that it
 - (a) Has higher wattage rating
 - (b) Has lower wattage rating
 - (c) Has large number of turns
 - (d) Offers large number of tapping
2. Megger is used for measuring the
 - (a) Contact resistance
 - (b) Insulation Resistance
 - (c) Winding resistance
 - (d) Winding resistance and Insulation resistance
3. The forced flow or movement of the electrons is described as the electrical.....
 - (a) Impedance
 - (b) Voltage
 - (c) Wattage
 - (d) current
4. A closed path made by several branches of the network is known as
 - (a) Circuit
 - (b) Branch
 - (c) Loop
 - (d) Junction
5. Ampere Second is a unit of
 - (a) Power
 - (b) Energy
 - (c) E.M.F
 - (d) Charge
6. Which of the following is an integrating meter?
 - (a) Watt meter
 - (b) watthour meter
 - (c) voltmeter
 - (d) ammeter

Rupa Freedman
28/9/2023

7. The voltage of the single-phase supply to residential consumers is
- (a) 110 V
 - (b) 210 V
 - (c) 230 V
 - (d) 400 V
8. Which one of the following is an active element in a circuit?
- (a) Capacitor
 - (b) Current source
 - (c) Resistance
 - (d) Inductor
9. In a cable immediately above the metallic sheath is provided.
- (a) Earthing connection
 - (b) Bedding
 - (c) Armoring
 - (d) Conductor
10. The S.I. unit magnetic permeance is _____.
- (a) Weber
 - (b) Henry
 - (c) Tesla
 - (d) Coulomb
11. Filament of an electric bulb is made up of
- (a) Tungsten
 - (b) Nickel
 - (c) Steel
 - (d) Aluminum

Rupa Sreedhar
28/9/2023

12. Identical wires of nichrome and copper are connected in series in a circuit. The results are
- (a) Greater current in nichrome
 - (b) Greater current in copper
 - (c) Greater heat in nichrome
 - (d) Greater heat in copper
13. OLTC (On-load tap changer) is provided in the power transformers on.....
- (a) Primary side
 - (b) Secondary side
 - (c) HV side
 - (d) LV side
14. Delta/Star transformation technique is applied to.....
- (a) One terminal
 - (b) Two terminal
 - (c) Three terminal
 - (d) Four terminal
15. Increasing the number of turns of wire on the secondary of a transformer will.....
- (a) Decrease the secondary current
 - (b) Increase the secondary current
 - (c) Have no effect on the secondary current
 - (d) Increase the primary current
16. Electric supply is rated at 220V in a house 11 bulbs of 100w each. The rating of the fuse should be:
- (a) 0.5A
 - (b) 0.1A
 - (c) 1A
 - (d) 5A

Rekha Sreedhar
28/09/2023

17. The power rating of a motor drawing a current of 40A at 400V is:
- (a) 16000W
 - (b) 400W
 - (c) 10W
 - (d) 0.1W
18. A capacitor opposes the change in:
- (a) Current
 - (b) Voltage
 - (c) Conductance
 - (d) Both voltage and current
19. Resistance of an ideal voltmeter is:
- (a) Zero
 - (b) Infinite
 - (c) Very Low
 - (d) Data incomplete
20. The relative permeability of air is:
- (a) 1
 - (b) 100
 - (c) 1000
 - (d) 0.1
21. The most commonly used cell is:
- (a) Lead acid cell
 - (b) Nickel iron cell
 - (c) Nickel cadmium cell
 - (d) Fuel cell

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22. The type of maintenance carried out in the event of malfunctioning of equipment or failure of equipment is termed as
- (a) Preventive maintenance
 - (b) Predictive maintenance
 - (c) Breakdown maintenance
 - (d) Routine maintenance
23. In an Auto transformer a part of energy transfer is through
- (a) convection process
 - (b) Induction process
 - (c) conduction process
 - (d) radiation process
24. Triac is usually operated at :
- (a) All frequencies
 - (b) High frequency only
 - (c) Power frequency
 - (d) Very Low frequency
25. Transformers in the transformer based SMPS power supplies are of smaller size
- (a) Due to high frequency operation
 - (b) Since it operates on duty cycles
 - (c) Draws lesser power
 - (d) It has low operating frequency
26. If you used 400 W of power for 30 h, you have used
- (a) 12000 kWh
 - (b) 13.3 kWh
 - (c) 12 kWh
 - (d) 1.2 kWh

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27. The full form of PLC is
- (a) Programmable logic controller
 - (b) Programming learning and computing
 - (c) Power line communication
 - (d) Primary logic circuit
28. The efficiency of a transformer will be maximum when
- (a) copper losses = hysteresis losses
 - (b) copper losses = iron losses
 - (c) eddy current losses = copper losses
 - (d) hysteresis losses = eddy current losses
29. Which winding in a transformer has more number of turns?
- (a) Low voltage winding
 - (b) Primary winding
 - (c) Secondary winding
 - (d) High voltage winding
30. Which of the following is not a method of cooling a power transformer:
- (a) Liquid Hydrogen Cooling
 - (b) natural air cooling
 - (c) air blast cooling
 - (d) oil cooling
31. The chemical used in breather is
- (a) Mineral Oil
 - (b) silica gel
 - (c) silica sand
 - (d) sodium hypochlorate

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32. The transformer ratings are usually expressed in terms of
- (a) kW
 - (b) amperes
 - (c) kVA
 - (d) volts
33. An ideal voltage source has
- (a) Terminal voltage in proportion to current
 - (b) Zero internal resistance
 - (c) Open circuit voltage equal to the voltage on full load
 - (d) Terminal voltage in proportion to load
34. If two sinusoids of the same frequency but of different amplitudes and phase angles are subtracted, the resultant is
- (a) Not a sinusoid
 - (b) A sinusoid of half the original frequency
 - (c) A sinusoid of double the frequency
 - (d) A sinusoid of the same frequency
35. Form Factor is the ratio of
- (a) r.m.s. value/average value
 - (b) average value/peak value
 - (c) average value/r.m.s. value
 - (d) r.m.s. value/peak value .
36. For a frequency of 200 Hz, the time period will be
- (a) 0.0005 s
 - (b) 0.005s
 - (c) 0.05 s
 - (d) 0.5 s

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37. Which of the following does not change in a transformer:
- (a) Voltage
 - (b) Current
 - (c) power
 - (d) Reactive Power
38. The insulating material used between the commutator segments is normally
- (a) Insulating varnish
 - (b) Paper
 - (c) Graphite
 - (d) Mica
39. A direct on line starter is used: for starting motors
- (a) Up to 15 H.P.
 - (b) Up to 12 H.P.
 - (c) Up to 5 H.P.
 - (d) Up to 25 H.P.
40. Ohm's law is not applicable to
- (a) High current circuits
 - (b) High voltage circuits
 - (c) Low resistance circuits
 - (d) Semiconductors
41. A series motor will over speed when:
- (a) Load is increased
 - (b) Field is opened
 - (c) Armature circuit is opened
 - (d) Load is removed

Rupa Sreedhar
28/19/2023

42. The best possible motor to drive a $\frac{1}{4}$ HP fan in a hospital ward would be.....
Motor.
- (a) Shaded pole motor
 - (b) Single phase series motor
 - (c) Capacitor run motor
 - (d) Hysteresis motor
43. Construction of a BLDC motor is very similar to.....:
- (a) Conventional DC motor with permanent magnet
 - (b) Induction motor
 - (c) Permanent Magnet synchronous motor
 - (d) Totally different construction from any motor
44. The no load speed of an induction motor depends on
- (a) Supply frequency
 - (b) Number of poles
 - (c) Maximum flux/phase
 - (d) Only on a and b
45. Which of the following motors is most frequently used in industries?
- (a) Synchronous motor
 - (b) Commutator motor
 - (c) 3 phase induction motor
 - (d) Single phase A.C motor
46. Specific gravity of a fully charged lead acid cell is approximately:
- (a) 1.18
 - (b) 1.28
 - (c) 1.17
 - (d) 1.16

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47. The unit of luminous flux is:

- (a) Candela
- (b) Lumen
- (c) Weber
- (d) Lux

48. The function of closing coil in ACB is ?

- (a) close the mechanism in response to an externally applied voltage signal
- (b) opens the mechanism in response to a fault
- (c) close the mechanism in response to a closing command
- (d) opens the mechanism in response to an externally applied voltage signal

49. Power factor is not improved by the use of

- (a) Phase advancer
- (b) Synchronous compensators or phase modifiers
- (c) Static capacitors
- (d) Isolation transformers

50. Which of the following method has maximum power factor

- (a) Arc heating
- (b) Dielectric heating
- (c) Induction heating
- (d) Resistance heating

Rekha Sreedhar
28/9/2023

Answer key - TA Electrical A (28.9.2023)

1	A	26	C
2	B	27	A
3	D	28	B
4	C	29	D
5	D	30	A
6	B	31	B
7	C	32	C
8	B	33	B
9	B	34	D
10	B	35	A
11	A	36	B
12	C	37	C
13	C	38	D
14	C	39	C
15	A	40	D
16	D	41	D
17	A	42	C
18	B	43	C
19	B	44	D
20	A	45	C
21	A	46	B
22	C	47	B
23	C	48	A
24	C	49	D
25	A	50	D

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28/9/2023