

**PAPER-I**  
**ELECTRICIAN, ELECTROPLATOR, LIFT MECHANIC/LIFT & ESCALATOR**  
**MECHANIC, WIREMAN**  
**(THEORY & EMPLOYABILITY SKILLS)**  
**SEMESTER-I**

**TIME: 3 Hrs.****MARKS: 200****Note:- This paper contains two parts- Part A & Part B.****Attempt all the questions.****All questions carry equal marks.****This paper carries negative marking 25% marks will be deducted for each wrong answer.****PART-A (Theory)****(MARKS: 150)****Choose the correct answer:**

1. A 3 phase, 4 wire system is commonly used for \_\_\_\_\_.  
a) Primary distribution                      b) Secondary distribution  
c) Primary transmission                      d) Secondary transmission
2. As per IE rules the maximum allowable variation between declared and actual voltage at consumer's premises should be \_\_\_\_\_.  
a)  $\pm 6\%$     b)  $\pm 8\%$   
c)  $\pm 5\%$     d)  $\pm 7\%$
3. The size of conductor in power cables depends on \_\_\_\_\_.  
a) Operating voltage                              b) Power factor  
c) Current to be carried                              d) Type of insulation used
4. Single core cables are usually not provided with armouring due to \_\_\_\_\_.  
a) Avoid excessive loss in the armour              b) Make the cable more flexible  
c) Make the cable more hygroscopic              d) None of these
5. The safety of electrical appliances and wiring is ensured by \_\_\_\_\_.  
a) Insulation    b) Earthing  
c) Providing fuse in the electric circuit              d) All of these
6. Which of the following is least preferred for earthing \_\_\_\_\_.  
a) Clayey soil    b) Dry earth  
c) Earth mixed with salt and charcoal              d) None of these





23. In a series circuit consisting of 3 resistors of  $45\Omega$  each and a 50-V source, what is the approximate amount of heat produced?
  - a) 16.6 W
  - b) 18.5 W
  - c) 135 W
  - d) 150 W
24. In a two-branch parallel circuit containing one  $30\text{-}\Omega$  resistor in each branch and powered from a 10-V source, what is the total current flowing in the circuit?
  - a) 0.33A
  - b) 0.67 A
  - c) 0.40 A
  - d) 0.60 A
25. Which of the following determines total power in a series circuit?
  - a) Source voltage times the current
  - b) Total voltage applied to the circuit
  - c) Current flowing through a switch
  - d) Average of the wattage consumed by each resistor
26. If a resistor suddenly decreases in value (resistance decreases), what will happen to the current through the resistor?
  - a) Increases
  - b) Remains unchanged
  - c) Decreases
  - d) Fluctuates
27. What is the applied voltage on a circuit in which 0.5A is flowing and 10 W is generated?
  - a) 2 V
  - b) 5 V
  - c) 20 V
  - d) 50 V
28. What is the classification of an AC circuit in which the capacitive reactance is  $50\Omega$ , the inductive reactance is  $30\Omega$  and the resistance is  $100\Omega$ ?
  - a) Resistive
  - b) Inductive
  - c) Capacitive
  - d) Resonant
29. When using a standard multimeter to measure AC voltage, what type of measurement will the multimeter indicate?
  - a) Peak to peak
  - b) Peak
  - c) Average
  - d) rms
30. What happens to current flow in a capacitive circuit when the DC voltage across the capacitor is approximately equal to the source voltage?
  - a) Current flow is optimized
  - b) Little current flows
  - c) Current flow is maximum at the source
  - d) Current flow is maximum at the capacitor

31. How many watts are in 100 microwatts?  
a) 0.01 milliwatts  
b) 0.1 milliwatts  
c) 1.0 milliwatts  
d) 10 nanowatts
32. Which of the following is an appropriate use for a voltmeter?  
a) To measure difference of potential  
b) To measure current flow  
c) To determine total resistance  
d) To determine power output
33. What should be observed when connecting a voltmeter into a DC circuit?  
a) rms  
b) Resistance  
c) Polarity  
d) Power factor
34. The Henry is the unit of measurement for which of the following properties?  
a) Reactance  
b) Capacitance  
c) Resistance  
d) Induction
35. Which of the following devices can be used to test the windings of an inductor for continuity?  
a) Wattmeter  
b) Voltmeter  
c) Ohmmeter  
d) Wheatstone bridge
36. How should a fuse be installed in a circuit to insure proper operation?  
a) Parallel to the load  
b) Series with the load  
c) In any way possible  
d) At the ground point
37. In a parallel circuit operating with a source of 30 VAC, designed to carry a total current of 6 A, what happens to the protection device (fuse) when the resistance suddenly changes to  $2\ \Omega$ ?  
a) Closes  
b) No change  
c) Shorts to ground  
d) Opens
38. A Wire of resistance R has it length and cross-section both doubled. Its resistance will become \_\_\_\_\_.  
a)  $0.5R$   
b)  $R$   
c)  $2R$   
d)  $4R$
39. The resistance of 200W, 200V lamp is \_\_\_\_\_.  
a)  $100\ \Omega$   
b)  $200\ \Omega$   
c)  $400\ \Omega$   
d)  $800\ \Omega$

40. Which of the following statements does not represent ohm's law?  
 a) Current/potential difference = constant  
 b) Potential difference/current = constant  
 c) Potential difference = current x resistance  
 d) Current = resistance x potential difference
41. Which of the following is one of the functions performed by a diode?  
 a) Filter                      b) Amplifier                      c) Rectifier                      d) Inverter
42. If a voltmeter reads 112.68 V. If the true value of the voltage is 112.6V, what will be the static error?  
 a) 0.08V                      b) 0.8V                      c) 0.6V                      d) 0.68 V
43. A multimeter is used to measure \_\_\_\_\_.  
 a) Resistance                      b) Current                      c) Voltage                      d) All of these
44. What is the desirable feature in an electronic amplifier?  
 a) High output impedance                      b) Low input impedance  
 c) Good frequency response                      d) All of these
45. A sinusoidal flux .02 wb (max.) links with 55 turns of a transformer secondary coil. The supply frequency is 50 Hz. The rms value of the induced emf in the secondary will be \_\_\_\_.  
 a) 220 V                      b) 244.2 V                      c) 440 V                      d) 444.2 V
46. A conductor of length 1 meter moves at right angles to a uniform magnetic field of flux density  $1.5 \text{ Wb/m}^2$  with a velocity of 50 m/sec. The induced emf will be \_\_\_\_\_.  
 a) 60 V                      b) 75 V                      c) 70 V                      d) 65 V
47. Which of the following is an ohmic resistor?  
 a) Diode                      b) Germanium  
 c) Diamond                      d) Nichrome
48. Emf equation of transformer is \_\_\_\_\_.  
 a)  $4.44 \phi T$                       b)  $4.44 \phi f T$                       c)  $\phi f T$                       d)  $4.44 f T$

49. There are \_\_\_\_\_ terminals in a megger.  
a) 3                      b) 4                      c) 1                      d) 2
50. Function of Black tape is used at joint of two cables \_\_\_\_\_.  
a) Protect from heat                      b) Protect from moisture  
c) Increase the mechanical strength                      d) None of these

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