

587

Register No.:

April 2024

Time – Three hours  
(Maximum Marks: 100)

- [N.B.]
1. Answer any fifteen questions under Part-A. All questions carry equal marks.(15X2=30)
  2. Answer all questions, choosing any two sub-divisions from each question under Part-B. All questions carry equal marks.(5X14=70)(7+7]

PART- A

1. Define Electric Charge.
2. State Coulomb's first law.
3. Define potential difference.
4. Write the formula for calculating Electric power and Electric energy.
5. Expand the term TANGEDCO.
6. List out the main parts of transformer.
7. Write about the different types of lamps.
8. Draw a simple lamp circuit diagram and label its parts.
9. Draw the symbol of inductor.
10. Mention the uses of capacitor.
11. Write the colour coding for resistor of value 2.5 k $\Omega$ .
12. What are the different types of resistor?
13. What is energy band?
14. What is meant by Fermi level?
15. Differentiate drift and diffusion current.
16. Mention any two applications of PN junction diode.
17. What are the effects of electricity on the human body?
18. Why Earthing need to be done?
19. Why Lightning arrester is used?
20. What are the types of solder?

[Turn over...

PART- B

21. (a) An electric heater is rated 1kW, 250V. Find the current drawn and the resistance of the heating element.  
(b) Explain about DC and AC supply.  
(c) Describe the duties and responsibility of electrical engineer.
22. (a) Explain the main parts of DC machine with suitable sketch.  
(b) Explain about the various applications of Solar panel.  
(c) Explain about electric vehicles and its types.
23. (a) Explain about self and mutual inductance.  
(b) Discuss the types, working principles and properties of Capacitors.  
(c) Discuss the symbols, working principles and application of Resistors.
24. (a) Explain about intrinsic and extrinsic semiconductors.  
(b) Explain the working principle of Zener diode and also discuss its VI characteristics.  
(c) Explain about forward and reverse bias of PN Junction diode.
25. (a) Explain about the various protective devices used to provide electrical safety.  
(b) Explain about various hazards caused due to electrical accidents.  
(c) Explain about the various types of PCB.

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