

2089

Register No.:

October 2024

Time – Three hours
(Maximum Marks: 100)

- [N.B. 1. Answer any fifteen questions under Part-A. All questions carry equal marks.(15 X 2 = 30)
2. Answer all questions, choosing any two sub-divisions from each question under Part-B. All questions carry equal marks.(5 X 14 = 70) (7 + 7)]

PART- A

1. State Coulomb's law.
2. Name any two electrical quantities .
3. Define voltage.
4. List any two uses of electricity in health care.
5. Draw the simple lamp circuit.
6. List any two energy sources.
7. Give the applications of solar panels.
8. What are the types of electric vehicles?
9. Draw the symbol of capacitor and give its unit.
10. Define self inductance.
11. Write the working principle of resistor.
12. What are the uses of inductor?
13. What is meant by fermi level?
14. What are intrinsic semiconductors?
15. What is diffusion current?
16. Write any two applications of diode.
17. What are the types of PCB?
18. What is lightning arrester?
19. Write any two soldering tools.
20. List any two first aids for electrical accidents.

PART- B

21. (a) List the duties and responsibilities of an electrical engineer.
(b) Derive an expression for equivalent resistance when three resistors are connected in parallel.
(c) List and explain the various electrical materials.
22. (a) Expand TANGEDCO and give its functions.
(b) Explain the construction and working principle of a generator.
(c) Draw and explain the domestic house wiring circuit.
23. (a) Discuss about the various properties of inductor.
(b) Explain about the colour coding of resistors.
(c) Explain the different types of capacitors with its applications.
24. (a) Explain the construction and working principle of Zener diode.
(b) Elaborate on P - type and N - type semiconductors.
(c) Explain about the forward bias operation of PN junction diode.
25. (a) Explain about the hazards of electricity.
(b) Discuss the steps involved in the preparation of PCB.
(c) What are the safety precautions to be followed during soldering? Explain.
