

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (3 marks each)
 3. Answer any ONE question from each unit in PART-C (10 marks each)
 4. The question paper contains TWO Pages

PART-A (1x10=10)

1. Draw the symbol of IGBT and MOSFET?
2. Mention the types of triggering the SCR.
3. Define converter and its uses.
4. What is meant by forced commutation?
5. What is SMPS? Mention its types.
6. Mention the types of inverter.
7. What are the parts of PLC?
8. State any two advantages of PLC.
9. Write the features of DCS.
10. Define LCU.

PART-B (3x5=15)

UNIT-I

11. Write short notes on pulse transformer.
12. Mention the applications of MOSFET.

UNIT-II

13. Define triggering of SCR and state requirements of gate triggering circuit.
14. What is forced commutation? List its types.

UNIT-III

15. Compare Online and off line UPS.
16. Requirements of inverter?

UNIT-IV

17. What is the function of i/p module used in PLC? List the i/p devices.
18. Draw the ladder diagram for OR gate, AND gate and EX-OR gate.

UNIT-V

19. What is the function of LCU in distributed control system?
20. List out the advantages of robots.

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PART-C (10x5=50)

UNIT-I

21. Explain the working principle of synchronized UJT triggering circuit with a neat diagram.
22. Explain the VI characteristics and give the applications of GTO.

UNIT-II

23. Explain the working principle of single phase fully controlled bridge converter with R and RL loads with neat diagram.
24. Explain the jones chopper with neat circuit diagram.

UNIT-III

25. Explain the various methods to obtain sine wave output from an inverter.
26. Explain the two types of UPS block diagram.

UNIT-IV

27. Draw the ladder diagram of star delta starter and explain its operation.
28. Explain the arithmetic functions and comparison functions in used in PLC.

UNIT-V

29. Draw the architecture of distributed control system and explain its operation.
30. Explain the features and advantages of DCS.
