Register No.:

519

April 2018

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. Draw the symbol of (i)GTO (ii)MOSFET.
2. Mention the isolation devices.
3. Define converter and state its uses.
4. What is meant by chopper?
5. Define inverters and mention its uses.
6. Mention the various types of arithmetic operations performed in PLC.
7. Specify the basic components of LCU.
8. Define battery bank and mention its types.

PART – B

9. Compare power MOSFET and power IGBT.
10. Explain AC gate triggering.
11. List the types of forced commutation.
12. List any three applications of SMPS.
13. State the advantages of PLC.
14. What are the programming languages used in PLC?
15. State the features of DCS.
16. State the importance of flywheel diode.

[Turn over.....

PART – C

17. (a) Explain the working principle and VI characteristics of MOSFET with neat diagram.

(Or)

(b) Explain the working principle of synchronized UJT triggering circuit with neat diagram and waveform.

18. (a) Explain the working principle of single phase fully controlled bridge converter with R and RL loads with neat diagrams.

(Or)

(b) Explain the operation of Jones chopper with neat diagrams.

19. (a) With neat diagram explain the operation of bridge inverter with RL load.

(Or)

(b) Explain the two types of UPS with block diagram.

20. (a) Explain the various input and output modules used in PLC.

(Or)

(b) Draw and explain the ladder logic diagram of star delta starter.

21. (a) Write notes on: (i)Plant display (ii)Area display.

(Or)

(b) Draw the architecture of hybrid system and explain it.
