718

Register No.:

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. State the units of current and power.
2. Define peak factor.
3. What is transformer?
4. What is the function of fuse?
5. Mention the applications of Zener diode.
6. Define full adder.
7. Define flip-flop and also list down the types of flip-flops.
8. Define ripple factor.

PART – B

9. Give the applications of servo motor.
10. Define the following terms: cycle, frequency and form factor.
11. Compare auto transformer with two winding transformer.
12. State the need for UPS.
13. Write short notes on capacitor filters.
14. Draw the symbol and truth table of ExOR gate.
15. Explain mod 3 counter.
16. Draw the logic diagram of half subtractor and writes its truth table.

[Turn over.....

PART – C

17. (a) (i) Explain the working of Offline UPS with block diagram.
(ii) Explain how to care and maintain lead acid battery.

(Or)

(b) (i) Define the terms: phase, phase angle and phase difference.
(ii) State the advantages of three phase over single phase.

18. (a) (i) Write short notes stepper motor.
(ii) Explain about the losses in a transformer.

(Or)

(b) What is the need of earthing? List the types of earthing. Explain any one of them.

19. (a) (i) With the diagram, explain the working principle of light emitting diode.
(ii) Draw and explain the operation of bridge rectifier.

(Or)

(b) (i) Explain the input and output characteristics of transistor used in CE configuration.
(ii) Explain transistor as a switch.

20. (a) (i) State DeMorgan's theorems.
(ii) Explain the working of encoder circuit.

(Or)

(b) Construct AND, OR, NOT and NOR gates by using only NAND gates.

21. (a) (i) Draw the logic diagram of D-flipflop and explain its operation.
(ii) With the logic diagram, explain the operation of decade counter.

(Or)

(b) Draw the logic diagram of 4 bit shift register and explain its four modes of operation.
