

Register No.:

636

April 2023

*Time – Three hours
(Maximum Marks: 100)*

- N.B.**
1. Answer all questions under Part-A. Each question carries 3 marks.
 2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.

PART – A

1. State the difference between AC and DC.
2. Define online UPS.
3. What is Auto transformer?
4. Define stepper motor.
5. Write the function of PN junction diode in reverse characteristics.
6. Give a short note about LDR.
7. State Demorgan's second law.
8. Define decoder.
9. State the need of counters.
10. List the applications of shift register.

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PART – B

11. (a) Explain with block diagram the working of ON line UPS.
(Or)
- (b) (i) List the classification of cells with example. (4)
(ii) Mention the better features of three phase over single phase. (10)
12. (a) (i) What is voltage ratio and current ratio in transformer? (4)
(ii) Explain the working principle of AC servo motor. (10)
(Or)
- (b) (i) Write about the losses in transformer. (7)
(ii) Give a short note about pipe earthing. (7)
13. (a) (i) With the diagram explain the operation of LED. (7)
(ii) Explain the operation of capacitor filter. (7)
(Or)
- (b) (i) Write the principle of operation of photo diode. (7)
(ii) Describe PI filter and LC filter. (7)
14. (a) (i) Draw the symbols and truth tables of any three basic gates. (7)
(ii) Construct XOR, NAND gate using NOR gate. (7)
(Or)
- (b) (i) Explain the operation of parity generator. (7)
(ii) Explain the operation of Decimal to BCD encoder. (7)
15. (a) Explain the operation of level triggered flip flop with a diagram.
(Or)
- (b) Draw the logic diagram of 4 bit parallel in parallel out shift register and explain its four modes of operation.