

Register No.:

191

October 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. Define Form factor.
2. State the necessity of MCB.
3. Define current ratio of a transformer.
4. Write about high voltage fuses.
5. Draw the ZENER diode symbol and LED symbol.
6. What is meant by transistor?
7. Write about BCD code.
8. Draw the NAND gate and its truth table.
9. Define triggering.
10. State any three applications of shift register.

[Turn over.....

PART - B

11. (a) Explain the constructional details of lead acid battery.

(Or)

(b) Explain about Online and Offline UPS with block diagram.

12. (a) Explain the construction of core type transformer with neat sketch.

(Or)

(b) Explain the working of DC servo motor with neat sketch.

13. (a) With the diagram explain the operation of Bridge rectifier with necessary waveforms.

(Or)

(b) (i) Explain the construction of LED. (7)

(ii) Draw the Forward characteristics of PN junction Diode along with necessary circuit diagram. (7)

14. (a) (i) State the basic laws of Boolean algebra. (7)

(ii) Convert 1010101001 into octal and hexadecimal number. (7)

(Or)

(b) Explain the operation of multiplexer and demultiplexer.

15. (a) Draw the circuit diagram of 4bit asynchronous counter and explain.

(Or)

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