BCA–03

June – Examination 2023

BCA (Part-I) Examination

BASIC ELECTRONICS

Paper : BCA-03

*Time : **3** Hours*] [*Maximum Marks : **70***

Note :– The question paper is divided into three Sections A, B and C. Write answers as per the given instructions.

Section–A **7×2=14**

(Very Short Answer Type Questions)

Note :– Answer all questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 2 marks.

1. (i) Define drift velocity.

   (ii) What do you mean by ripple factor ?

(iii) Write down the Kirchhoff's voltage law.

(iv) What is donor concentration in semiconductors ?

(v) What is the requirement of Boolean Algebra ?

(vi) What is triggering in digital electronics ?

(vii) What do you mean by POS and SOP ?

Section–B **4×7=28**

(Short Answer Type Questions)

Note :– Answer any *four* questions. Each answer should not exceed **200** words. Each question carries 7 marks.

2. Draw the common emitter circuit and explain its working.

3. Discuss the functioning of full wave rectifier.

4. Explain functioning of maximum power transfer theorem.

5. Describe the importance of copper wiring system suitable for circuits.

6. Describe duality property of Boolean algebra.

7. Discuss the working of asynchronous counter, briefly.

8. Explain the working of edge triggering flip-flops.

9. Describe diode as a switch.

Section–C **2×14=28**

(Long Answer Type Questions)

Note :– Answer any *two* questions. You have to delimit your each answer maximum up to **500** words. Each question carries 14 marks.

10. State Thevenin's and Norton's theorem. Write down the importance of these theorems in circuit analysis.

11. What do you mean by Race Around Condition ? Explain the working of JK flip-flop with the help of symbolic diagram.

12. Explain expressions for hybrid parameters of a transistor.

13. Draw the AND gate, NAND gate and Ex-OR gate using NOR gate. Also explain about NOR gate.