

Roll No.

Total Pages : 3

3974/M

M-24/2051

DIGITAL ELECTRONICS

Paper-BCA-123

Semester-II

Time allowed : 3 Hours] [Maximum Marks : 75

Note: The candidates are required to attempt two questions each from section A and section B carrying 15 marks each and the entire section C consisting of 5 short answer type questions carrying 3 marks each.

SECTION-A

1. Solve the following Boolean expression using Karanaugh's Map 15
$$Y=(A+B+\bar{C})+(A+\bar{B}+\bar{C})+(\bar{A}+\bar{B}+C)+(\bar{A}+\bar{B}+\bar{C}).$$
2. Discuss the procedure to find Subtraction using 1's Compliment 2's Complement. 15

3. What is XOR gate? Discuss the role of XOR gate in Parity generation. 15
4. What do you mean by SOP and POS? Explain with suitable examples. 15

SECTION-B

5. Discuss S-R Flip-Flop with diagram and Truth table. 15
6. What is Multiplexer? Explain 4×1 and 8×1 Multiplexers in detail. 15
7. Explain Half Adder and Full Adder with suitable diagram. 15
8. Explain working of Weighted Register D/A counter in detail. 15

SECTION-C

9. Write short note on the following: 5×3 = 15
(i) Discuss difference between NOR and XNOR?

- (ii) What is Non-Positional number system?
- (iii) What is Latch?
- (iv) Explain Parity Checker.
- (v) What is D-Flip Flop.