

(20519)

Roll No.

Total Questions : 13]

[Printed Pages : 3

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B.C.A. IInd Semester Examination, May-2019

**DIGITAL ELECTRONICS AND
COMPUTER ORGANISATION**

(B.C.A-204)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt all the Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. Give the truth table and symbol for X-OR logic gate.
2. What is Subtractor ?

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Turn Over

3. Define associative memory.
4. Give the applications of shift registers.
5. State the boolean distributive law.

Section-B

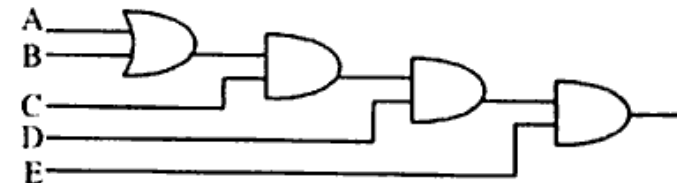
(Short Answer Type Questions)

Note :- Attempt any two questions out of the following three questions. Each question carries 7½ marks. Short answer is required not exceeding 200 words.

6. Simply the given function using k-maps :

$$F(A, B, C, D) = \Sigma(0, 2, 3, 5, 7, 9, 11, 13, 14)$$

7. Derive the Boolean expression for logic circuit shown below :



8. Draw RS flip flop and explain its working.

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Section-C

(Long Answer Type Questions)

Note :- Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.

9. Give difference between the following :

- (i) SRAM vs DRAM
- (ii) Registers vs Counters

10. Design 5-Mod counters using J-K flip-flop.

11. (i) What is cache memory ? Why is it called high speed memory ?

(ii) Design 8×1 Multiplexer

12. Describe the following terms :

- (i) ROM
- (ii) PROM
- (iii) EPROM
- (iv) RAM
- (v) Virtual Memory

13. Discuss various types of Logic Gates. Also discuss their applications.