

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Electrical & Electronics) (2018 Batch) (Sem.-4)

DIGITAL ELECTRONICS

Subject Code : BTEE-401-18

M.Code : 77606

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Write briefly :

- Q1. Define Noise Margin?
- Q2. State the different classification of binary codes.
- Q3. State the commutative property of Boolean algebra.
- Q4. What is Propagation Delay?
- Q5. What is a Karnaugh Map?
- Q6. Give the comparison between synchronous & Asynchronous sequential circuits.
- Q7. State and prove De Morgan's theorem.
- Q8. Obtain the canonical sum of products of the function $Y = AB + ACD$.
- Q9. What is EEPROM?
- Q10. Which gates are called as the Universal Gates? What are its advantages?

SECTION-B

- Q11. Simplify the given expression $AB + (AC)' + AB'C (AB + C)$.
- Q12. Explain the flip-flop excitation tables for JK flip-flop.
- Q13. State the postulates and theorems of Boolean algebra.
- Q14. Design and explain a comparator to compare two identical words.
- Q15. Explain in detail about Race around condition.

SECTION-C

- Q16. Determine the prime implicants of the function

$$F(W,X,Y,Z) = \sum (1,4,6,7,8,9,10,11,15)$$

- Q17. Explain with neat diagrams TTL.
- Q18. Explain the working of BCD Ripple Counter with the help of state diagram and logic Diagram.