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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(CSE/IT) (2018 Batch) (Sem.–3)

DIGITAL ELECTRONICS

Subject Code : BTES-301-18

M.Code : 76435

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 :

- 1) How AND gate can be made using NOR gates?
- 2) Differentiate between combinational and sequential circuits.
- 3) Convert Hexadecimal number (BC4) base 16 TO Octal and Decimal Number System.
- 4) Convert Binary number (10110) to Gray code.
- 5) What is ring counter?
- 6) Convert BCD NUMBER (1001 1000) to Excess-3 code.
- 7) How Decoder can be used as Demultiplexer?
- 8) Define FPGAs.
- 9) Write De-Morgan's theorem.
- 10) Add binary numbers : 10110 + 01101 + 10101

SECTION-B

- 11) Implement the following function using Decoder :
- $$F(A, B, C, D) = \sum m (1, 2, 3, 5, 7, 8, 11).$$
- 12) Design 2-bit comparator circuit.
- 13) What is Race Around condition, how it can be avoided?
- 14) Write short note on classification of memories.
- 15) Minimize the following expression using K-Map technique :
- $$AB'C + A'BCD' + AB + B'D$$

SECTION-C

- 16) Describe various characteristics of A/D convertors. Also explain the working of Successive Approximation A/D convertor.
- 17) Design MOD 10 counter using JK flip flop.
- 18) Minimize using QM Method
- $$F(w, x, y, z) = \sum m (0, 1, 3, 5, 7, 11, 12, 13, 14, 15)$$

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.