Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   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) What are the universal gates? Justify.

2) State De-Morgan's Theorem.

3) Write the characteristic equation of 4×1 multiplexer.

4) State the differences between combinational and sequential circuits.

5) Draw the excitation table of D flip flop.

6) Convert 101011 into Decimal system & Octal system.

7) Draw the state diagram of 3 bit up counter.

8) State the functions of flip flops.

9) Define Melay machine with state diagram.

10) Compare PLA, PAE and PROM.

SECTION-B

11) Design a 5×32 decoder using 3×8 decoder and summarize that how many decoders are required for designing?

12) Design a two bit magnitude comparator and draw its logic circuit.

13) Elucidate the design procedure of synchronous sequential circuits.

14) Perform the following addition by 2's complement :

   a) 20 to –26

   b) 25 to –15.

15) What are various law s for Boolean logic simplification?

SECTION-C

16) Design and implement BCD to gray code converter using PAL.

17) a) What are the different logic gates? Give their truth tables.

   b) Write a short note on static, bipolar and MOSFET RAM cell.

18) Draw the logic circuit, excitation table & truth table of RS Flip-Flop.

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.