

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 07

B.Sc.(IT) (Sem.-2)
DIGITAL ELECTRONICS FUNDAMENTALS
Subject Code : BS-102
Paper ID : [B0405]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and a student has to attempt any FOUR questions.

SECTION-A**Q1) Write briefly :**

- a) What are the differences between static RAM and dynamic RAM?
 - b) Define minterms and maxterms with examples.
 - c) What is priority encoder?
 - d) Find SOP expansion of $F(x,y,z) = (x + z)y$.
 - e) What is sequential circuit? Give example.
 - f) Draw state table and excitation table of J-K Flip Flop.
 - g) Define access time and cycle time of memory.
 - h) Convert 101000010111_2 into hexadecimal.
 - i) What is a multiplexer?
 - j) What do you mean by race around condition and how can it be eliminated?
-

SECTION B

- Q2) Explain the functioning of carry look ahead adder with the help of a diagram.
- Q3) Implement $F(A,B,C,D) = \Sigma (0,1,2,3,4,9,13,14,15)$ using a single 8-to-1 multiplexer and an inverter.
- Q4) Explain the working of master-slave J-K Flip Flop.
- Q5) Minimize $F = wx y \bar{z} + wx \bar{y} z + w \bar{x} y z + \bar{w} x \bar{y} z + \bar{w} \bar{x} y \bar{z} + \bar{w} \bar{x} \bar{y} z$ through the use of a K-Map.
- Q6) Minimize $x y z + x y \bar{z} + \bar{x} y z + \bar{x} y \bar{z}$ using Quine-McCluskey method.
- Q7) Explain the operation of BCD Subtractor.

a2zpapers.com