Roll No. | | | | | | | | | | | | |

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M.Tech.(ECE) (2016 Batch) (Sem.–1)

ELECTRONICS SYSTEM DESIGN

Subject Code : MTEC-101

M.Code : 74146

Time : 3 Hrs. Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions in all.
2. Each question carry TWENTY marks.

Q1 (a) Design a combinational circuit which can convert BCD code to E-3 code.

(b) With the help of 2:1 MUX generate the following function:

$F(A, B, C, D) = \Sigma (0, 3, 7, 8, 12, 13, 14)$

Q2. Design combinational Circuit for following function using Q-M method.

$F(A, B, C, D) = \Sigma (0,2,3,6,8,10,13,14,20,23,27,29) + d(11,12,22,24)$

Q3. Design basic binary cell centred LM flip-flop specified by the following characteristic :

L	M	Q_n
0	0	Set
0	1	No Change
1	0	Toggle
1	1	Reset

Also define the excitation table.

Q4. Only write the steps to design an asynchronous sequential machine and design a JK flip flop as an asynchronous machine.

Q5. Write the advantages of MEV approaches to design an asynchronous machine and draw a circuit for

$F(A,B,C,D) = \Sigma_m(1,2,3,5,6,8,11,12,13,14,15)$ using same approach.

Q6. Write the advantages and disadvantages of PAL over PLA and design full sub-tractor using PLA and PAL, with neat diagrams.

Q7. How the co-axial cable is interfaced with digital system explain with **neat diagram.**

Q8. Explain any two :

(a) MSI decoder

(b) Timing and frequency consideration in controller design

(c) Tri state bus system.

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.