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

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Electronics & Computer Engg.) (2011 Onwards) (Sem.–6)

DIGITAL SYSTEM DESIGN

Subject Code : BTEL-606

Paper ID : [A2345]

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 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

Q.1 Answer briefly :

a) Differentiate between combinational and sequential circuits with example.

b) Define state table and state assignment.

c) What do you understand by positive logic and negative logic?

d) Enlist all logical operators.

e) What do you understand by essential hazards?

f) Find complement of AB'+BC'+C'D

g) Enlist various types of ROMs.

h) What is significance of Data Flow Diagram?

i) Differentiate between ROM and PLA.

j) What is the importance of unused states in design of synchronous circuits?

SECTION-B

Q.2 Define and discuss with suitable examples, all types of overloading in VHDL.

Q.3 Specify the method that is used to construct a state table.

Q.4 Write a short note on FPGA.

Q.5 Write a VHDL code for 4:1 multiplexer using behavioral modeling.

Q.6 What do you mean by operators? Explain all six different types of operators.

SECTION-C

Q.7 What are the data objects? Explain briefly all data types.

Q.8 Design a counter which counts the following sequence :

0,8,12,14,19,13,11,15,0,8,12……..

Use clocked J-K FF and NAND gates.

Q.9 Draw the functional partition of PoP vending machine control system. Explain briefly.