

00271
**B.TECH. IN ELECTRONICS AND
 COMMUNICATION ENGINEERING (BTECVI)**

Term-End Examination

December, 2013

BIELE-011 : DIGITAL SYSTEM DESIGN

Time : 3 hours

Maximum Marks : 70

Note : Question No. 1 is compulsory. Attempt any four from question No. 2 to question No. 7. All questions carry equal marks.

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1. Attempt any two : 2x7=14
 - (a) Differentiate between Signal and Variable assignments.
 - (b) Differentiate between Event and Transaction with example.
 - (c) Differentiate between MST and LST Circuits.

 2. Write a VHDL programme for the function $Y = \overline{AB} + \overline{CD}$ using 2x7=14
 - (a) Behavioral modeling.
 - (b) Structural modeling.

 3. (a) What do you mean by Digital design ? 10
 Explain its fundamentals.
 (b) Describe sequential machine fundamentals. 4

 4. (a) What are the different Traditional Approaches to Sequential Analysis and Design state diagram ? 12
 (b) What is PLAA ? 2

5. With sample wave forms, explain transport and inertial delays in VHDL. 14
6. Design a programmable controller with sub routine capability. 14
7. Describe **any four** of the following : $4 \times 3\frac{1}{2} = 14$
- (a) Flip-flop level.
 - (b) Application of shift registers.
 - (c) MC 2900.
 - (d) Finite state machines.
 - (e) Classes and data types.
 - (f) PROM.
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