Total No. of Questions : 5]   [Total No. of Printed Pages : 2

Roll No ....

EC-605
B.E. VI Semester
Examination, December 2016
VLSI Circuits and Systems

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
iv) Except Numericals, Derivation, Design and Drawing etc.
v) Assume suitable data if required.

1. a) Give a design flow presentation of CMOS with the help of suitable example.
   b) How CMOS is different from nMOS and pMOS? Explain.
   c) MOS transistors could be worked as switch. Verify this statement with the help of suitable example.
   d) Explain different design strategies, also draw and elaborate each part of Y-Chart.

   OR

   Draw any register using CMOS circuit and verify their results with the help of suitable example.

2. a) Explain the verbal description of any MOS equivalent state machines.
   b) Derive and explain Mealy and Moore Model machines.
   c) Write state table of any MOS circuit and explain its transition diagram.
   d) Write down different steps to show realization of state diagrams. Differentiate between the synchronous and asynchronous machines.

   OR

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   b) Explain the concept of functional modelling with an illustrative example.   7

5. a) Prepare a CFD for a books order processing system. The customers in this system are book sellers who do not make a stock of books. As the orders come the books are demanded from publishers directly.   7
   b) Differentiate between the following: 7
      i) Top down and Bottom up approach
      ii) Structural analysis and structural design

6. a) What do you understand by cohesion and coupling in context of software design? How are concepts of cohesion and coupling useful in arriving at good software design?   7
   b) Explain white box testing with an example.   7

7. a) What do you mean by RMMM? How can we develop RMMM plan?   7
   b) What is Software configuration management? Explain its need?   7

8. Write short note: 14
   a) Project scheduling
   b) Staffing
   c) SQA
   d) System testing

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