Roll No .....

MEDC-104

M.E./M.Tech. I Semester

Examination, June 2014

VLSI Design

Time : Three Hours

Maximum Marks : 70

Note : 1. Attempt any five questions.
2. Assume suitable data if required.

1. What do you mean by integrated circuits? Explain its basic concept. Write all its manufacturing steps and elaborate any one with the help of suitable example.

2. a) Write down the different steps involved in CMOS Logic gate design.
   b) What are the consequences of power and delay in basic physical design of any CMOS circuit?

3. a) What are the precautions we have to be remembered in a VLSI lab during the manufacturing of chips.
   b) What do you mean by simulation? Which software proves to be suitable for the simulation in VLSI Design?

4. a) Write down the characteristics of different transistors used in programmable gate array which makes its structure compatible to VLSI design strategies.

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   b) What are the different modes of operation we can use is sub system design?

5. a) Write down the various expected results of VLSI circuits which gets implemented on PLA memory.
   b) Write down any 5 differences between PLA and ROM with reference to the circuit structure.

6. a) What do you understand by coverage and testability in VLSI circuits?
   b) Write down the different issues which is to be generated during fault coverage analysis of VLSI circuit.

7. a) Explain the design fundamentals for digital CMOS circuits.
   b) Write down the various features of circuit validation in VSLI Design.

8. Write short notes (Any two)
   a) Optimization
   b) CAD systems
   c) Routing Algorithms
   d) Timing Analysis in CAD systems.

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