Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

MEVD-301(B)

M.E./M.Tech., III Semester

Examination, June 2017

System On Chip (SOC) Design

(Elective-IV)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions out of eight questions.
ii) All questions carry equal marks.
iii) Assume suitable data, if required.

1. a) Discuss the tools and techniques used for designing, verifying and implementing SOC using programmable logic.
   b) Explain the implementation of complex system on a single chip with example.

2. a) Enlist various advances in semiconductor technology which proves very helpful for electronic industries.
   b) Explain PLD's. Give its classification.

3. a) Explain synthesis and device implementation on an FPGA development board using Verilog HDL.
   b) What is cache memory? How is MMU different from the main memory?

4. a) Explain the differences between CISC and RISC.
   b) Discuss about the cache memory and MMU.

5. a) Draw and explain ARM based system on chip architecture with detailed functionality.
   b) How is verification performed using simulation in Verilog?

6. a) Differentiate between concurrent statement (combinational) and procedural statement (sequential) in Verilog using suitable example.
   b) Give an introductory note on programmable chip architecture. Discuss about the logic synthesis of programmable chip.

7. a) Explain any one embedded system application and mention its hardware and software designing.
   b) Write a Verilog module for Multipliers.

8. Write short notes on any two :
   a) FPGA
   b) ARM Classification
   c) VHDL

   d) ALU's Implementation on SOC

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