Code: EC5T1

III B.Tech - I Semester – Regular Examinations - November 2014

COMPUTER ARCHITECTURE AND ORGANIZATION
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours   Marks: 5x14=70

Answer any FIVE questions.   All questions carry equal marks

1. a) Explain about Shift micro operations with examples.   7 M

    b) Design a digital circuit that performs the four logic operations of Exclusive-OR, Exclusive-NOR, NOR and NAND. Use two selection variables. Show the logic diagram of one typical stage.   7 M

2. a) Explain about different Computer Instructions.   7 M

    b) Explain about the design of Accumulator logic shift unit.   7 M

3. a) Write about Control Memory and Address Sequencing.   7 M

    b) Design a control unit for Hardwired control and Micro programmed control.   7 M

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4. a) What are the different Instruction formats? Explain them.

7 M

   b) Explain the different Addressing Modes with examples.

7 M

5. a) Write about I/O modes of transfer.   7 M

   b) What is Priority Interrupt? Explain Daisy Chain Priority mechanism.   7 M

6. a) What is Virtual Memory? Explain different virtual memory techniques.   7 M

   b) Differentiate between Paging and Segmentation.   7 M

7. a) Explain addition and subtraction of fixed point binary numbers with signed magnitude representation.   7 M

   b) Explain Division Algorithm for signed magnitude data.

7 M

8. a) What is Parallel processing? Explain different parallel processing systems.   7 M

   b) Write about RISC pipeline in detail.   7 M