B.E / B.Tech DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Semester IV

EC374 / EC 9255-COMPUTER ARCHITECTURE AND ORGANIZATION

(Regulation -2004/2008)

Time: 3 Hours   Answer ALL Questions   Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are types of data representation..
2. Draw the circuit diagram for adder and Subtracter.
3. Draw the architecture of the logic unit.
4. Explain about Pipeline Design.
5. How may add/sub is done if the multiplier valve is 01110110 if we use
   a)booth algorithm b) Modified algorithm.
6. Give any two microoperation with description .
7. Differentiate cache memory and virtual memory.
8. What are the Merits and Demerits of direct mapping cache.
9. What is super scalar processor.
10. Draw the signals of the PCI standard bus.

Part – B (5 x 16 = 80 marks)

11. i) Write short notes on instruction set

    ii) Write short notes on CPU register organization.

12. a) Explain in detail about Robertson algorithm with an example.

    OR

    b) Explain the concept of pipelining with the floating point add unit of IBM system as an example.

13. a) Explain about micro programming. Explain the advantages and disadvantages of micro programming with example.

    OR

    b) Explain in detail about hard wired control unit with example.

14.   a) Explain in detail about ROM and its organization.

                              OR

     b) i) Compare between SRAM and DRAM
          ii)Write note on a) WORM b)CD-ROM c) Erasable optical memory

15.   a) Explain in detail about the following
          i)Batch operating system ii)Multi programming iii)Time sharing and iv)RTOS

                              OR

     b) Explain the block diagram of typical DMA controller.

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