FACULTY OF ENGINEERING
B.E. 3/4 (ECE) First Semester (Suppl.) Examination, June/July 2011
COMPUTER ORGANIZATION AND ARCHITECTURE

Time : Three Hours]               [Maximum Marks : 75

Note:— Answer ALL questions from Part A. Answer any FIVE questions from Part B.

PART—A (Marks : 25)
1. Why do we use dividend alignment while performing division operation of binary numbers?  2
2. Mention the advantages of RISC over CISC.  3
3. Distinguish between a single processor and multi-processor system.  2
4. Explain about stored program organization.  3
5. Brief about pipeline processing.  3
6. What is meant by ‘locality of reference’ and how does it help in faster execution of the programs?  3
7. Explain any 5 logical operations of a basic computer.  2
8. Differentiate between Synchronous and Asynchronous data transfer.  2
9. Classify the printers.  2
10. Draw a one bit RAM cell (Block diagram) and explain the function of each pin.  3

PART—B (Marks : 50)
11. Explain Booth’s multiplication algorithm with the help of a block diagram. Use a numerical example.  10

12. (a) What is the purpose of microprogram sequencer? Explain with a block diagram, how the sequencer present addresses to control memory.  7

(b) Differentiate between restoring and non-restoring division algorithms.  3

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(Contd.)
13. (a) Explain data manipulation operations of a basic computer. 7
   (b) What is normalization? 3

14. (a) Draw the block diagram and explain vector processing. 6
   (b) How vector processing is different from Array processing and give their application areas. 4

15. (a) Explain Stroke method of Asynchronous data transfer. 3
   (b) Draw the Block diagram and explain how data is transferred with the help of DMA. 7

16. Explain instruction pipeline scheme. List the 3 major difficulties that cause the instruction pipeline to deviate from its normal operation and give their remedies. 10

17. Write short notes on:—
   (a) Virtual memory concept
   (b) Stack organized Instruction formats. 10