FACULTY OF ENGINEERING
B.E. 2/4 (IT) II Semester (New) (Main) Examination, May/June 2012
COMPUTER ORGANIZATION AND MICROPROCESSORS

Time : 3 Hours]

[Max. Marks : 75

Note : *Answer all questions of Part* **A**.
Answer five questions from Part **B**.

PART – A

(25 Marks)

1. Define multiprocessor and multicomputer.   2

2. Define software and hardware interrupts.   2

3. Differentiate between Harvard architectures and Von-newmann architectures.   3

4. What is average memory accesstime ?   2

5. Distinguish between direct addressing mode and indirect addressing mode with
   example.   2

6. Write an assembly language program to add two 8-bit numbers.   3

7. Write the functions of DMA controller.   3

8. Write the usage of stacks.   2

9. Write about the modes of transfer in 8251.   3

10. Define baudrate ? Does it effects the transmission of data ? Give reason.   3

PART – B

(50 Marks)

11. a) What are the general and specific purpose registers ? Explain its usage.   5

    b) Write about the different classes of computers.   5

12. a) Compute the effective memory accesstime, where cache accesstime takes
       4 ns, while main memory accesstime is 50 ns. with 80% hit ratio.   5

    b) What is the basic principle of virtual memory and explain.   5

13. a) Write an assembly language program to perform multiplication of two 8-bit numbers.   7

    b) List the data transfer and logical instructions in 8085 instruction set.   3

14. a) State the differences in brief between programmed I/o and DMA.   (5+5)

    b) Write the procedure to handle interrupts.

15. a) Describe how serial peripheral interface can be used for data transfer.   5

    b) What are the advantages and disadvantages of RS-232 series of protocols ?   5

16. a) Explain the functional units of computer system.   5

    b) Discuss the metrics to measure the performance of memory system.   5

17. Write short notes on :   10

    a) A/D to D/A converter

    b) 8279.