

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

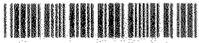
(25 Marks)

- | | |
|--|---|
| 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)

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|---|---|
| 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.