Code No. : 5280/O

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

Time : 3 Hours] [Max. Marks : 75

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

PART – A **(25 Marks)**

1. What is the role of "Loop" instruction ? Explain with example. **3**
2. Explain NOP and HLT instructions. **2**
3. Difference between subroutine and interrupt service routine. **2**
4. Write about DMA. **3**
5. Give the functional units of computer. **2**
6. Describe the organization of bitcells in a memory chip in semiconductor RAM memories. **3**
7. Write about optical disks. **2**
8. Write the sequence of operations to add the contents of register R1 to the result in Register R3. **3**
9. Give the advantages of Booth's algorithm. **2**
10. What are the different principal types of i/o transfers ? **3**

PART – B **(50 Marks)**

11. a) Explain performance with respect to : **6**
    i) Processor clock ii) Instruction set
    iii) Clock rate iv) Compiler
    v) Performance equation. vi) Pipelining and scalar operations.
    b) How to access I/O devices in a system ? **4**

12. What is Cache memory ? Explain different mapping functions. 10

13. Explain fast adders with examples. 10

14. Explain 8086 CPU architecture with neat sketch. 10

15. Discuss the stack action during a typical sequence of procedure calls and returns. 10

16. Compare hard wired control and micro programmed control. Draw the diagram of microprogrammed control unit and explain. 10

17. Write short notes on :

    a) Enabling and disabling interrupts. 5

    b) Macros. 5