Total No. of Questions :10] *[Total No. of Printed Pages :3*

Roll No .....

CS/IT-402

B.E. IV Semester

Examination, June 2013

Computer System Organization

Time : Three Hours

Maximum Marks : 70/100

Note: Attempt one question from each unit.
All questions carry equal marks.

Unit - I

1. a) Explain the various types of addressing modes with an example?

   b) Describe the von-Neumann model and explain the functioning of its components?

OR

2. a) Draw and explain the bus structure for the data transfer between registers and the common bus?

   b) Define the following terms :

   i) Three state buffer

   ii) Control function

   iii) Micro operation

Unit - II

3. a) Draw and explain the micro programmed control unit with next address generation?

   b) Explain the hardware for signed magnitude addition subtraction with block diagram.

OR

4. a) Compare horizontal and vertical organization. Give their advantages and disadvantages.

   b) Describe in detail Booth's multiplication algorithm and its hardware implementation.

Unit - III

5. a) What is a DMA transfer? Explain in detail how this is accomplished?

   b) Explain the classification of the instruction set of 8085 Microprocessor with suitable example.

OR

6. a) Why is priority handling is desired in interrupt controllers? How do the different priority schemes work?

   b) Write on 8085 code to obtain 2's complement on the 16 number stored at locations x and $x + 1$. Store the result in y and $y + 1$ locations

Unit - IV

7. a) Explain associative memory with its hardware organization. Explain how the data is read and write in the associative memory.

   b) What is paging? Explain how paging can be implemented in CPU to access virtual memory?

OR

8. a) Write short notes on :

   i) Cache memory

   ii) Memory Management Hardware

   b) The logical address space in a computer system consists of 128 segment. Each segment can have upto 32 pages of 4K words in each. Physical memory consists of 4K blocks of 4K words in each. Formulate the logical and physical address format.

Unit - V

9. a) What do you mean by parallel processing? Write the Flynni classification of parallel processing?

   b) Explain and draw the model and crossbar switch organization for establishing an interconnection network in multiprocessor system.

OR

10. Write short notes :

   i) Arithmetic pipeline

   ii) Inter processor communication

   iii) Pipeline conflicts

   iv) Hypercube interconnection

******