Roll …………….

MSc- IT-10 (Master of Science in Information Technology)

Code: MIT 2004

Subject: Computer Architecture

Time : 3 Hrs   **Max Marks : 60**

Section A

Long Answer Type Questions

2X15=30 Marks

1. Find the value of number 12389 in
(i)   10's complement form
(ii)   9's complement form
(iii)   1's complement form
(iv)   2's complement form.

2. Perform the arithmetic operations (+42)+(-13) and (-42)-(-13) in binary using signed -2's complement representation for negative numbers.
3. What is the difference between isolated and memory mapping?
4. Define booth's algorithm for multiplication.

Section B

Short Answer Type Questions

4X5=20 Marks

1. What is the difference between a vectored interrupt and non-vectored interrupt?

2. What is a difference between a serial and parallel data transmission?

3. Define
   a. Page fault
   b. Logical address
4. Define locality of reference.
5. What is floating point notation? What is benefit of these?
6. What are vector processors?
7. What are the different types of computer instruction? Explain.
8. Explain the functioning of master-slave flip flop.

Section C

Objective Question

10x1=10 marks

1. Arithmetic and logical operations are performed by:

a. Hard disk   b. Floppy disk

c. CPU chip   d. Memory chip

2. The register which stores the address of the next instruction to be executed is:

a. Memory Address Register   b. Memory Data
Register

c. Instruction Register   d. Program Counter

3. A complete microcomputer system consists of:

a. microprocessor   b. memory

c. peripheral equipment   d. all of above

4. ALU performs:

a. arithmetic operations

b. logic operation

c. shift operation

d. all of above

5. Pipelining strategy is called implement:

a. instruction execution

b. instruction prefetch

c. instruction decoding

d. instruction manipulation

6. A stack is:

a. an 8-bit register in the microprocessor

b. a 16-bit register in the microprocessor

c. a set of memory locations in R/WM reserved for storing information temporarily during the execution of computer

d. a 16-bit memory address stored in the program counter

7. A stack pointer is :

a. a 16-bit register in the microprocessor that indicate the beginning of the stack memory.

b. a register that decodes and executes 16-bit arithmetic expression.

c. The first memory location where a subroutine address is stored.

d. a register in which flag bits are stored

8. The branch logic that provides decision making capabilities in the control unit is known as:

a. controlled transfer

b. conditional transfer

c. unconditional transfer

d. none of above

9. Interrupts which are initiated by an instruction are:

a. internal

b. external

c. hardware

d. software

10. A time sharing system imply:

a. more than one processor in the system

b. more than one program in memory

c. more than one memory in the system

d. None of above