M.Sc. (IT)   (Sem.–1)

COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE

Subject Code : MSIT-103

M.Code : 72519

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.

SECTION-A

1. Explain the design of ALU in detail.

2. What do you mean by addressing modes? Explain various addressing modes with the help of examples.

SECTION-B

3. State and explain the different types of hazards that can occur in a pipeline.

4. What is direct memory access (DMA)? Why are the read and write control lines in a DMA controller bidirectional?

SECTION-C

5. Give the hardware organization of associative memory. Why associative memory is faster than other memories. Deduce the logic equation used to find the match in the associative memory.

6. Define cache memory. Explain the mapping process followed in cache memory.

SECTION-D

7. Write note on following :

   i. Characteristics of Multiprocessors.

   ii. Multistage Switching Network.

8. i. Write a program using assembly language of 8085 microprocessor to sort a given list.

   ii. What are the various arithmetic and Logical instructions of 8085 Microprocessor?

SECTION-E

9. Differentiate between Arithmetic Shift Left and Arithmetic Shift Right.

10. What is a microprogram sequencer?

11. Define interface.

12. What is a control word?

13. How many 128x8 ROM memory chips are needed to provide a memory capacity of 4096×16?

Define vectored interrupts.

14.

Differentiate synchronous and asynchronous bus.

15.

16. What are the steps taken when an interrupt occurs?

17. What are called stalls?

18. What is the function of i/o interface?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.