Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

M.Sc.(Computer Science) (Sem.–2)

COMPUTER ORGANISATION

Subject Code : MSC-202

M.Code : 71446

Date of Examination : 06-07-22

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 instruction set Architecture? Give examples.

2. Discuss in detail the functioning of Arithmetic Logic Shift Unit.

SECTION-B

3. What is Addressing Modes? Discuss the different types of addressing modes by taking suitable examples.

4. a) Explain the difference between hardwired and microprogramed control. Is it possible to have hardwired control associated with control memory?

   b) Discuss Microinstruction format along with examples.

SECTION-C

5. a) Draw a space time diagram for a six-segment pipeline showing the time it takes to process eight Tasks.

   b) Explain Vector Processing

6. a) Explain the process of cycle stealing DMA operation?

   b) Why does DMA have priority over CPU when both request a memory transfer?

SECTION-D

7. 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.

8. a. Explain Cache Coherence.

   b. What are the various page replacement policies? Discuss in brief.

SECTION-E

9. Write briefly :

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

b. What is a microprogram sequencer?

c. Define interface.

d. What is a control word?

e. Give an example each of zero-address, one-address, two-address and three address instructions.

f. Compare single bus structure and multiple bus structure?

g. What is n-bit ripple carry adder?

h. Name two types of memory interleaving.

i. Differentiate between synchronous and asynchronous bus.

j. What are called stalls?

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.