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

Total No. of Questions : 09

MCA (2015 to 2018) (Sem.–1)

COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE

Subject Code : MCA-103

M.Code : 72709

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

INSTRUCTIONS TO CANDIDATES :

1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students have 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. What is instruction format? Describe the general register organization in detail.

2. a) Discuss the design of adder and logic unit.

   b) Explain RISC and CISC architectures in detail.

SECTION-B

3. a) What is arithmetic and instruction pipelining? Explain by taking example.

   b) Explain asynchronous data transfer in I/O organization.

4. a) What is meant by interrupt cycle? Explain.

   b) What is Programmed I/O? Explain.

SECTION-C

5. a) Differentiate direct mapping and set-associative mapping.

   b) What is meant by cache coherence? Discuss the use.

6. What is meant by memory protection? Explain the use of levels of cache in memory management.

SECTION-D

7. What is meant by hypercube interconnection? Why is it required? Explain.

8. a) Define multistage switching network.

   b) Discuss different logical instructions available in assembly language programming.

SECTION-E

9. Write briefly :

a) Comment on reverse polish notation.

b) Define the term "Basic Computer Organization".

c) What is meant by control word?

d) Define the term vector processing.

e) Discuss briefly synchronous data transfer.

f) What is DMA controller?

g) What is Address Space?

h) What is crossbar switch?

i) Write two machine control instructions of assembly language.

j) Discuss the use of Instruction Register.

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