

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2015 & Onwards) (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

Q1. What is the significance of Computer Organization? Discuss the following:

- General Register Organization
- Stack Organization.

Q2. Differentiate the following :

- Memory Reference Instructions and Register reference Instructions
- Two address and Three address Instructions

SECTION-B

Q3. What are the benefits of parallel processing? Discuss the role of :

- a) Arithmetic Pipeline
- b) Instruction Pipeline

Q4. Discuss the functionality of the following :

- a) DMA Controller
- b) Interrupt Cycle

SECTION-C

- Q5. Describe the use of the following types of mapping techniques :
- a) Associative Mapping
 - b) Direct Mapping
- Q6. a) What is meant by cache coherence? Explain.
- b) What is the need of page replacement in memory management? Explain.

SECTION-D

- Q7. Explain different characteristics of time shared common bus and crossbar switch.
- Q8. a) What are hypercube interconnections? Elaborate interprocessor communication in hypercube.
- b) Discuss various data transfer instructions available in Assembly language programming.

SECTION-E

Q9. Write briefly :

- a) What is control word?
- b) Define Instruction Format.
- c) Name two properties of Pipelining.
- d) List few Vector processing operations.
- e) What is Priority Interrupt controller?
- f) How address mapping is carried out in set associative mapping?
- g) Define Multiport Memory.
- h) Why register addressing mode is faster than other addressing modes?
- i) Discuss the purpose of having switching networks in multiprocessor systems.
- j) List various I/O instructions used in Assembly level programming.

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.