

Roll No.

67052

MCA (Regular) (2nd Semester) (Old)
Examination – May, 2012

COMPUTER ORGANISATION & ARCHITECTURE

Paper : MCA-202

Time : Three hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

UNIT – I

1. (a) What is bus ? Explain different types of buses used in computer systems.

(b) Explain the concept of Von-Neumann architecture.

2. (a) What is instruction set ? Explain instruction cycle with the help of flow chart.
- (b) What is the use of control unit ? Differentiate micro programmed and hardwired control unit.

UNIT - II

3. (a) Explain Booth's algorithm for multiplication with an example.
- (b) How floating point numbers are stored in computer system ? Explain different formats.
4. (a) Explain the structure of an assembly program.
- (b) Explain stack based CPU organization with diagram.

UNIT - III

5. (a) What is asynchronous data transfer ? Explain handshaking method with timing diagram.
- (b) What is virtual memory ? Explain paging scheme of virtual memory.

6. (a) Explain the structure of DMA controller and DMA transfer with diagram. Also explain why DMA transfer is better than other methods of data transfer.
- (b) Explain the need of cache memory. Also discuss set associative mapping.

UNIT – IV

7. (a) What is instruction pipeline ? Explain with an example.
- (b) What is reservation table ? Explain the concept of reservation table with non-linear pipeline.
8. (a) What is SIMD array processor ? How is it different from vector processor ?
- (b) Discuss one interconnection network used in SIMD computers.