67062

M.C.A. (Regular) 2nd Semester Examination–May, 2013

(for Re-appear Candidates w.e.f. May, 2013)

Computer Organization & Architecture

Paper-MCA-202

Time : 3 hours   Max. Marks : 80

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 the examination.

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

Unit-I

1. (a) Explain in detail the Von-Neumann Concept with its advantages & Diagram.   4

    (b) "Operating System is Vital Software of Computer system". Comment.   6

(c) What do you mean by Fetch & Decode step of Instruction cycle ?   6

2. Differentiate between :

(a) Hardwired control unit & Micro programmed Control unit   4

(b) Direct Address & Indirect Address   4

(c) Temporary Register & Program Counter   4

(d) Memory Reference & Register reference Instructions   4

Unit-II

3. (a) Explain the structure of control unit with Diagram.   8

(b) Detail the following instructions : STA, ISZ, HLT, and BSA   8

4. Explain the Addition & Subtraction with Signed 2's Complement with Flowchart.   16

Unit-III

5. Short notes on :
(a) Handshaking Signal   4
(b) Memory Mapped I/O   4
(c) Auxiliary memory   4
(d) Polling (interrupt)   4

6. (a) Define DMA. Explain in detail the working, need & advantages of using it. Also explain the concept of cycle stealing & Burst transfer. 10

(a) Explain the Asynchronous serial transfer with the help of an example. 6

Unit-IV

7. (a) What do you mean by Modular Memory approach ? Explain with diagram. 8

(b) Write in detail about the pipeline conflicts. Also mention its solution. 8

8. (a) Explain the Flynn's Classification of computers. 6

(a) Describe the arithmetic pipeline for floating point addition & subtraction. 10

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