

(c) Explain the working of Auxiliary Memory. [6]

7. Describe the Memory Hierarchy, in terms of execution speed, cost, execution time and size. Explain the following properties in reference to Cache memory : Principles of Locality, Coherence and Inclusion. [16]

Unit-IV

8. (a) Describe the Flynn's Classification of computer system. [8]

(b) Explain the concept of Reservation table. [8]

9. (a) List down various principles of Linear pipeline. Also mention the advantages of applying it in the system. [8]

(b) Pictorially represent the working of an Instruction Pipeline. Mention the basic conditions that must be satisfied before Pipelining can be installed. [8]

Roll No.

67072

**M.C.A. 2nd Sem.
(with new notes - M.M. 80
w.e.f. May, 2013)**

Examination-May, 2016

**Computer Organisation & Architecture
(New)**

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 : Question No. 1 is **compulsory**. Attempt any **four** more questions from Unit I to Unit IV, selecting **one** question from each unit. All questions carry equal marks.

[8×2=16]

1. (a) Define functional units of a computer designed for business purpose.

(b) What is the basic purpose of system buses?

- (c) What do you understand by effective address of an operand?
- (d) List down various types of registers available in computer system.
- (e) Write short note on working of an assembler.
- (f) Describe the term Computer Organization.
- (g) Explain various design principles of an effective pipeline.
- (h) Enlist various challenges faced during Parallel Processing.

Unit-I

- 2. (a) Operating Systems are the main core of any computer system", support your answer by mentioning various functions of operating system. [8]
- (b) Differentiate between an Instruction and Micro Instruction, with an illustration. [8]
- 3. Explain in detail the complete Instruction Cycle, along with its various phases and also depict the timing signals at various steps, with the help of a flowchart. [16]

Unit-II

- 4. (a) Explain why an interface is always required between the peripheral and processor communication. [8]
- (b) Describe the working of any four Data Transfer and Data Manipulation instructions each. [8]
- 5. (a) Describe various Instruction formats, based upon the number of operands included. [8]
- (b) Explain the working of Base addressing mode and Index addressing mode. [8]

Unit-III

- 6. (a) Define Interrupts. Why is it required to set priorities for interrupts and how these priorities are solved. Explain any one such method to solve the priority of interrupts. [5]
- (b) "It is mandatory to use Direct Memory Access in every computer system", Give your views and support your answer. [5]