

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—MARCH, 2013

COMPUTER ARCHITECTURE
(Common for CT, CM and IF)

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

(Maximum marks : 10)

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Write the function of Instruction register and Instruction pointer.
2. Write the syntax of any two assembler directives.
3. Expand PCI and SCSI.
4. State the method of differential signaling in rambus memory.
5. Define Micro instructions.

(5x2=10)

PART—B

(Maximum marks : 30)

II Answer *any five* questions. Each question carries 6 marks.

1. Explain the classification of computers based on speed, size and memory capacity.
2. Write notes on : (a) Super scalar architecture (b) Pipelining.
3. Differentiate between Memory mapped I/O and Peripheral mapped I/O.
4. Describe the sequence of events of data transfer in SCSI.
5. Write notes on : (a) EPROM (b) Flash memory.
6. Explain the working of cache memory.
7. Draw the architecture of Three Bus Organization.

(5x6=30)

PART—C

(Answer *one* full question from each unit. Each question carries 15 marks.)

UNIT – I

III Explain the different factors that affect the performance of a computer system.

15

OR

IV Write short notes on :

- (a) Assembly process.
- (b) Straight line sequencing
- (c) Condition code flags.

(3x5=15)

UNIT – II

V (a) Describe the working of interrupt driven I/O.

5

(b) Write notes on : (a) Synchronous bus (b) Asynchronous bus.

(2x5=10)

OR

VI (a) Explain the method of recognizing and handling multiple interrupt requests.

10

(b) Explain the working of Direct Memory Access.

5

UNIT – III

VII With a neat diagram, explain the organisation of a bit cell in a memory.

15

OR

VIII (a) Explain the organisation of virtual memory with a neat sketch.

8

(b) Explain the working of optical disks.

7

UNIT – IV

IX (a) With neat diagram, explain the organisation of micro programmed control unit.

10

(b) Explain the role of cache in pipelining.

5

OR

X (a) Describe the basic concepts of pipelining.

10

(b) Explain the process of fetching a word from memory.

5

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