

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY — MARCH, 2015

COMPUTER ARCHITECTURE

(Common for CM, CT and IF)

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Define digital computer.
2. Define compiler.
3. Define memory mapped I/O.
4. List two read only memories.
5. Define ISP.

(5×2=10)

PART—B

(Maximum marks : 30)

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

1. Explain the functional units of a computer.
2. Explain pipelining and superscalar operation.
3. Explain about serial port and parallel port.
4. Explain the internal organization of memory chips.
5. Explain about virtual memory.
6. Explain the execution of a complete instruction.
7. Explain the role of cache memory.

(5×6=30)

PART—C

(Maximum marks : 60)

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

UNIT—I

- III (a) Explain instruction execution and straight line sequencing. 8
 (b) Explain about condition code flags. 7

OR

- IV (a) Explain about assembler, loader and debugger. 6
 (b) Explain the different types of computers. 9

UNIT—II

- V (a) Explain the working of interrupts with the help of an example. 8
 (b) Explain about DMA. 7

OR

- VI Explain about asynchronous buses and synchronous buses. 15

UNIT—III

- VII Explain about ROM, PROM, EPROM and flash memory. 15

OR

- VIII Explain about static memory, asynchronous DRAMs and synchronous DRAMs. 15

UNIT—IV

- IX Explain about the method to fetch a word from memory with the help of a diagram. 15

OR

- X (a) Explain about micro instructions. 8
 (b) Explain about pipelining. 7
