

TED (15) – 3131

Reg. No. ....

(REVISION — 2015)

Signature .....

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY — APRIL, 2017

COMPUTER ARCHITECTURE

(Common for CT and CM)

[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 interrupt.
2. List any two functions of I/O module.
3. Write the name of the registers that are essential for instruction execution.
4. List the contents of Program Status Word.
5. List Flynn's classification of computer systems.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

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

1. Different methods of accessing units of data.
2. Compare DRAM and SRAM.
3. Write short note on High - Definition optical disk.
4. Explain features of DMA.
5. Describe the operations that must be performed by the processor.
6. Explain condition codes.
7. Explain functional requirements for the control unit.

(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 bus interconnection scheme with a diagram. 8  
 (b) Describe the elements in cache design. 7

OR

- IV (a) Explain associative mapping with the help of an example. 8  
 (b) Compare the Instruction fetch and execute function of computer. 7

## UNIT — II

- V (a) Explain Magnetic disk data organization and formatting. 8  
 (b) Describe the I/O module function. 7

OR

- VI (a) Explain physical characteristics of a magnetic disk system. 8  
 (b) Explain programmed driven I/O. 7

## UNIT — III

- VII (a) Explain data flow in an instruction cycle. 8  
 (b) List and explain user-visible registers. 7

OR

- VIII (a) Explain control and status registers. 8  
 (b) Explain instruction cycle. 7

## UNIT — IV

- IX (a) Explain hardwired implementation of the control unit. 8  
 (b) Explain types parallel processing systems. 7

OR

- X (a) Explain the functioning of the micro programmed control unit with diagram. 8  
 (b) Explain the micro operations involved in a fetch cycle. 7