



TED (15) -- 3131

Reg. No.....

(REVISION -- 2015)

Signature

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY — OCTOBER, 2016



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 bus.
2. Define RAID.
3. List any two control registers.
4. Define MMIO.
5. Define fetch overlap.

(5×2=10)

PART — B

(Maximum marks : 30)

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

1. Illustrate the interaction between the top level computer components with the help of a neat sketch.
2. List and explain I/O module functions.
3. Explain instruction cycle micro-operations.
4. Write short note on parallel processing.
5. List and explain different types of ROM.
6. Explain physical characteristics of a magnetic disk system.
7. Describe micro-operations.

(5×6=30)

[P.T.O.]



PART — C

(Maximum marks : 60)

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

UNIT — I

- III (a) Explain multiple bus hierarchy with diagram. 8
(b) Describe memory hierarchy with the help of a neat sketch. 7

OR

- IV (a) Explain Elements of bus design. 8
(b) Describe advanced DRAM types. 7

UNIT — II

- V (a) Explain I/O module structure with neat structure. 8
(b) Explain magnetic disk read and write mechanism. 7

OR

- VI (a) Compare RAID levels. 8
(b) Explain DMA function. 7

UNIT — III

- VII (a) Describe processor organization with the help of internal structure diagram. 7
(b) Explain data flow in instruction cycle. 8

OR

- VIII (a) Explain control and status register. 8
(b) Explain instruction pipelining. 7

UNIT — IV

- IX (a) Explain interrupt cycle micro-operations. 7
(b) List and explain Flynn's classification of parallel processing systems. 8

OR

- X (a) Describe microprogrammed control unit. 7
(b) Draw the general parallel processor organizations and explain. 8