TED (15) – 3131

(REVISION — 2015)

Reg. No...

Signature ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2019

COMPUTER ARCHITECTURE

[*Time* : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Define IR and MAR.

2. List any two advanced DRAM.

3. Define tracks and sectors.

4. Write any two registers essential for execution of an instruction.

5. List any two types of control unit.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain the memory hierarchy.

2. Write short notes on interrupts.

3. Explain the working principle of optical disk.

4. Explain I/O module functions.

5. Write short notes on user visible registers.

6. Explain fetch cycle and interrupt cycle.

7. Explain micro instruction and its types.

(5×6 = 30)

[64]

Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

III   (a)   Explain the Elements of Bus design.   8

     (b)   Explain Multiple Bus Hierarchy with diagram.   7

OR

IV   (a)   Explain advanced DRAM types.   8

     (b)   Briefly explain the Principles of Cache Memory.   7

UNIT — II

V   (a)   Explain the working of Magnetic Disk with neat diagram.   10

    (b)   Briefly explain different versions of Compact Disk.   5

OR

VI   (a)   Explain different RAID levels with neat diagram.   12

     (b)   Write short notes on high definition disks.   3

UNIT — III

VII   (a)   Explain register organization.   8

      (b)   Write short notes on instruction pipelining.   7

OR

VIII   (a)   Explain Flag registers.   8

      (b)   Explain the instruction cycle state diagram.   7

UNIT — IV

IX   (a)   Explain the Micro programmed control unit.   9

     (b)   Write notes on Micro operations.   6

OR

X   (a)   Draw and explain different types of multiple processor organization.   10

    (b)   Write short notes on Hardwired Control Unit.   5