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 MIMD.
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)

Marks

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

———————