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)

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[P.T.O.

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

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