TED (15) – 3131

(REVISION — 2015)

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 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. List the components of a computer.

2. Define rotation delay.

3. Write the need of User-visible register.

4. List the two basic tasks performed by micro programmed control unit.

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. Describe the memory hierarchy with a diagram.

2. Explain the Von-Neumann machine.

3. Describe magnetic disk read and write mechanism.

4. Explain programmed driven I/O.

5. Write short note on control and status registers.

6. Explain indirect cycle.

7. Explain advantages and disadvantages of microprogramming.   (5×6 = 30)

[47]   [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 the elements of bus design.   8

     (b)   Describe the characteristics of memory system.   7

Or

IV   (a)   Explain interrupt and instruction cycle with diagram.   8

     (b)   Explain types of ROM.   7

Unit — II

V   (a)   Explain disk performance parameters.   8

     (b)   Describe the Direct Memory Access (DMA).   7

Or

VI   (a)   List and compare different RAID levels.   8

     (b)   Explain interrupt driven I/O.   7

Unit — III

VII   (a)   Describe the operations that must be performed by the processor.   8

     (b)   Explain instruction pipelining.   7

Or

VIII   (a)   Explain internal structure of the CPU with diagram.   8

     (b)   Explain advantages and disadvantages of condition codes.   7

Unit — IV

IX   (a)   Explain the functioning of the micro programmed control unit with diagram.   8

     (b)   Explain micro operations involved in a fetch cycle.   7

Or

X   Draw and explain different types of parallel organization.   15

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