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A21-08254

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL-2021

COMPUTER ARCHITECTURE

[Maximum marks: 75]

(Time: 2.15 Hours)

PART – A

I (Answer any *three* questions in one or two sentences. Each question carries 2 marks)

- 1. Mention the purpose of bus.
- 2. Define seek time.
- 3. List the stages of an Instruction Cycle.
- 4. State micro program.
- 5. Define Parallel processing

PART – B

II (Answer any *four* of the following questions. Each question carries 6 marks)

- 1. Describe the Von-Neumann machine with neat diagram.
- 2. Compare static RAM and dynamic RAM.
- 3. Write the physical characteristics of Disk systems.
- 4. Write short note on DMA.
- 5. Explain instruction pipelining.
- 6. Explain Control and status registers.
- 7. Draw the block diagram of control unit and write the major tasks. $(4 \times 6 = 24)$

PART – C

(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT –I

III. (a) Explain typical memory hierarchy with neat diagram	(8)
(b) Describe advanced DRAM types.	(7)

 $(3 \times 2 = 6)$

(8)

(7)

(8)

(7)

(15)



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/	OR	
IV	(a) Briefly describe the elements of bus design.	
	(b) Discuss characteristics of computer memory system.	
	UNIT-II	
V.	(a) Draw I/O module structure and mention the major functions	
	(b) Discuss interrupt driven I/O	

OR

VI. Discuss the different RAID Levels.

UNIT-III

VII.(a) Explain pipeline hazards.	(8)			
(b) Draw and explain the instruction cycle state diagram	(7)			
OR				
VIII.(a) Describe user visible registers.	(8)			
(b) Discuss internal structure of CPU with a neat diagram	(7)			
UNIT-IV				
IX. (a) Draw and explain micro programmed control unit.	(8)			
(b) Describe the micro operations involved in fetch cycle	(7)			
OR				
X. Discuss Flynn's classification of parallel processing systems.	(15)			
