

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER-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. What is program counter?
2. What is seek time?
3. Name two read mechanism in magnetic disk.
4. What is PSW?
5. What is SISD?

(3 x 2 = 6)

PART – B

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

1. Explain inter connection structure.
2. Explain mapping function.
3. Write physical characteristics of magnetic disk.
4. Write the different I/O module functions.
5. Write about resource hazard and control hazard.
6. Explain fetch cycle.
7. What are the advantages and disadvantages of microprogramming.

(4 x 6= 24)

PART – C

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

UNIT –I

- III. (a) Explain Von Neumann architecture with diagram. (10)
(b) Explain different memory access method. (5)

OR

- IV(a) Explain the characteristics of Memory system. (8)
(b) What are the elements of cache design? (7)

UNIT-II

- V (a) Explain RAID. (9)
(b) Write about programmed I/O. (6)

OR

- VI. (a) Explain about interrupt driven I/O. (8)
(b) Explain DMA. (7)

UNIT-III

- VII.(a) Explain register organization. (8)
(b) Explain instruction Pipelining. (7)

OR

- VIII.(a) Explain internal structure of CPU with diagram. (8)
(b) Explain timing diagram for instruction pipeline operation. (7)

UNIT-IV

- IX. (a) Explain the functioning of microprogrammed control unit with diagram. (9)
(b) Explain micro operations involved in fetch cycle. (6)

OR

- X. (a) Explain Flynn's classification of parallel processing system. (10)
(b) Explain data hazard. (5)
