U.G. 3rd Semester Examination 2021

Computer Application (B.C.A)

(Honours)

Paper Code : DC-5

Computer Organization & Architecture

[CBCS]

Full Marks: 32   **Time: 2 hours**

The figures in the margin indicate full marks.

Group -A   (2 × 6 = 12)

Answer any six questions.

1. (a) What is locality of Reference?

   (b) What is CAM?

   (c) What is the function of IO/$\overline{M}$ pin?

   (d) Find out the execution time for the following code. (Assuming CPU frequency 2 MHz)

   LXI H, 2030H

   MOV A, M

   ADI 0AH

   INX H

   MOV M, A

   HLT

   (e) What is T-state?

   (f) Write the addressing modes for the following instructions.

   i) ADI data, ii) CMA

   (g) Differentiate between seek time and latency time.

   (h) Explain the role of program counter.

Group -B   (10 × 2 = 20)

Answer any two questions.

2. a. Briefly explain the working principle of a Magnetic Disk. In this context, explain the average access time.

   b. Draw the Timing Diagram for MOV M, A.   (4+2)+4=10

3. a. Briefly explain the working principle of 2D RAM.

   b. Design a 512 x 8 RAM using 128 x 4 RAM chips.   5 + 5 =10

4. a. Differentiate between Hardwired Control Unit and Micro-programmed Control Unit.

   b. Explain the advantages and disadvantages of Daisy Chaining method.   5+5=10