

BCA(H) Semester - III Examination 2021

Subject: Computer Application

Paper: BCA-302

Time: Three Hours

Full Marks: 80

The figures in the right margin indicate full marks

1. Answer any five questions.

10 × 5 = 50

- a) What do you mean by addressing mode? Describe different types of addressing modes. Differentiate between Indirect Addressing Mode and Register Indirect Addressing Mode.

2 + 5 + 3

- b) Briefly explain different Bus Organizations with proper diagrams.

Consider a memory capacity of 4096×16 . What will be the sizes of Data Bus and Address Bus for that organization?

6 + 4

- c) Explain different DMA operations in association with CPU with proper diagram.

- d) What do you mean by Strobe Based Mechanism? How Handshake Based Communication is beneficial over Strobe Based Communication?

4 + 6

- e) What is Machine Cycle? Briefly explain the Fetch and Execution cycles of the Machine Cycle with proper diagrams.

2 + 8

- f) Define Subroutines . Discuss different types of Register transfer operations .

2 + 8

- g) Write short notes on Micro programmed Control Unit and Hardwired Control Unit.

5 + 5

2. Answer any six questions.

5 × 6 = 30

- a) What is the significance of using Cache Memory? What do you mean by 'Locality of Reference'?

3 + 2

- b)** Explain the difference between Instruction Pipeline Processing and Arithmetic Pipeline Processing.
- c)** Why Interrupt is needed in Input-Output organization?
- d)** Describe pipeline hazards.
- e)** Distinguish between vector interrupt and non-vector interrupt.
- f)** Briefly explain structured hazards.
- g)** Explain different methods to remove hazards.
- h)** Discuss advantages and disadvantages of horizontal and vertical micro instructions.