

Roll No :

Total No. of Questions : 10]

[Total No. of Printed Pages : 2

BC-183

B.C.A. (Part-III) DUE Ist Year Examination, 2021

COMPUTER ARCHITECTURE

Paper - BCA-106

Time : 1½ Hours]

[Maximum Marks : 50

Note :- Attempt any *five* questions in all, selecting *one* question from each Unit. All questions carry equal marks.

Unit-I

1. Conversion of the following number system :

(i) $(1001.101)_2 = (?)_{10}$

(ii) $(74.635)_{10} = (?)_2$

(iii) $(642)_8 = (?)_{10}$

(iv) $(5A3)_{16} = (?)_{10}$

(v) $(201)_{10} = (?)_8$

2×5=10

2. (a) Explain the working of various logic gates ? Prove that NAND Gate is Universal Gate.

(b) Write a short note on Fixed-Point Representation.

5,5

Unit-II

3. (a) What do you mean by Multiplexers ? Explain the different types of multiplexers.

(b) What are Flip-Flops ? Explain different types of Flip-Flops.

5,5

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4. (a) Explain the concept of Encodes in detail.
(b) Explain the working of J-K Flip-Flop. 5,5

Unit-III

5. (a) Explain the various Addressing Modes in detail with example.
(b) Explain RISC and CISC characteristics of CPU. 5,5
6. (a) Write a short note on instruction cycle.
(b) Write a short note on Timing and Control. 5,5

Unit-IV

7. (a) What are Interrupts ? Explain priority interrupt with example.
(b) Explain the input-output processor. How does input-output processor communicate with CPU ? Explain. 5,5
8. (a) Why Input-Output Interface is required ? Explain.
(b) Write a short note on Asynchronous. 5,5

Unit-V

9. (a) Explain the concept of Associative Memory in detail.
(b) Write a short note on Buffer Memory. 5,5
10. Explain the following :
(a) Assembles
(b) Auxiliary Memory 5,5