

BANKURA UNIVERSITY
B.Sc(Programme) 4th semester examination 2021

Subject: Computer Science

Course ID: 41518

Course Title: Computer System Architecture

Full Marks: 25

Time: 1 hr 15 mins

The figures in the margin indicate full marks

Answer all the questions.

UNIT-I

1. Answer any five of the following questions: (5x1) =5

- a) State de Morgan's law.
- b) What is multiplexer?
- c) Find 2's complement of 0011001.
- d) Convert $(89)_{10}$ to Binary number.
- e) What is register?
- f) What is floating point representation?
- g) Write down the difference between combinational circuit and sequential circuit.
- h) What is EPROM?

UNIT-II

2. Answer any two of the following questions: 2x5=10

- a) What is cache memory? Why we need a cache memory? 2+3=5
- b) Write down the truth table Ex-NOR gate. Design it using basic gates. 2+3=5
- c) Write differences between primary memory and secondary memory.
- d) Design a combinational circuit for following expression
 $ABC+A'BC+AB'C+ABC'$

UNIT-III

3. Answer any one of the following question: 10x1=10

- a) What is half adder circuit and explain with circuit diagram.
- b) Write down the truth table and logic circuit of 4:1 multiplexer.