BANKURA UNIVERSITY

BSC (PROGRAMME) 4TH SEMESTER EXAMINATION-2022

Subject: Computer Science

Course ID: 41518 **Course Code: SP/CSC/401/C-1D**

Course Title: Computer System Architecture

Full Marks: 25 Time-1Hr 15 min

The figures in the margin indicate full marks

UNIT-I

1. Answer any five question from the following: 1x5=5

a) Convert $(673)_8$ to hexadecimal.
b) What is meant by duality in Boolean algebra?
c) Which gate is called as inverter and why?
d) What is meant by combinational circuit?
e) What is canonical form?
f) Why do we use cache memory?
g) What is counter?
h) Convert $[10110]_2$ to Gray Code?

UNIT –II

2. **Answer any two questions from the following: 5x2=10**

a) Distinguish between half adder and full adder circuit? Write the truth table of half adder. 2.5x2
b) Subtract $(1111)_2$ from $(1100)_2$ using the 2's complement method. Also Complement the expression (A'B+C'D) 2.5x2
c) Compare between associative and direct mapping? Write the use of register? 3+2
d) Writer short notes on RAM and ROM. 2.5x2

UNIT-III

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

a) State De-Morgan's law. Minimize the following four variable logic function using K-map

$F(A, B, C, D) = \Sigma_m(0, 1, 2, 5, 7, 8, 9, 10, 13, 15)$

b) Write short notes on different types of System Bus?