PRESIDENCY COLLEGE
(AUTONOMOUS)

AFFILIATED TO BENGALURU CITY UNIVERSITY, APPROVED BY AICTE, DELHI & RECOGNISED BY THE GOVT. OF KARNATAKA
RE-ACCREDITED BY NAAC WITH 'A+' GRADE

II Semester BCA Mid Term Re Examination May 2022
GC206.2C: COMPUTER ARCHITECTURE

Date: 30.06.2022

Duration: 1 ½ Hours   Max Marks: 40

Instruction: Answers should be written in English only.

PART- A

Answer **any SIX** questions. **Each** question carries **TWO** marks.   (6 X 2=12)

1. Convert $(13)_{10}$ to $(?)_2$
2. Draw the logic diagram and truth table of OR gate
3. What is toggling and race condition?
4. What is combinational circuit? Give examples
5. Find 1's complement and 2's complement of 10001
6. Write any two differences between encoder and decoder.
7. How IC'S are classified?
8. Write the basic instruction format.

PART-B

Answer **any THREE** questions. **Each** question carries **SIX** marks.   (3 X 6=18)

1. Simplify using K-Map F (A, B, C, D) = Σ m (0, 1, 2, 5, 7, 8, 9, 10, 13, 15)
2. What is full adder? Explain with circuit diagram and truth table.
3. What is encoder? Explain encoder with truth table and diagram.
4. Draw the flowchart of instruction cycle.
5. Explain the various instruction formats.

PART-C

Answer **any ONE** question. **Each** question carries **TEN** marks.   (1 X 10=10)

1. What is flip flop? Explain SR Flip flop with diagram and state table.

2. What are sequential circuits? Construct sequential circuit for:

Input Equation:

$D_A = Ax + Bx$

$D_B = A'x$

Output Equation:

$Y = Ax' + Bx'$

Write the state table and state diagram for the same

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