COEP Technological University

(COEP Tech)
A Unitary Public University of Government of Maharashtra
w.e.f 21st June 2022
(Formerly College of Engineering Pune)

COEP Tech

Test 2 Examination

Programme: B.Tech FY   **Semester:** II

Course Code: CT 23006   **Course Name:** Digital Logic Design

Branch: Computer Engineering & IT   **Academic Year:** 2023-2024

Duration: 1 Hr   **Max Marks:** 20

Student PRN No;

Instructions :

1. Figures to the right indicate the full marks.

2. Mobile phones and programmable calculators are strictly prohibited.

3. Writing anything on question paper is not allowed.

4. Exchange/Sharing of stationery, calculator etc. not allowed.

5. Write your PRN Number on Question Paper.

Marks

Q.1 Convert the following: [6]

1. $(765.245)_{10}$ into hexadecimal number system.
2. $(5062.12)_{10}$ into Binary number system.
3. $(ABF9)$ into Octal number system.

Q.2 Which of the following is correct: (write the correct one).   [01]

1. Taking OR of Min-terms canonical SOP form of Boolean equation can be obtained.
2. Taking AND of Max-terms canonical POS form can be obtained.
3. 2 level SOP realization considers AND-OR or NAND-NAND while 2 level POS realization considers OR-AND or NOR-NOR realization.
4. 2 level SOP realization considers OR-AND or NOR-NOR while 2 level POS form considers AND-OR or NAND-NAND.
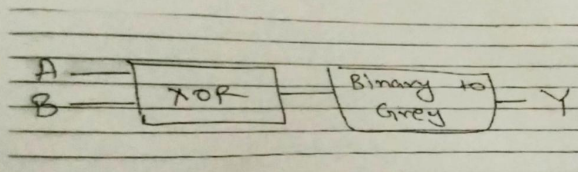
Q.3 F(A,B,C) = (AB'C' + A'BC'+ABC+A'B'C) XOR A can be written as –   [03]

1. B' XOR C

2. B XOR C

3. B' XOR C'

4. (B XNOR C)'

Write down the correct options.

Q.4 Considers the input A = 10101101 , B = 01101100, feeded as inputs as shown below: [02]

VALUE OF Y in decimal and 2s complement will be ?

Q.5 F (W x Y Z) = Σ(0,2,4,5,6,7,8,10,13,15) , answer the following :   [06]

1. All prime implicants

2. All EPI

3 All RPI

4 All SPI

5 Simplified Equation

6 Implement it using min no of NOR gates (multi -Input(original) gates are available).

Q.6 Draw the Truth table of BCD TO Excess 3 code conversion.   [02]