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SRINIX COLLEGE OF ENGINEERING

3rd INTERNAL EXAMINATION-2021-22

Subject-**DLD** Semester-**3rd** Branch-**CSE**

Full Mark-**100** Time-**3.00Hrs**

ANSWER ALL THE QUESTIONS(PART-A) **[2X10=20]**

1. Convert$(45.82)_{10} = (?)_2$.
2. Find 1's compliment of$(00101101)_2$ $and (32)_{10}$
3. Write about OR and AND gate.
4. What are universal gates and why they are called so?
5. Given $Y = AB\bar{C} + ABC + \bar{A}BC + \bar{A}\bar{B}\bar{C}$. Find the min-terms of the expression.
6. Explain about the half subtractor.
7. What do you mean by a MUX, write with example.
8. Write down the characteristics table of SR and JK flip-flop.
9. Differentiate between Latch and Flip-flop.
10. Define counter and write its application.

ANSWER ALL THE QUESTIONS (PART-B) **[6X8=48]**

1. By using the 2's compliment addition method perform the addition of$-(32)_{10}$) and $-(15)_{10}$
2. A 7 bit Hamming code is obtained as $(1101011)_2$.Find the error bit and writes the correct code.
3. $Y = \bar{A}B + C(A \oplus B)$. Draw this expression by using basic gates.
4. Given $Y = (A + \bar{B})(A + C)$.Find the standard POS form and write its max-terms.
5. Write a note on 4x1 MUX.
6. Explain JK flip-flop with diagram.
7. Convert SR flip-flop to D flip-flop with diagram.
8. Explain SISO shift register.

ANSWER ALL THE QUESTIONS (PART-C) **[16X2=32]**

1. Define a logic gate. Explain about the logic gates with their relevant information.
2. Given $Y = \sum M(0,1,3,4,6,9,11,12,15)$ implement this expression using

(i) 4x1 MUX

(ii) 2x1 MUX