ECE131

1. Given two numbers X=1010100 and Y=1000011 ,perform subtraction X-Y by using 2's compliment.
2. Do the BCD addition (248)10 +(876)10
   0001 0001 0010 0100
   0001 0001 0110 0100
   0001 0001 0010 0111
   0001 0001 0010 1011
3. Do hexadecimal addition (F57A)16 +(C85E)16
   (1BDD8)16
   (1BDD)16
   (1BDE8)16
   (BDD8)16
4. Find the duals of the function F=AB+(AC)'+AB'C
   (A+B)(A'C)(A+B'+C)
   (A+B)(A+C)(A+B'+C)
   (A+B)(A+C)'(A+B'+C)
   (A+B)(A+C)(A+B'+C)
5. Simplify the Boolean Expression F=(X+Y)(X+Y')
   Y'
   X
   X'
   X+Y
6. Minimize the following Boolean function- F(A, B, C, D) = Σm(3, 5, 7, 11, 13, 15)
   F(A, B, C, D) = B'C' + D
   F(A, B, C, D) = D
   F(A, B, C, D) = D'
   F(A, B, C, D) = AC' + D
7. The binary numbers A = 1101 and B = 1011 are applied to the inputs of a comparator. What are the output levels?
   A > B = 1, A < B = 0, A < B = 1
   A > B = 0, A < B = 1, A = B = 1
   A > B = 1, A < B = 0, A < B = 1
   A > B = 1, A < B = 0, A = B = 0
8. Write the expression for the minterms F(ABC) =m(1,2,4,7)
   A or B
   A and B
   A xor B xor C
   A bar only
9. What are the input of 4:1 MUX for implementing the F(A,B,C) =m(1,5,6,7) Where A,B are select lines
   C,C,C,1

C,0,C,1

C,C,0,1

0,C,C,1

10. what would be the data stored in the register after the 4th clock pulse, if the group of bits 11011 is serially shifted (right-most bit first) into a 6-bit parallel output shift register with an initial state 101110.

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1  101110
2
3  101111
4
5  111110
6
7  101010
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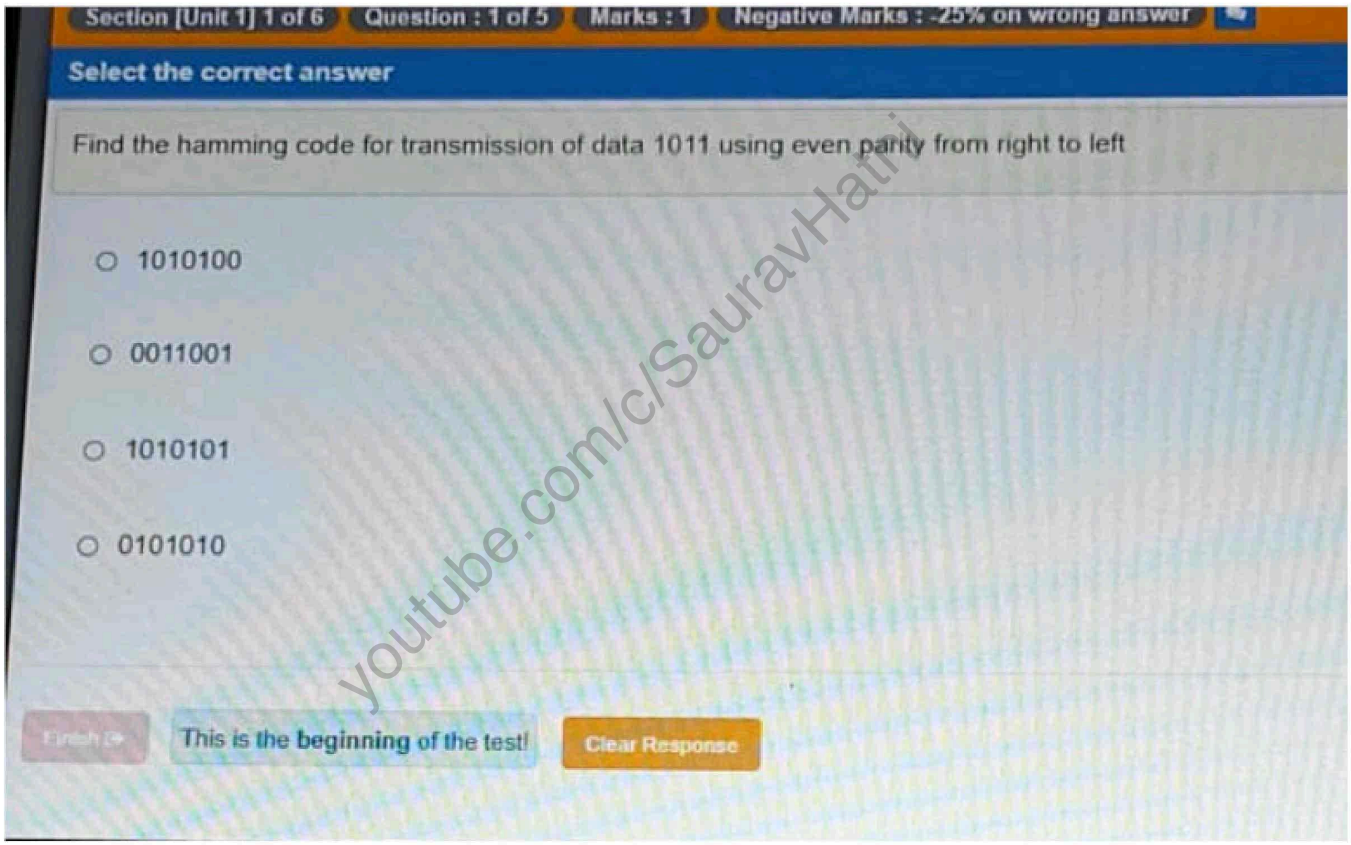
11. 

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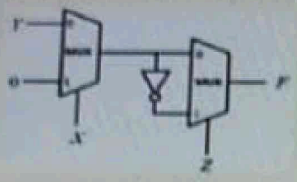
12.

Section [Unit 3] 3 of 6 | Question : 2 of 5 | Marks : 1 | Negative Marks : -25% on wrong answer

Select the correct answer

Consider the circuit shown in the figure. The Boolean expression *F* implemented by the circuit is if X=0,Y=0,Z=1.



- XYZ+XY+XZ
- X'YZ'+XZ+Y'Z or 1
- XYZ+XY+X
- Z+XY+XZ