Tutorial_2_ECN-104

Question 1: Perform each of the addition operations indicated below.

a) $(1001011)_2 + (11101)_2$
b) $(4556)_8 + (1245)_8$
c) $(BCD)_{16} + (A34)_{16}$

Question 2: Reduce A'B'C' + A'BC' + A'BC

Question 3: Reduce AB + (AC)' + AB'C (AB + C)

Question 4: Y = (A + B) (A + C') (B' + C')

Question 5: Show that (X + Y' + XY) (X + Y') (X'Y) = 0

Question 6: Prove that ABC + ABC' + AB'C + A'BC = AB + AC + BC

Question 7: Convert the given expression in canonical SOP form

Y = AC + AB + BC

Question 8: Find the min term expression of the $f(P,Q,R) = PQ+Q\overline{R}+P\overline{R}$?

Question 9: Identify the number of prime implicates and essential prime implicates for the function

$$F (A, B, C, D) = \sum m (0, 1, 4, 6, 7, 8, 10, 14, 15)$$

Question 10: Find the expression for the Boolean function

$$F (A, B, C, D) = \sum m(2, 3, 4, 5, 10, 11, 12, 13)$$