**Chapter-5 (Practice Questions Lecture-18 )**

1. Implement the following Boolean function F, using the two-level forms:
2. AND-OR-Inverter, (b) OR-AND-Inverter logic diagrams

***F* ( *A*, *B*, *C*, *D*) = (0,1,2,3,4,8,9,12)**

1. Implement the following Boolean function F, using the two-level forms (a)AND-NOR, (b) OR-NAND

***F* ( *A*, *B*, *C*, *D*) = ∑(0,1,2,3,4,8,9,12)**

1. Simplify and then implement the following Boolean function F using two-level forms of logic by using: (a) OR-NAND (b) AND-NOR

***F* ( *A*, *B*,*C*,*D)=* Π( 1,3,6,9,11,12,14)= ∑(0, 2,4,5,7,8,10,13,15)**

1. Implement the following Boolean expression with exclusive-OR and AND gates:

**F=AB’CD’+A’BCD’+AB’C’D+A’BC’D**

1. Implement the following Boolean function F, using the two-level forms

(a) NOR-OR, (b) NAND-AND logic diagrams:

**F(A, B, C, D) = Σ (0, 1, 2, 3, 5, 8, 9, 13)**

1. Implement the following Boolean function F, together with the don’t care condition d. Use minimum number of gates in your implementations. Generate two implementations one of which is using (a) two level NAND gates (b) two level NOR gates.



1. Give the truth table which converts BCD numbers into Gray code. Implement the logic circuit which perform the given operation. (Hint: use K-Maps and consider don’t care conditions)