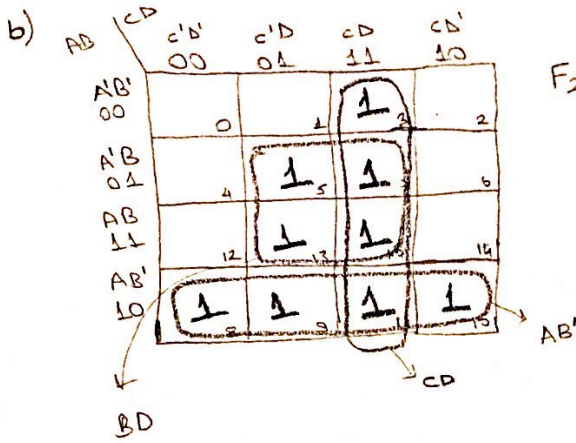


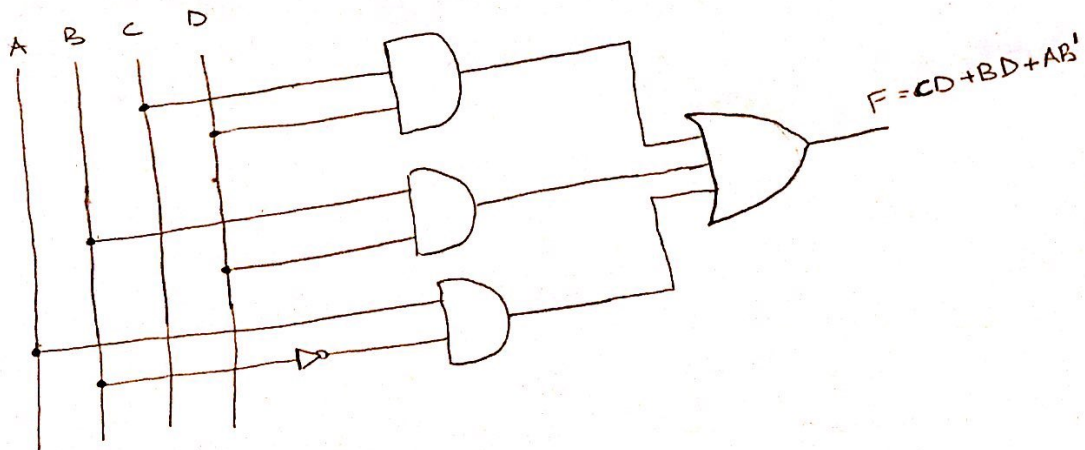
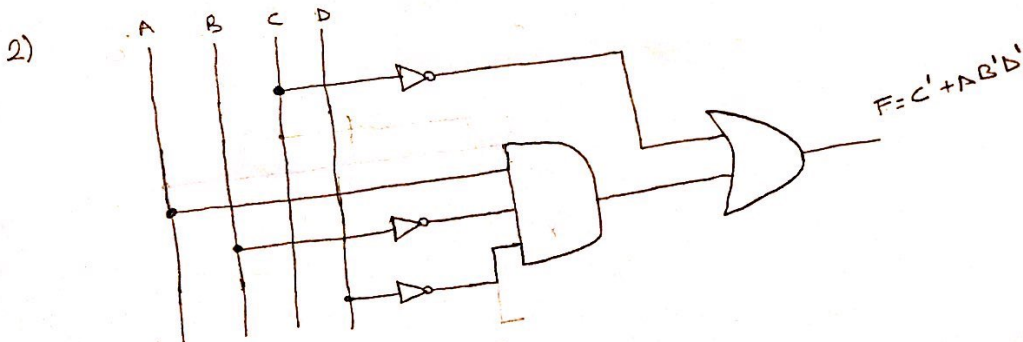
a) $F_1(A,B,C,D) = \sum m(0,1,4,5,8,9,10,11,12)$

$F_1(A,B,C,D) = C' + AB'D'$

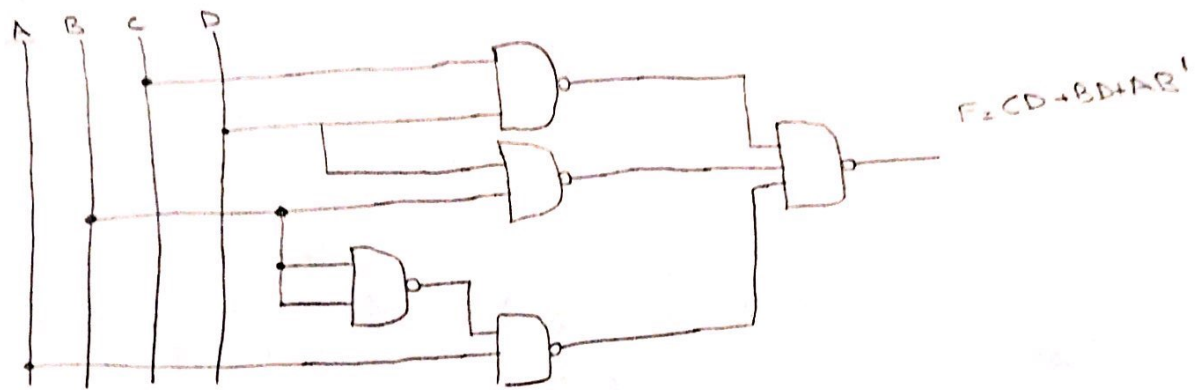
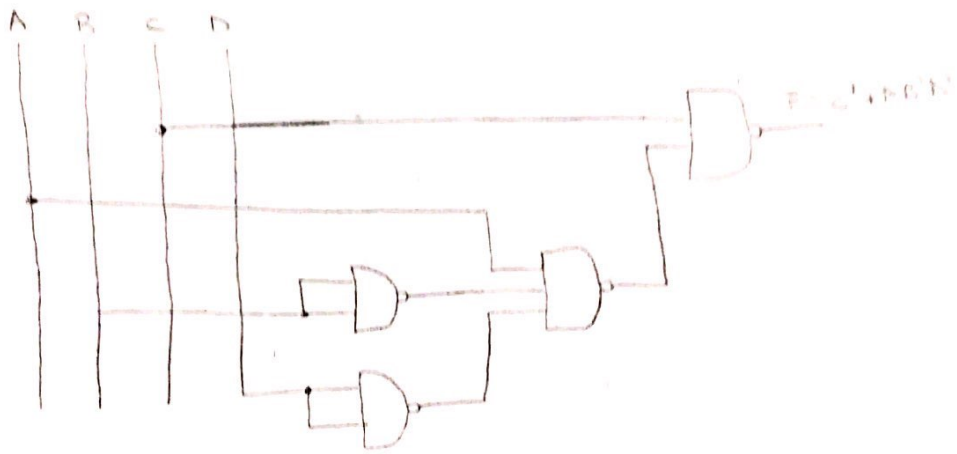


$F_2(A,B,C,D) = \sum m(3,5,7,8,9,10,11,13,15)$

$F_2(A,B,C,D) = CD + BD + AB'$



3)



Q2

1) $F = AB' + AD + BC + CD' + A'B'C'D$

A	B	C	D	AB'	AD	BC	CD'	A'B'C'D	F
0	0	0	0	0	0	0	0	1	1
0	0	0	1	0	0	0	1	0	1
0	0	1	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0
0	1	0	1	0	0	1	1	0	1
0	1	1	0	0	0	1	0	0	1
0	1	1	1	0	0	0	0	0	1
1	0	0	0	1	0	0	0	0	1
1	0	0	1	1	1	0	1	0	1
1	0	1	0	1	0	0	0	0	1
1	0	1	1	1	1	0	0	0	0
1	1	0	0	0	1	0	0	0	1
1	1	0	1	0	1	1	1	0	1
1	1	1	0	0	0	1	0	0	1
1	1	1	1	0	1	1	0	0	1

$a'b'cd$ m0
 $a'b'cd'$ m1
 $a'b'cd'$ m2
 $a'b'cd'$ m3
 $a'b'cd'$ m4
 $a'b'cd'$ m5
 $a'b'cd'$ m6
 $a'b'cd'$ m7
 $a'b'cd'$ m8
 $a'b'cd'$ m9
 $a'b'cd'$ m10
 $a'b'cd'$ m11
 $a'b'cd'$ m12
 $abcd'$ m13
 $abcd'$ m14
 $abcd$ m15

$F(A,B,C,D) = \sum m(0, 2, 6, 7, 8, 9, 10, 11, 13, 14, 15)$

AB \ CD	00	01	11	10
00	1	0	0	1
01	0	0	1	1
11	0	1	1	1
10	1	1	1	1

AD (points to column 01)
 B'D' (points to column 11)

$F(a,b,c,d) = B'D' + BC + AD$

AB \ CD	00	01	11	10
00	1	0	0	1
01	0	0	1	1
11	0	1	1	1
10	1	1	1	1

$(a+b+d')(a+b'+c)(b'+c+d)$

