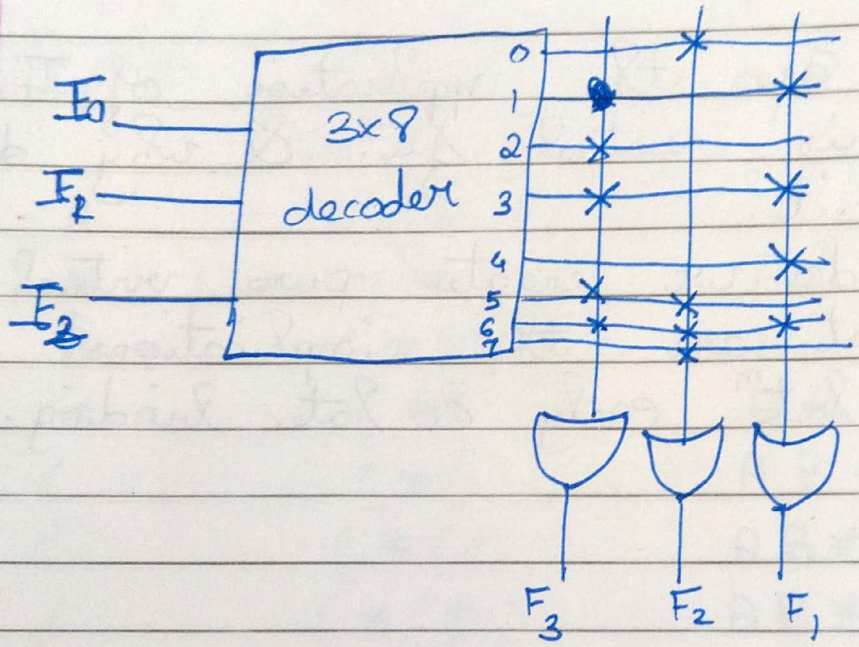
chp-2

DLD

Q28. $F_1(A,B,C) = \Sigma(1,3,4,6)$

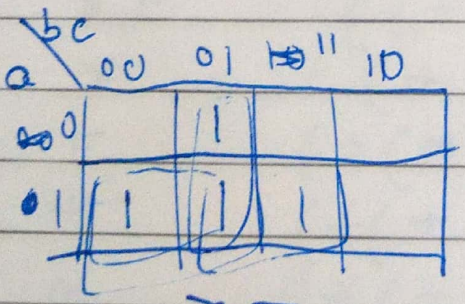
$F_2(A,B,C) = \Sigma(0,5,6,7)$

$F_3(A,B,C) = \Sigma(2,3,5,6)$

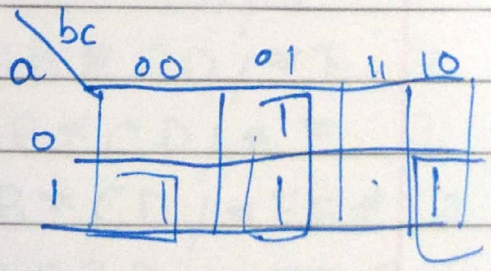


Q33. $F_1(a,b,c) = \Sigma(1,4,5,7)$

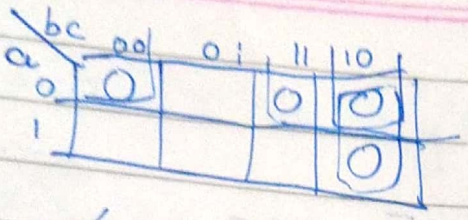
$F_2(a,b,c) = \Sigma(1,4,5,6)$



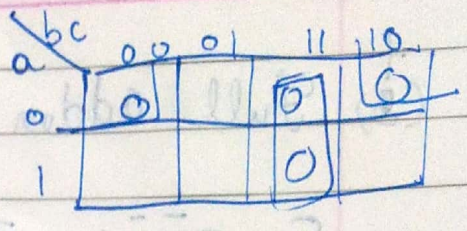
$F_1 = \bar{a}bc + a\bar{b} + ac$



$F_2 = \bar{b}c + a\bar{c}$



$F_1' = \bar{a}b + b\bar{c} + \bar{a}\bar{c}$



$F_2' = bc + \bar{a}\bar{c}$

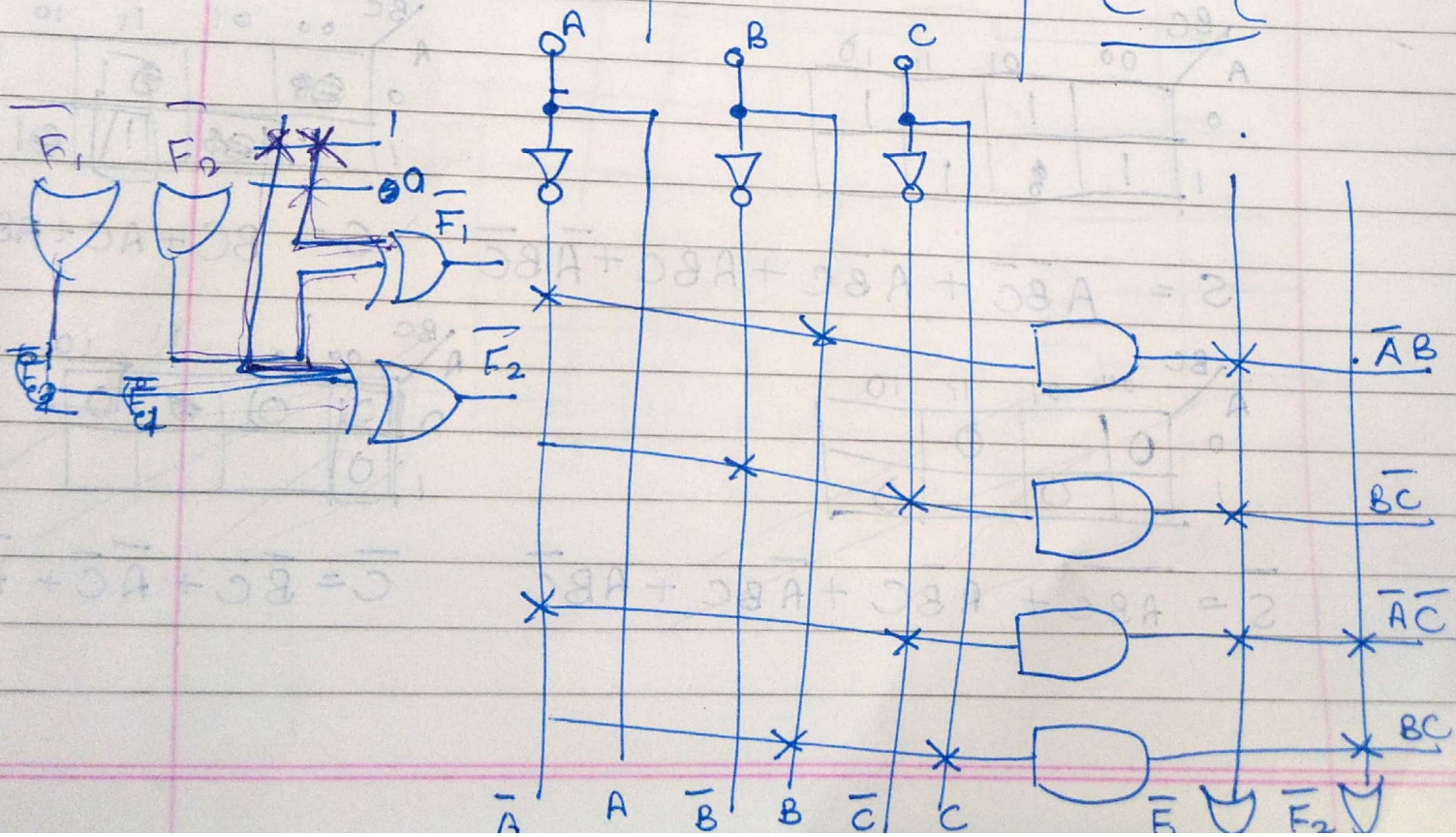
$F_1F_2 = 4$

$F_1\bar{F}_2 = 5$

$\bar{F}_1F_2 = 5$

$\bar{F}_1\bar{F}_2 = 4$

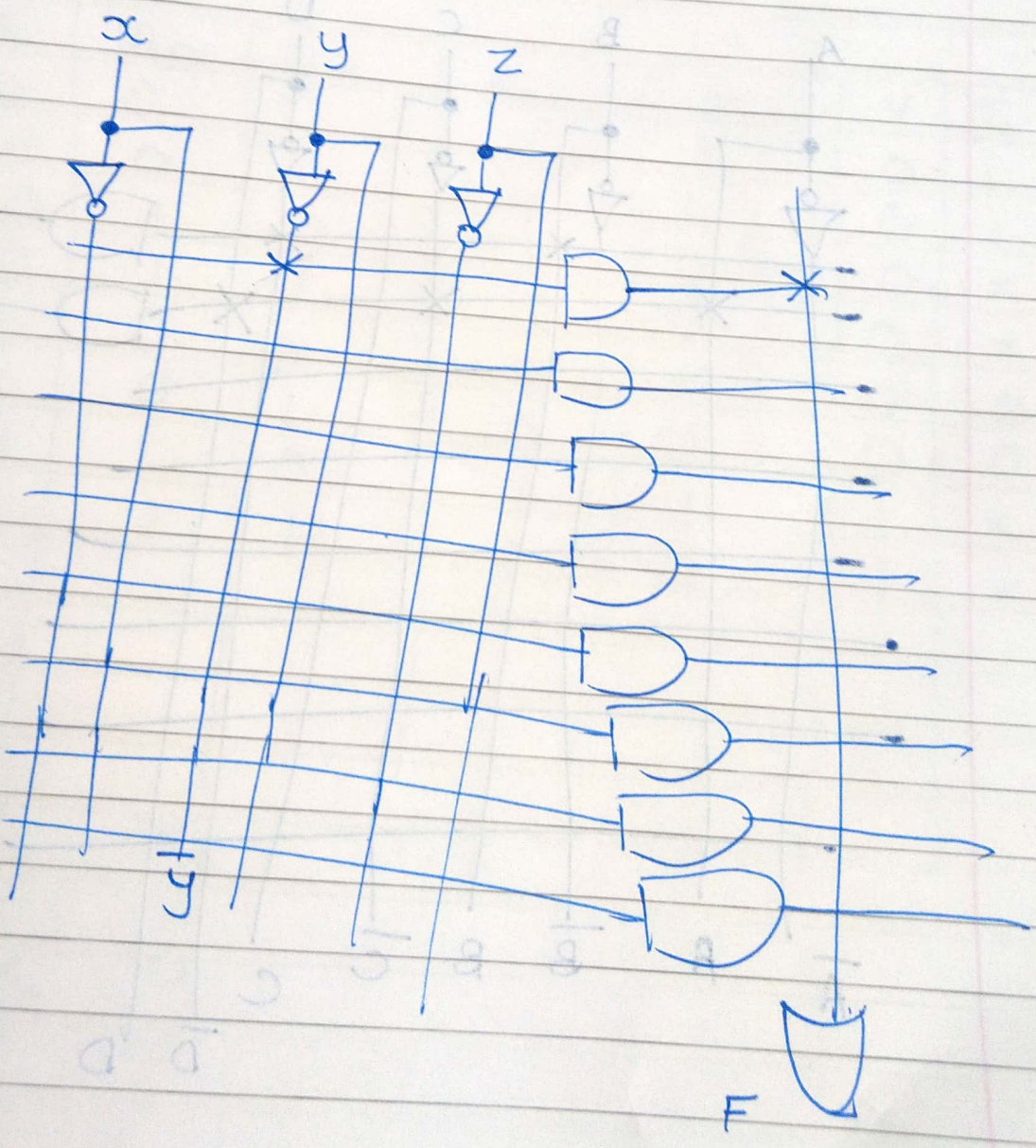
	Input			o/P	
	A	B	C	$\bar{F}_1$	$\bar{F}_2$
$\bar{A}B$	0	1	–	1	–
$B\bar{C}$	–	1	0	1	–
$\bar{A}\bar{C}$	0	–	0	1	1
BC	–	1	1	–	1
				C	C



(d) $F = x'y'z' + x'y'z + xy'z + xy'z'$

x \ yz	00	01	11	10
0	1	1		
1	1	1		

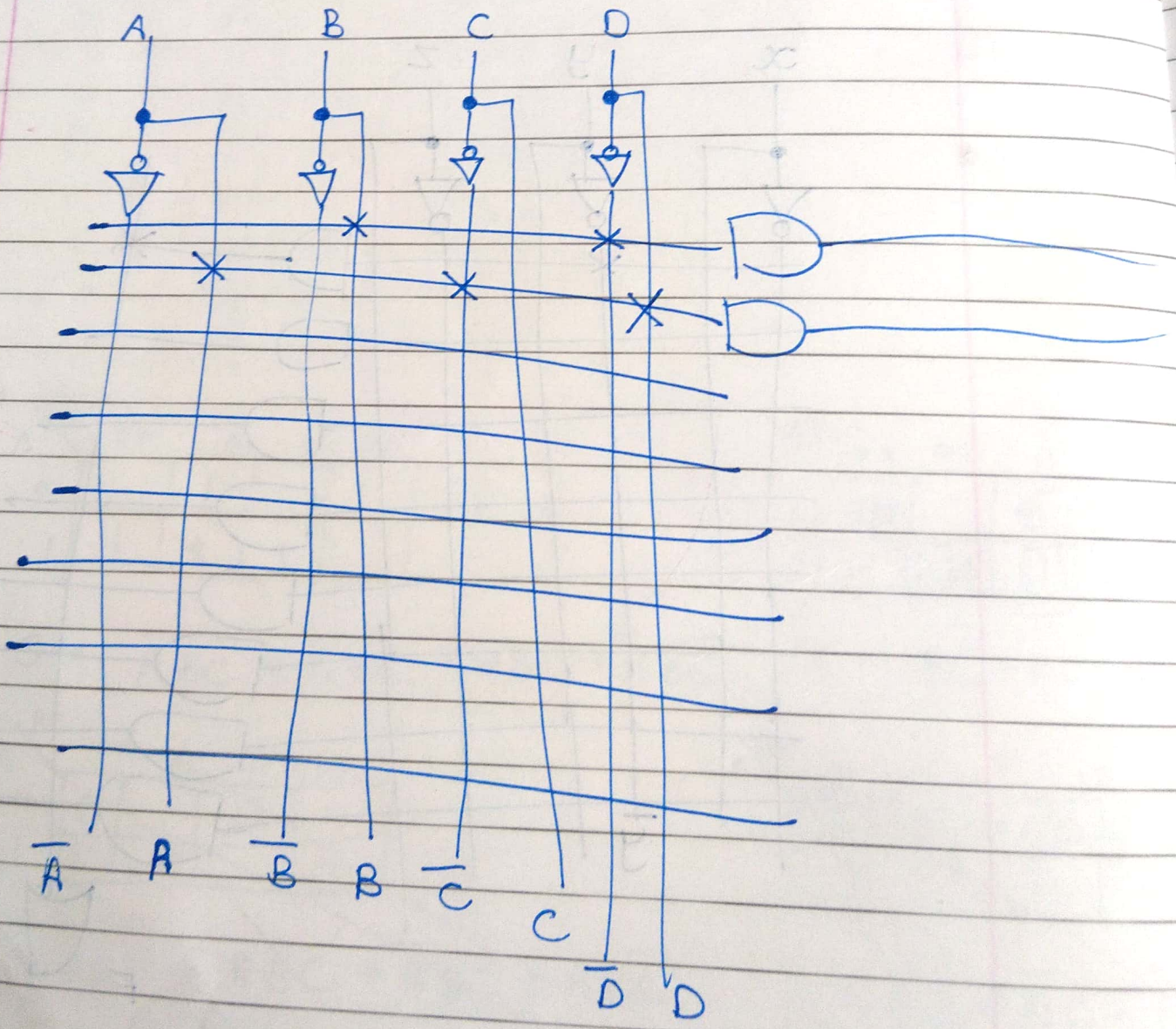
$F = \overline{y}$



(e) $F(w,x,y,z) = \Sigma(4,6,7,9,10,12,13,14)$

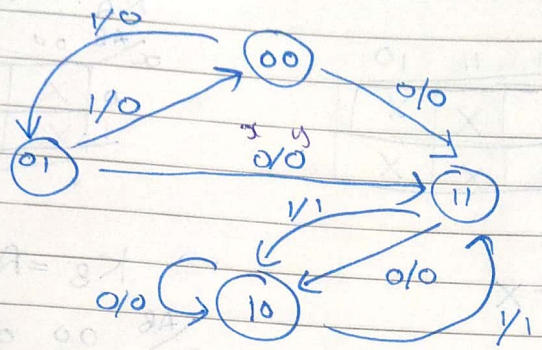
0	1	3	2
4	5	7	6
8	9	11	10
12	13	15	14

$F = B\bar{D} + A\bar{C}D + \bar{A}BC + A\bar{C}\bar{D}$



Chp
Unit -3

Q14



Q_n	Q_{n+1}	J	K
0	0	0	X
0	1	1	X
1	0	X	1
1	1	X	0

x	A_n	B_n	A_{n+1}	B_{n+1}	Y	J_A	K_A
0	0	0	1	1	0	1	X
0	0	1	1	1	0	1	X
0	1	0	1	0	0	X	0
0	1	1	1	0	0	X	0
1	0	0	0	1	0	0	X
1	0	1	0	0	0	0	X
1	1	0	1	1	1	X	0
1	1	1	1	0	1	X	0

J_B	K_B
1	X
X	0
0	X
X	1
1	X
X	1
1	X
X	1

$J_A = \bar{X}$

x \ AB	00	01	11	10
0	1	1	X	X
1	0	0	X	X

$K_A = \bar{A}$

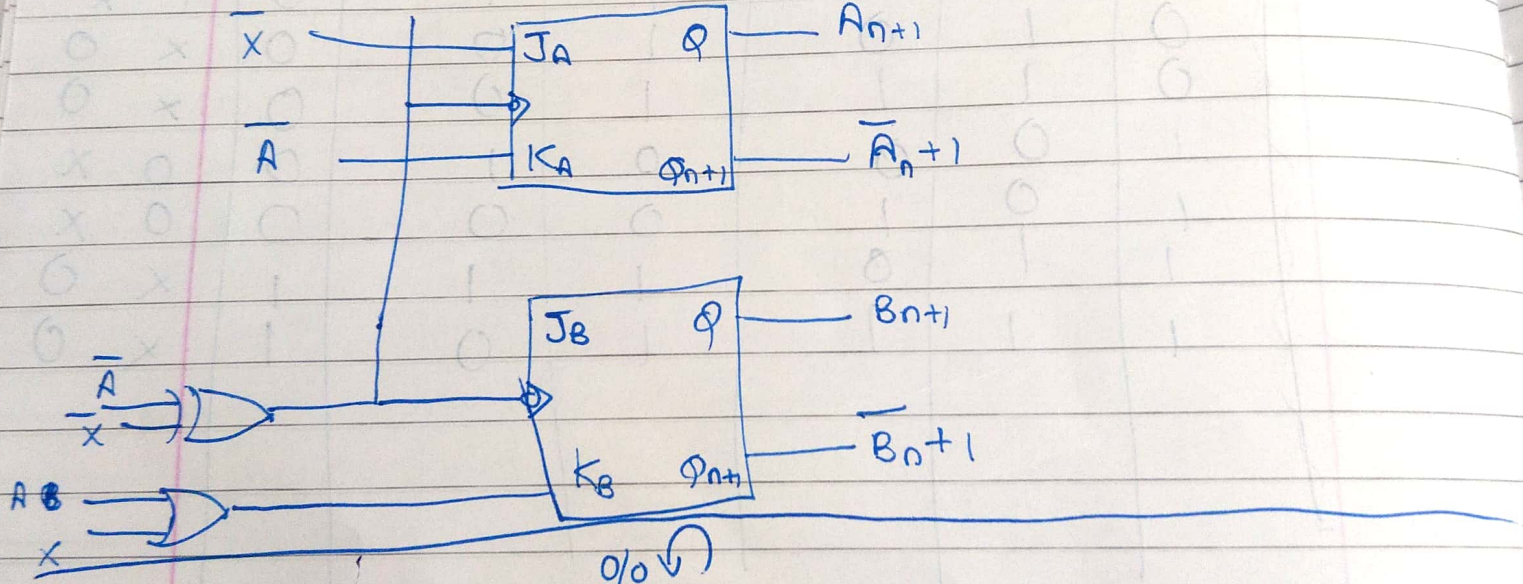
x \ AB	00	01	11	10
0	X	X	0	0
1	X	X	0	0

$J_B = \bar{A} + X$

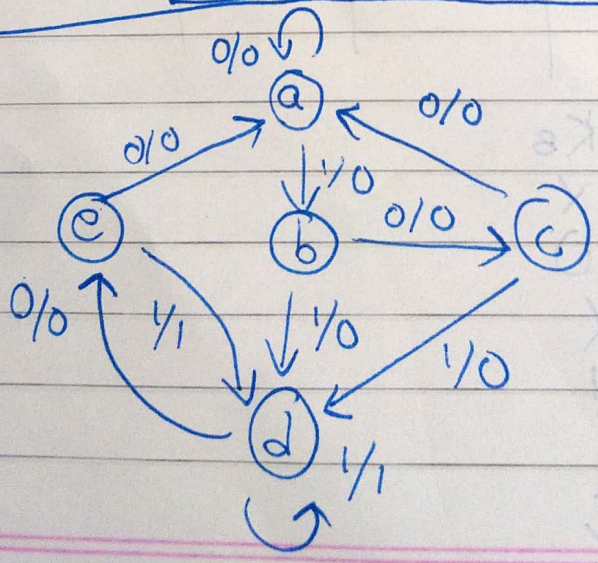
x \ AB	00	01	11	10
0	1	X	X	0
1	1	X	X	1

$K_B = A\bar{B} + X$

x \ AB	00	01	11	10
0	X	0	1	X
1	X	1	1	X

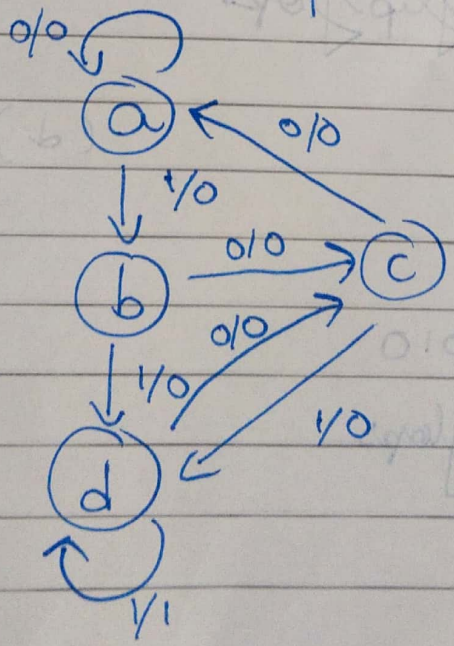


Q5.



PS	NS		O/P	
	x=0	x=1	x=0	x=1
a	a	b	0	0
b	c	d	0	0
c	a	d	0	0
d	e	d	0	1
e	a	d	0	1

PS	NS		O/P	
	x=0	x=1	x=0	x=1
a	a	b	0	0
b	c	d	0	0
c	a	d	0	0
d	e	d	0	1



Chp-4

Q3.

(a) $(104)_{10}$

8	104	
8	13	0
8	1	5
	0	1

2 | 150
75 0

$(104)_{10} = 150$

$= 10010100$

$= 1101000$

7 flip flops

(b) $(ACF2)_{16}$

1010110011110010

16 flip flops

(c) $(457)_8$

100101111 — 9 flip flops

(d) $(1010111011)_2$

10 flip flops