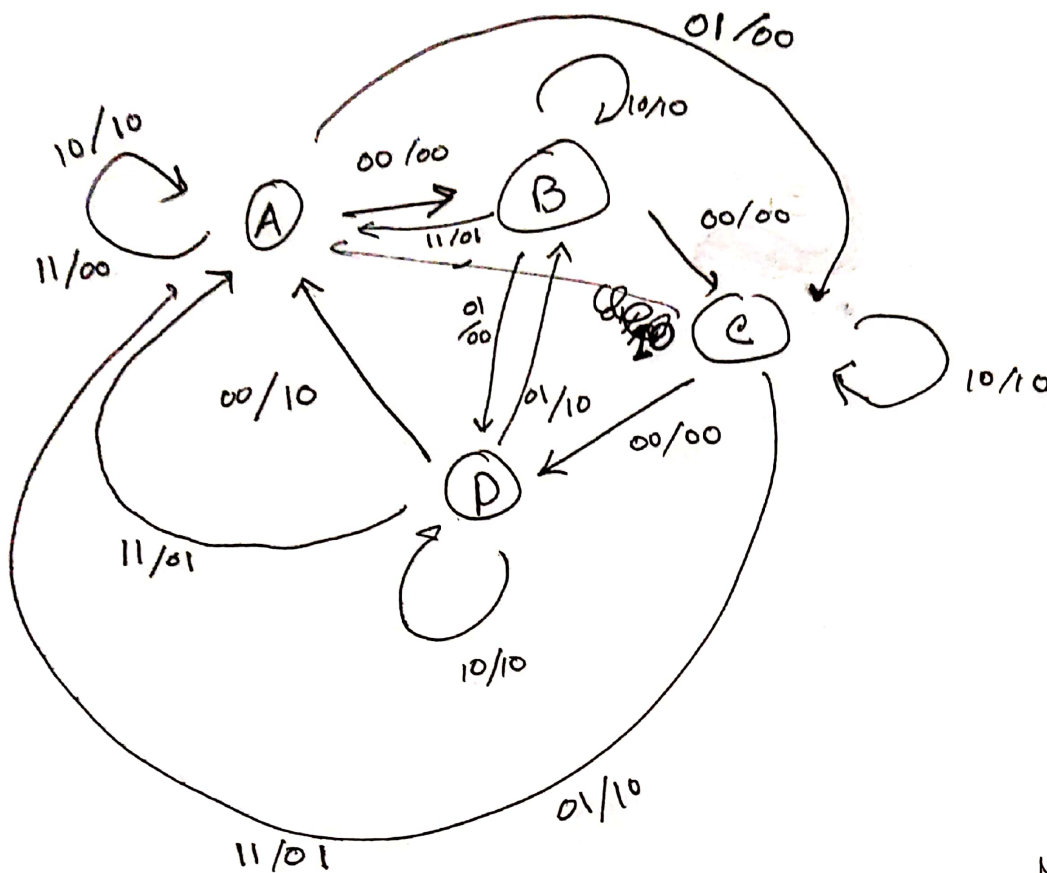


$Y, X_2 / Z_1 Z_2$



stored.

A → 0 Tk stored

B → 5 Tk stored

C → 10 Tk stored

D → 15 Tk stored

$NS, Z_1 Z_2$

State	X ₁ X ₂			
FS	00	01	10	11
A	B, 00	C, 00	A, 10	A, 00
B	C, 00	D, 00	B, 10	A, 01
C	D, 00	A, 10	C, 10	A, 01
D	A, 10	B, 10	D, 10	A, 01

A = 00

B = 01

C = 10

D = 11

Now, KMAPs:

KMAP for D_1 :

$x_1, x_2 \backslash y_1, y_2$	00	01	11	10
00	0	1	0	1
01	1	1	0	0
10	0	0	0	0
11	0	0	1	1

$$D_1 = \overline{x_1} \overline{x_2} \overline{y_1} + \overline{x_1} \overline{y_1} y_2 + \overline{x_1} x_2 y_1 + \overline{x_2} x_1 \overline{y_2}$$

For D_2 :

$x_1, x_2 \backslash y_1, y_2$	00	01	11	10
00	1	0	0	1
01	0	1	1	0
11	0	0	0	0
10	0	1	1	0

$$D_2 = \overline{x_1} \overline{x_2} \overline{y_2} + \overline{x_1} x_2 y_2 + x_1 \overline{x_2} y_2$$

For Z_1 :

$x_1, x_2 \backslash y_1, y_2$	00	01	11	10
00	0	0	1	0
01	0	0	1	1
11	0	0	0	0
10	1	1	1	1

$$Z_1 = \overline{x_1} \overline{x_2} x_1 x_2 + \overline{x_1} y_1 y_2 + \overline{x_1} x_2 y_1$$

Z_2 :

$x_1, x_2 \backslash y_1, y_2$	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	0	1	1	1
10	0	0	0	0

$$Z_2 = x_1 x_2 y_2 + x_1 x_2 y_1$$

Excitation & Establishment Tables:

P_1	x_1	x_2	y_1	y_2	y_1	y_2	z_1	z_2
	0	0	0	0	0	1	0	0
	0	0	0	1	1	0	0	0
	0	0	1	0	1	1	0	0
	0	0	1	1	0	0	1	0
	0	1	0	0	1	0	0	0
	0	1	0	1	1	1	0	0
	0	1	1	0	0	0	1	0
	0	1	1	1	0	1	1	0
	1	0	0	0	0	0	1	0
	1	0	0	1	0	1	1	0
	1	0	1	0	1	0	1	0
	1	0	1	1	1	1	1	0
	1	1	0	0	0	0	0	0
	1	1	0	1	0	0	0	1
	1	1	1	0	0	0	0	1
	1	1	1	1	0	0	0	1

$$P_1 D_2 \equiv Y_1 P_2$$