

2.

a) Salidas del sistema son 2 $z_1, z_0 \Rightarrow 3_{10} = 11_{12}$

b) Módulo 5 \rightarrow 3 bits P_2, D_1, D_0

a_2, a_1, a_0	a_2^*, a_1^*, a_0^*	z_1, z_0	P_2, D_1, D_0
A0 0 0 0	0 0 1	0 0	0 0 1
A1 0 0 1	0 1 0	0 1	0 1 0
A2 0 1 0	0 1 1	1 1	0 1 1
A3 0 1 1	1 0 0	0 0	1 0 0
A4 1 0 0	0 0 0	1 0	0 0 0
1 0 1	- - -	- -	- - -
1 1 0	- - -	- -	- - -
1 1 1	- - -	- -	- - -

$$D_2 = \sum_m(3) + d(5, 6, 7)$$

$$D_1 = z_0 = \sum_m(1, 2) + d(5, 6, 7)$$

$$D_0 = \sum_m(0, 2) + d(5, 6, 7)$$

$$z_1 = \sum_m(2, 4) + d(5, 6, 7)$$

D_2

a_1, a_0	0 0	0 1	1 0	1 1
a_2				
0	0	1	3	2
1	4	-	-	-

$$D_2 = a_1, a_0$$

D_1, z_0

a_1, a_0	0 0	0 1	1 1	1 0
a_2				
0	0	1	3	2
1	4	-	-	-

$$D_1 = z_0 = a_1, a_0 + a_1, a_0$$

D_0

$\frac{q_1, q_2}{q_2}$	00	01	11	10
0	1 ₀	1 ₁	3 ₃	1 ₂
1	4 ₄	5 ₅	2 ₂	6 ₆

$$D_0 = \bar{q}_2 \cdot \bar{q}_0$$

Z_1

$\frac{q_1, q_2}{q_2}$	00	01	11	10
0	6 ₆	1 ₁	3 ₃	1 ₂
1	4 ₄	5 ₅	2 ₂	6 ₆

$$Z_1 = q_2 + q_1 \bar{q}_0$$