

复习题答案

1. (1) $\bar{A} + BC$ (2) $A + C + E$

2. (1) $\begin{cases} F = A + B\bar{C} + CD \\ AB + AC = 0 \end{cases}$ (2) $\begin{cases} F = B\bar{C} + \bar{B}\bar{D} \\ \Sigma d(2, 7, 8, 13) \end{cases}$ (3) $\begin{cases} F = BD + \bar{B}\bar{D} + \bar{A}B\bar{C} \\ \Sigma d(8, 9, 10, 11, 14, 15) \end{cases}$ 或

$$\begin{cases} F = BD + \bar{B}\bar{D} + \bar{A}\bar{C}\bar{D} \\ \Sigma d(8, 9, 10, 11, 14, 15) \end{cases}$$

3. (1) 见下表

(2) 见下图

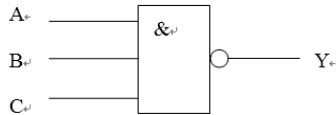
(3) $\begin{cases} AB + \bar{A}\bar{B} + C \\ \bar{B}C = 0 \end{cases}$

A	B	C	F
0	0	0	1
0	0	1	×
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	×
1	1	0	1
1	1	1	1

A \ BC				
	00	01	11	10
0	1	×	1	0
1	0	×	1	1

$$Y = \overline{\overline{ABABC} + BC + C}$$

4.
$$\begin{aligned} &= \overline{AB[ABC(B + \bar{C})]} \\ &= \overline{ABC} \end{aligned}$$



5. $Z_1 = \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C + \bar{A}B\bar{C} + ABC$ $Z_2 = \bar{A}\bar{B}C + \bar{A}B\bar{C} + \bar{A}BC + ABC$ 真值表略

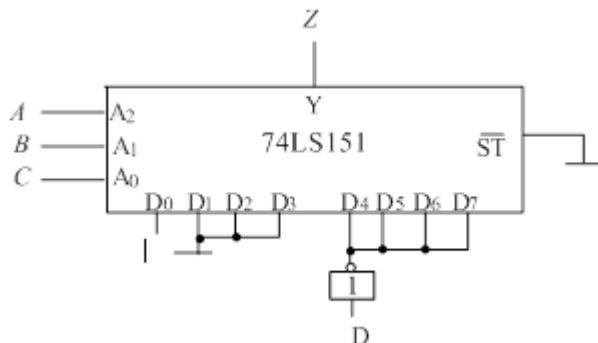
6. $Y = \bar{A}\bar{B}C + \bar{A}B\bar{C} + \bar{A}BC + A\bar{B}\bar{C} + ABC\bar{C} = \bar{A}\bar{B} + \bar{A}C + B\bar{C}$ 或 $Y = A\bar{C} + \bar{A}B + \bar{B}C$

$A_2 = A, A_1 = B, A_0 = C$

7. $D_0 = 1,$

$D_1 = D_2 = D_3 = 0$

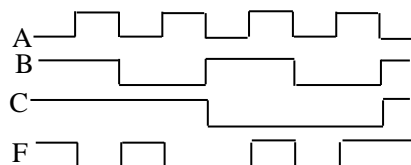
$D_4 = D_5 = D_6 = D_7 = \bar{D}$



$$8. Y = D_0 \bar{A}\bar{B}\bar{C} + D_1 \bar{A}\bar{B}C + D_2 \bar{A}B\bar{C} + D_3 \bar{A}BC + D_4 A\bar{B}\bar{C} + D_5 A\bar{B}C + D_6 AB\bar{C} + D_7 ABC$$

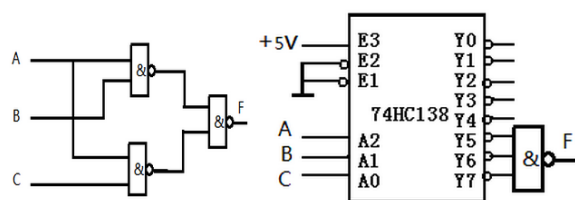
A、B、C 从 000~111 连续变化时 Y 取值为 01100101

$$9. F = \bar{A}\bar{B}C + \bar{A}BC + A\bar{B}\bar{C} + ABC = \bar{A}C + AC$$

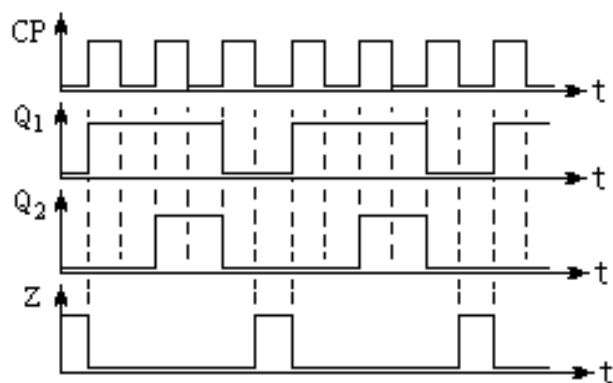


10. 略

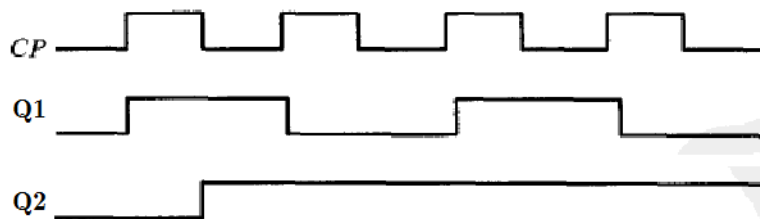
11.



12. (1)



(2)



13. 计数模值为 7，能自校正。

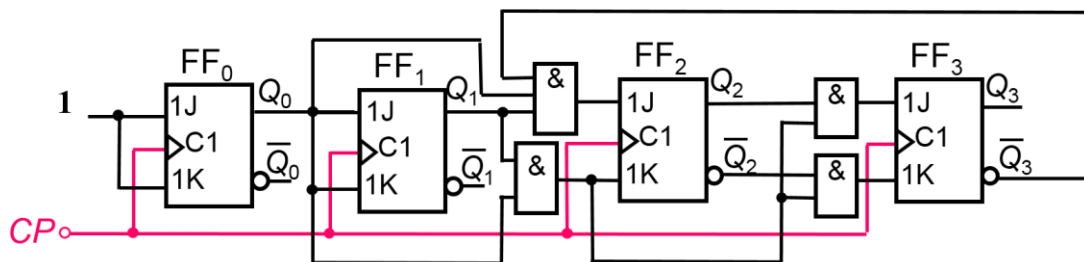
14. $M=0$ 时为五进制， $M=1$ 时为十五进制。

15. 十进制。

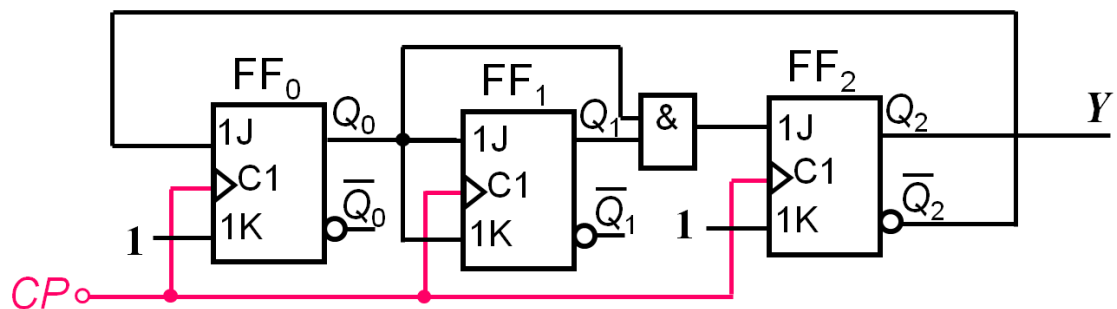
状态转换表如下图。计数模值为 8，能自校正。

Q_3^n	Q_2^n	Q_1^n	Q_0^n	Q_3^{n+1}	Q_2^{n+1}	Q_1^{n+1}	Q_0^{n+1}
0	0	0	0	0	1	0	1
0	0	0	1	0	1	0	1
0	0	1	0	0	0	0	1
0	0	1	1	0	0	0	1
0	1	0	0	0	1	0	1
0	1	0	1	0	1	1	0
0	1	1	0	0	1	1	1
0	1	1	1	1	0	0	0
1	0	0	0	1	1	0	1
1	0	0	1	1	1	0	1
1	0	1	0	1	0	0	1
1	0	1	1	1	0	0	1
1	1	0	0	1	1	0	1
1	1	0	1	1	1	1	0
1	1	1	0	1	1	1	1
1	1	1	1	0	0	0	0

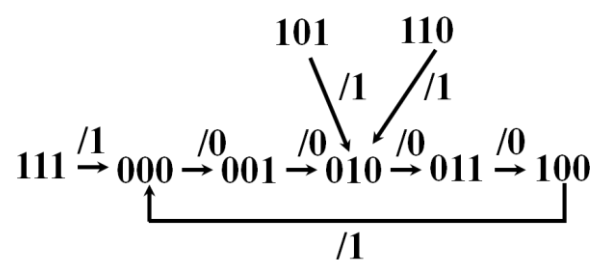
16.



17. 逻辑电路图:



完全状态图:



18. 3K×4, 4 片

2400~27FFH

3000~33FFH

3C00~3FFFH

19. 1) 200H~2FFH; 2) A000H~A3FF, B800H~BBFFH; 3) 4000H~47FFH, 7000H~77FFH

20. -3.22V。