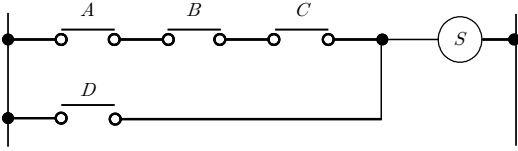


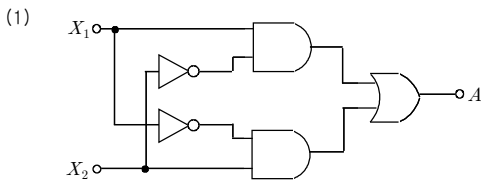
시퀀스 답안지

- 1.[문] 해설참고
- 2.[문] 해설참고
- 3.[문] 해설참고
- 4.[문] 해설참고
- 5.[문]

논리식 : $S = ABC + D$
 유점점 회로



- 6.[문] 해설참고
- 7.[문] 해설참고
- 8.[문] 해설참고
- 9.[문]

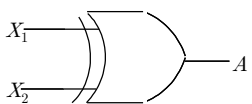


(2) 논리식 : $A = X_1 \overline{X_2} + \overline{X_1} X_2$

(3) 진리표

입 력		출 력
X_1	X_2	A
0	0	0
0	1	1
1	0	1
1	1	0

(4) 간소화된 로직

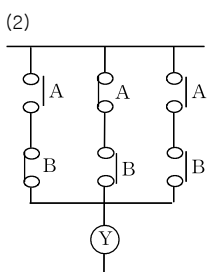


- 10.[문] 해설참고
- 11.[문] 해설참고

- 12.[문] 해설참고
- 13.[문] 해설참고
- 14.[문] 해설참고

- 15.[문] 해설참고
- 16.[문] 해설참고
- 17.[문]

- (1) ① $Y = A\overline{B} + \overline{A}B + AB$
 ② $Y = A(\overline{B} + B) + B(\overline{A} + A) = A + B$



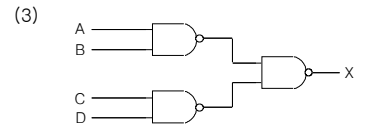
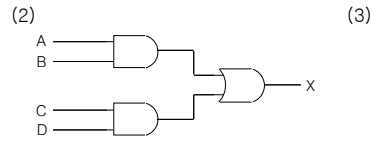
(3)

입력		출력
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

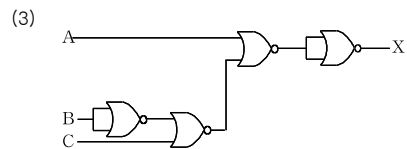
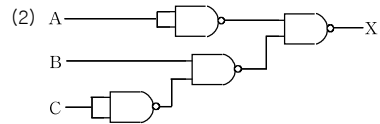
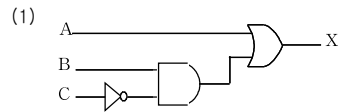
18.[문] 해설참고

19.[문]

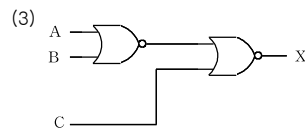
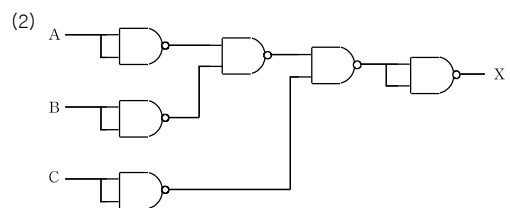
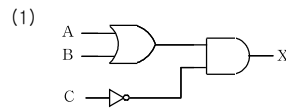
(1) $X = A \cdot B + C \cdot D$



20.[문]



21.[문]



22.[문]

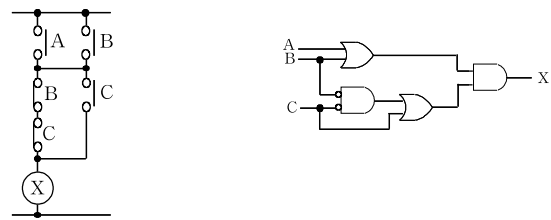
(1) NOT 회로 ()



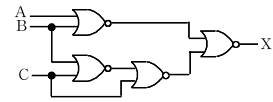
(3) $X = (AB + \overline{C}) \cdot D$, $X_0 = AB + \overline{C}$

23.[문]

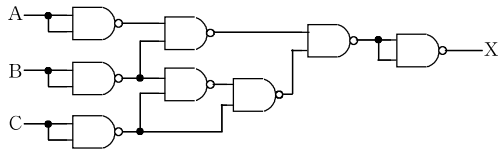
- ① 릴레이 시퀀스
- ② 로직 시퀀스



(3) NOR gate



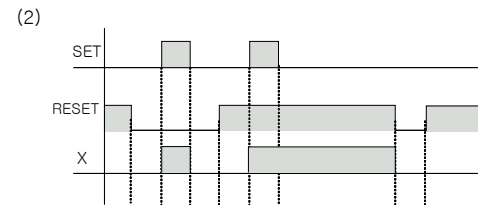
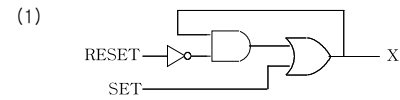
(4) NAND gate



24.[문] 해설참고

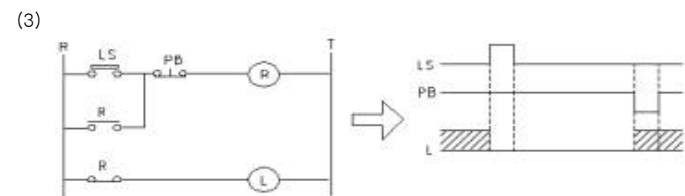
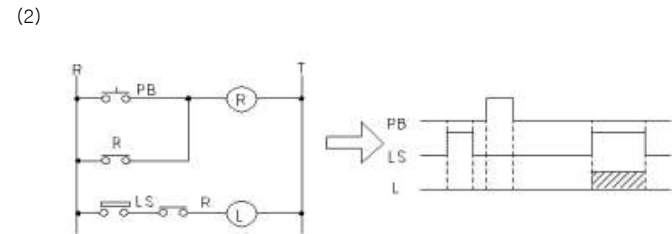
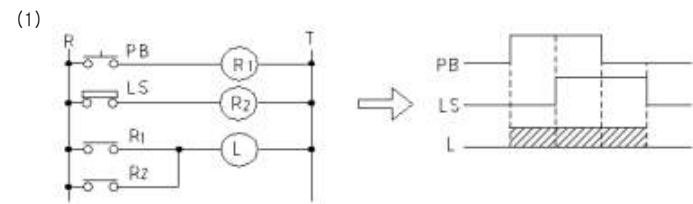
25.[문] 해설참고

26.[문]



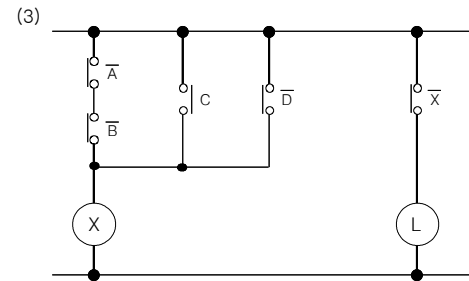
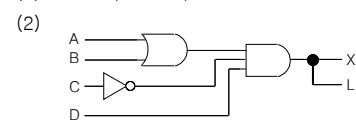
27.[문] 해설참고

28.[문]



29.[문]

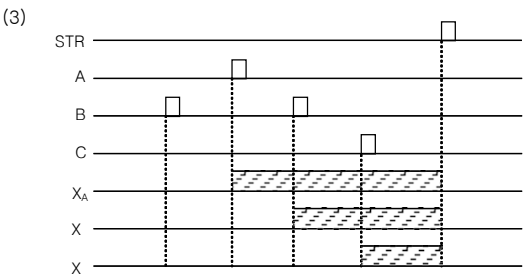
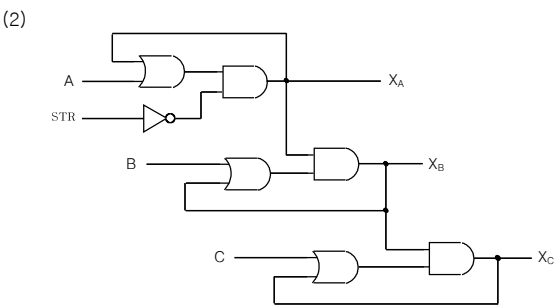
(1) $X = (A + B)\overline{C}D$



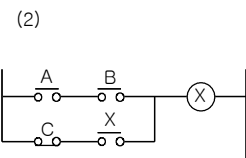
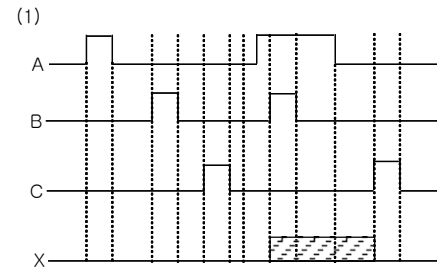
30.[문] 해설참고

31.[문]

(1) $X_C = \overline{STR}(A + X_A)(B + X_B)(C + X_C)$



32.[문]

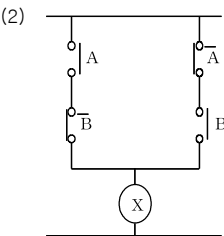


33.[문]해설참고

34.[문]해설참고

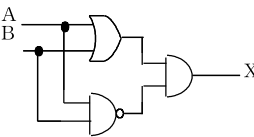
35.[문]

(1) $X = A\overline{B} + \overline{A}B$



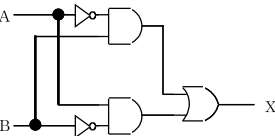
(3) $A\overline{B} + \overline{A}B + 0 + 0$

$= A\overline{B} + \overline{A}B + A\overline{A} + B\overline{B} = A(\overline{A} + \overline{B}) + B(\overline{A} + \overline{B}) = (A + B)(\overline{A} + \overline{B})$



(4) 배타적 논리합 회로

(5)



36.[문]해설참고

37.[문]해설참고

38.[문]해설참고

39.[문]

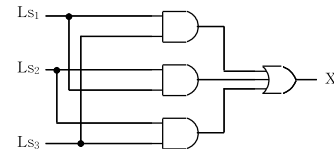
(1)

$LS_1 LS_2$	0 0	0 1	1 1	1 0
LS_3				
0	0	0	1	0
1	0	1	1	1

(2)

$X = LS_2 LS_3 + LS_1 LS_3 + LS_1 LS_2$

(3)



40.[문]해설참고

41.[문]

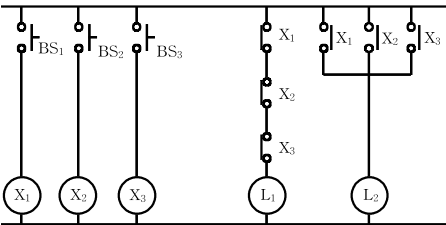
(1)

입력			출력	
X_1	X_2	X_3	L_1	L_2
0	0	0	1	0
0	0	1	0	1
0	1	0	0	1
0	1	1	0	1
1	0	0	0	1
1	0	1	0	1
1	1	0	0	1
1	1	1	0	1

(2) $L_1 = \overline{X_1} \overline{X_2} \overline{X_3}$

$$\begin{aligned} L_2 &= \overline{X_1} \overline{X_2} X_3 + \overline{X_1} X_2 \overline{X_3} + \overline{X_1} X_2 X_3 + X_1 \overline{X_2} \overline{X_3} + X_1 \overline{X_2} X_3 \\ &\quad + X_1 X_2 \overline{X_3} + X_1 X_2 X_3 \\ &= X_1 + X_2 + X_3 \end{aligned}$$

(3)



42.[문]해설참고

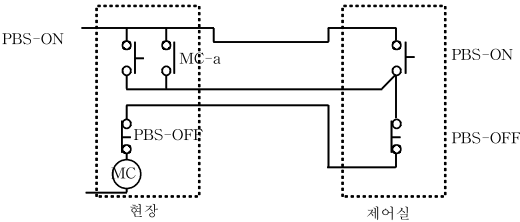
43.[문]해설참고

44.[문]해설참고

45.[문]해설참고

46.[문]해설참고

47.[문]



48.[문]해설참고

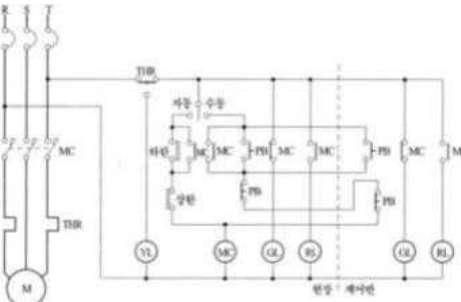
49.[문]해설참고

50.[문]해설참고

51.[문]해설참고

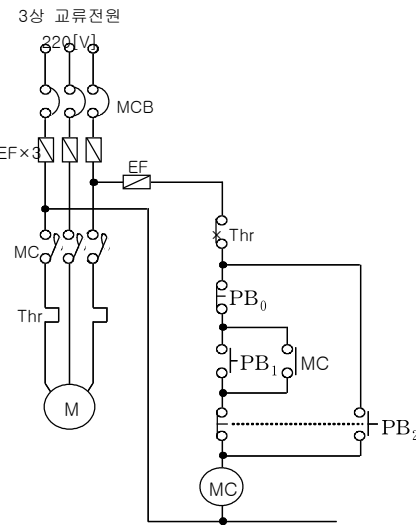
52.[문]해설참고

53.[문]해설참고

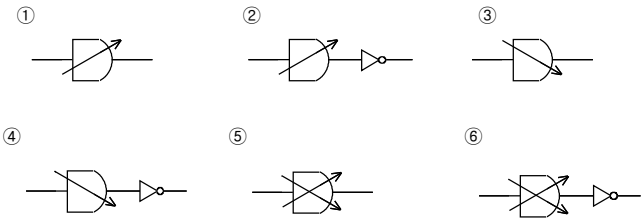


54.[문]해설참고

55.[문]



56.[문]

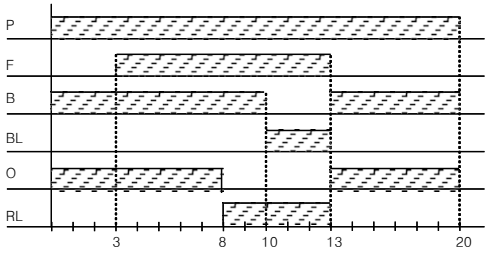


57.[문] 해설참고

58.[문] 해설참고

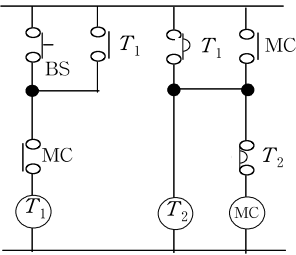
59.[문] 해설참고

60.[문]



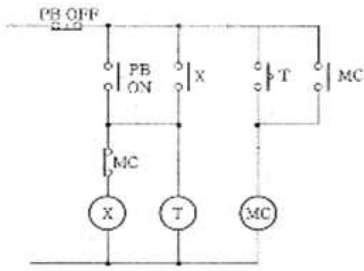
61.[문]

(1) 유접점 회로

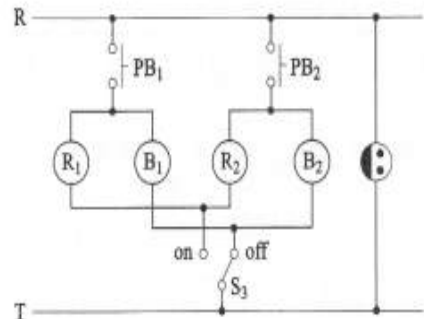


(2) A : ① B : ⑤ C : ③

62.[문]

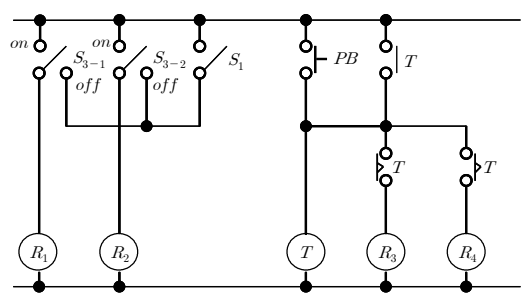


63.[문]

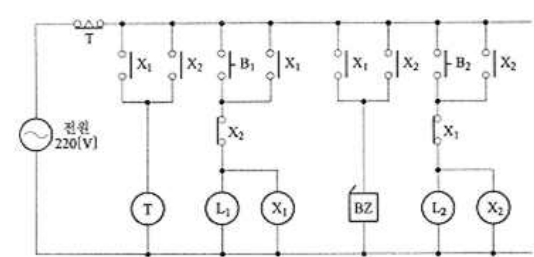


64.[문] 해설참고

65.[문]



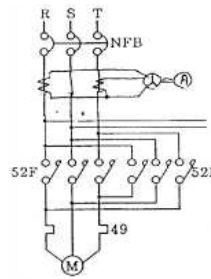
66.[문]



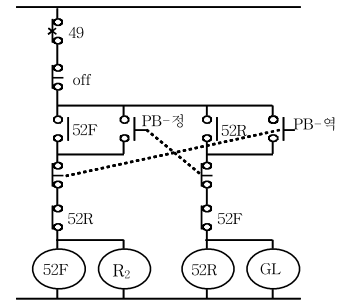
67.[문] 해설참고

68.[문]

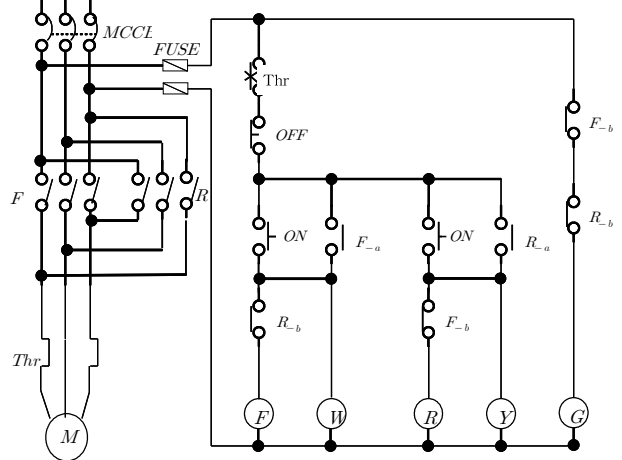
(1)



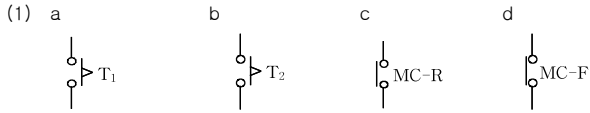
(2)



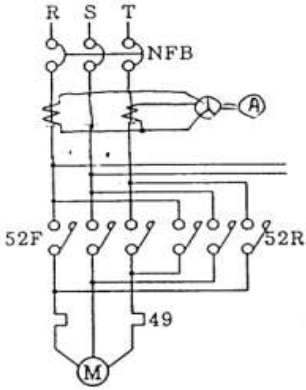
69.[문]



70. [문]

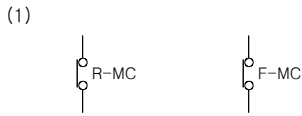


(2)



- (3) 열동계전기 : 전동기 과부하시 동작하여 코일 소손 방지.
 (4) 기동
 (5) 인터록 (동시투입방지)

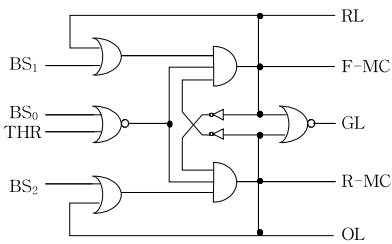
71. [문]



(2)

- $F - MC = \overline{BS_0} \cdot \overline{THR} \cdot (BS_1 + F - MC) \cdot \overline{R - MC}$
- $R - MC = \overline{BS_0} \cdot \overline{THR} \cdot (BS_2 + R - MC) \cdot \overline{F - MC}$

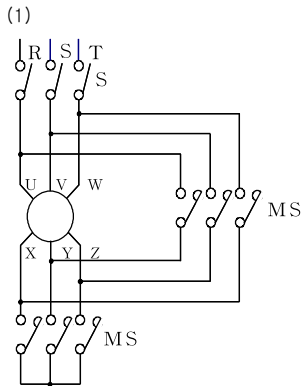
(3)



72. [문] 해설참고

73. [문] 해설참고

74. [문]



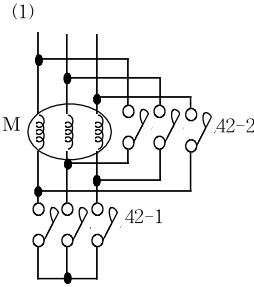
(2)
$$\frac{I_Y}{I_\Delta} = \frac{\frac{V}{Z\sqrt{3}}}{\frac{\sqrt{3}}{Z} V} = \frac{1}{3}$$

전전압 기동시에 비해 Y-△ 기동시 기동전류가 $\frac{1}{3}$ 배 작게 흐른다.

- (3) MS₁이 여자되어 전동기는 Y 기동하고 전동기가속 후, MS₁이 소자되고

MS₂가 여자되어 전동기는 △ 운전한다.

75.

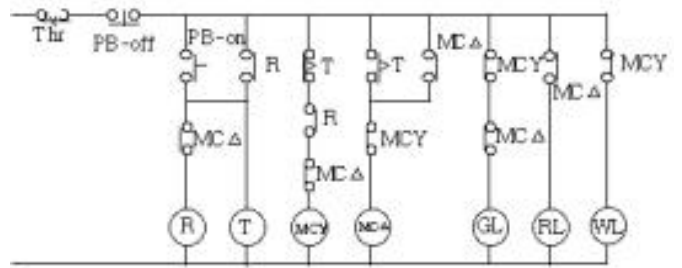


(2) 42_1

(3) 42_2 52

(4) (A) 42_2 (B) 52

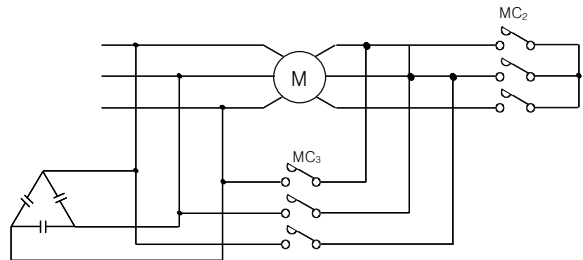
76.



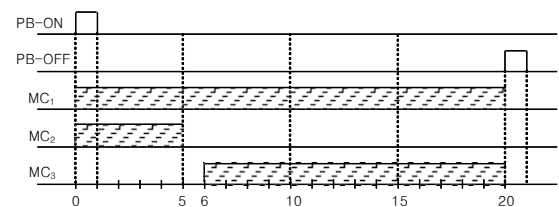
77. [문] 해설참고

78. [문]

(1)



(2)



79. [문] 해설참고

80. [문]

(1)



$\textcircled{\text{MC}_2}$ 소자 $\textcircled{\text{MC}_3}$ 가 여자되어 전동기는 Δ 운전한다.

82.[문]

(2), (3)

