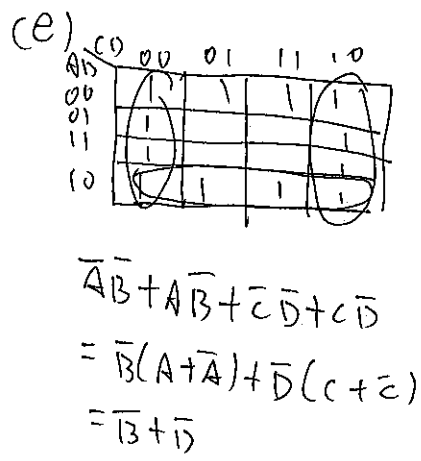
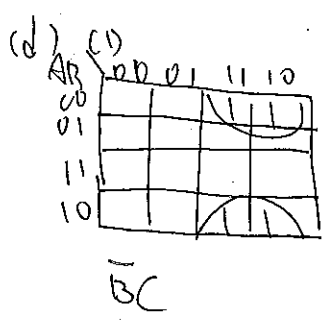
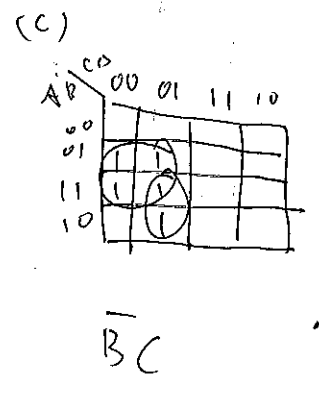
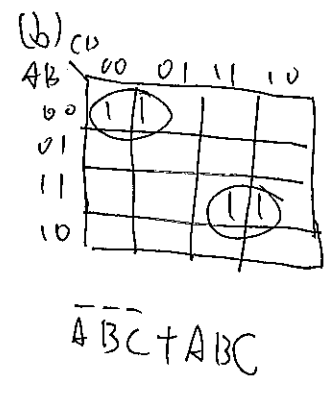
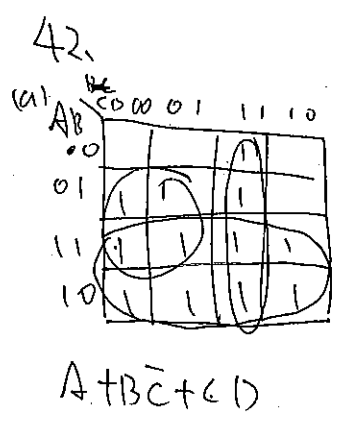


# Ch4

8.

- a  $\bar{\bar{A}} = A$
- b  $A\bar{A} = 0, B\bar{B} = 0, \therefore = ABC\bar{C}$
- c  $BC + BC = BC$
- d  $(c + \bar{c}) = 1$
- e  $A + AB = A$
- f  $A + \bar{A}B = A + B$



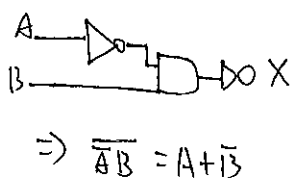
9. (h)

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

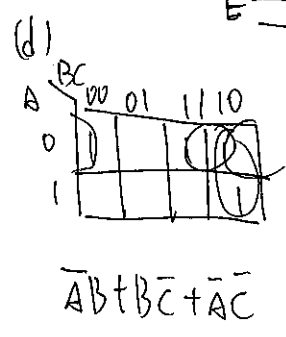
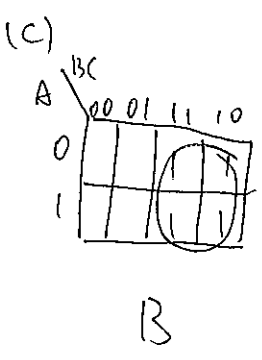
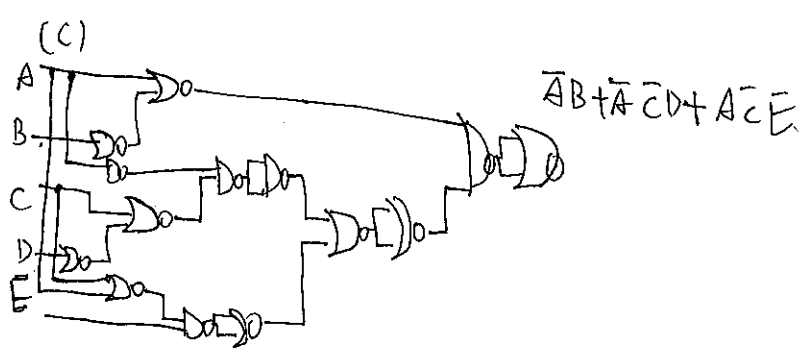
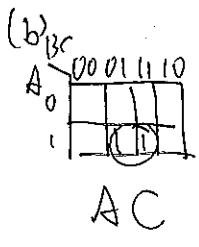
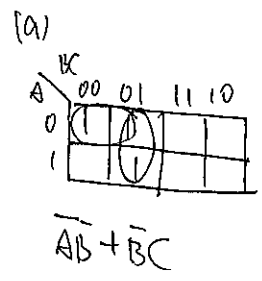
10. (a)

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

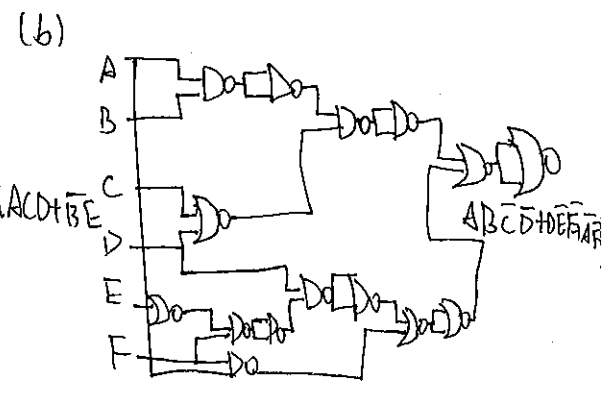
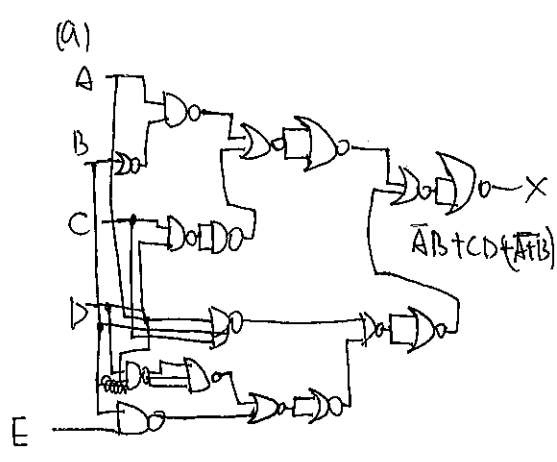
13. (c)



38.



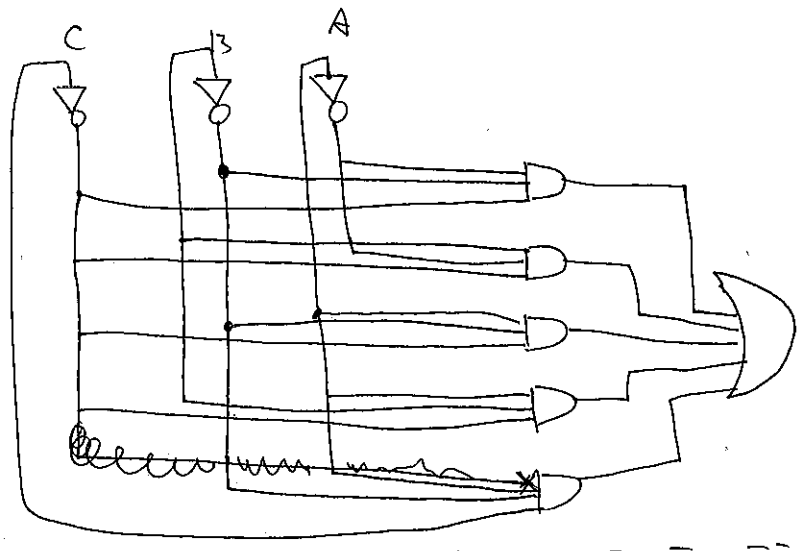
## Ch5



1.

| A | B | C | 0 |
|---|---|---|---|
| 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 |

$\bar{A}\bar{B}\bar{C}$   
 $\bar{A}B\bar{C}$   
 $A\bar{B}\bar{C}$   
 $AB\bar{C}$   
 $A\bar{B}C$   
 $ABC$



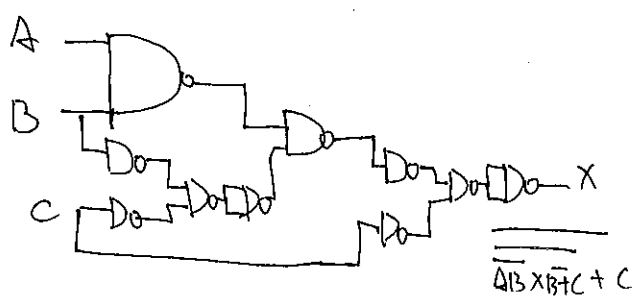
$\bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}\bar{C} + AB\bar{C} + A\bar{B}C + ABC$

12.

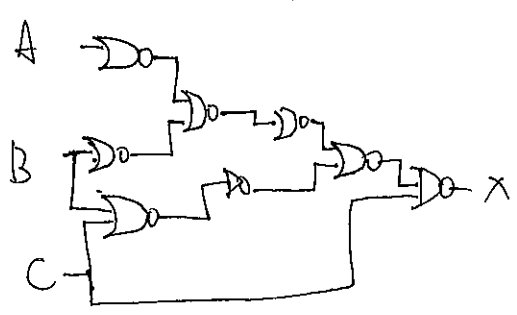
| A | B | C | D | X |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 1 | 0 | 1 |
| 0 | 0 | 1 | 1 | 1 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 0 |
| 0 | 1 | 1 | 0 | 0 |
| 1 | 0 | 0 | 1 | 1 |
| 1 | 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 1 |
| 1 | 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 |

$\bar{A}B\bar{C}\bar{D}$   
 $\bar{A}\bar{B}CD$   
 $\bar{A}B\bar{C}\bar{D}$   
 $A\bar{B}\bar{C}\bar{D}$   
 $A\bar{B}\bar{C}D$   
 $A\bar{B}C\bar{D}$   
 $A\bar{B}CD$   
 $ABC\bar{D}$

19.



21.



20.

