Soru 1

a) $(79)_{16} = (7 \times 16^1) + (9 \times 16^0) = (121)_{10}$

$$= (01111001)_2$$

$(8)_{16} = (8 \times 16^0) = (8)_{10} = (00001000)_2$

$(A+B) = $
```
  01111001  ← A
+ 00001000  ← B
  10000001  ← A+B
```
$A+B = (10000001)_2 = (129)_{10}$

$(A-B) = $ bu işlemi 2'ye tümleyen ile yapacağız

① B'nin 2'ye tümleyeni $= (11110111) + 1 = 11111000$

②
```
  01111001
+ 11111000
 101110001  →  cevap: (01110001)₂ = A-B
 ↳ elde biti var
```
$(01110001)_2 = A-B$

b) $(A+B) = $
```
  01111001  → A
+ 11111000  → B
 101110001
```
Dikkate Alınmaz ← + → sonuç $= (01110001)_2 = (+113)_{10}$

$(A-B)$
```
  01111001 → A
- 11111000 → B
```
⇒ B'nin 2'ye tümleyeni:

$00000111 + 1 → 00001000$

```
  01111001
+ 00001000
  10000001
```
sonuç negatif

poz - neg = neg → taşma var ← sonuç

Soru 3

$$= \left[\left[(AC).(B+D)\right] + \left[\overline{A}BC\right]\right] + \left[AB\cdot\overline{D}\right]\right] + (AB\overline{C}D) + (A\overline{B}CD) + (\overline{A}BC\overline{D}.$$

$$= AC(B+D) + \overline{A}BC + AB\overline{C}D + AB\overline{C}D + A\overline{B}CD + \overline{A}BC\overline{D}$$

$$= ABC + ACD + \overline{A}BC(1+\overline{D}) + AB\overline{C}D + AB\overline{C}D + \overline{A}\overline{B}CD$$

$$= ABC + ACD(1+\overline{B}) + \overline{A}BC + AB\overline{C}D + AB\overline{C}D$$

$$= BC(A+\overline{A}) + ACD + AB\overline{C}(\overline{D}+D)$$

$$= BC + ACD + AB\overline{C}$$

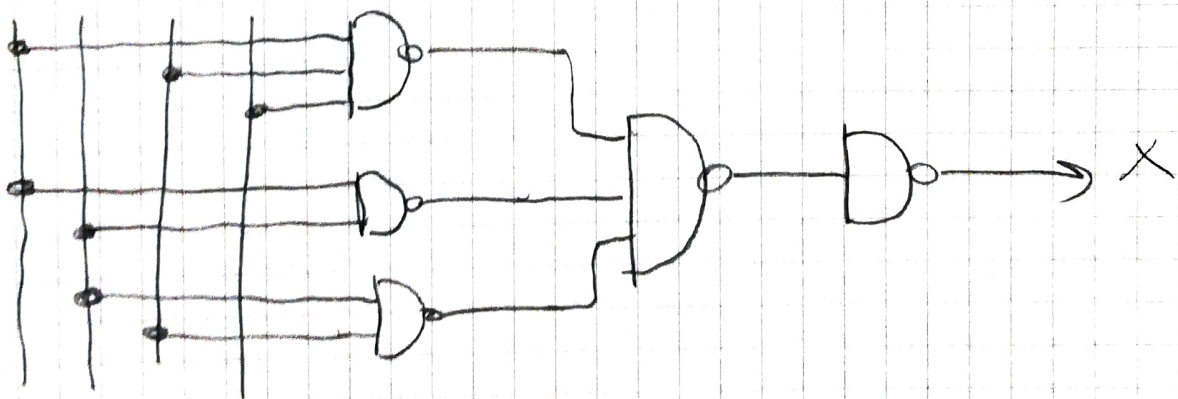$$= ACD + B(A\overline{C}+C)$$

$$\longrightarrow = A+C$$

$$\boxed{= ACD + B.(A+C)}$$

vedogll $\longrightarrow$ $\overline{(ACD + AB + BC)}$

$$= (\overline{ACD} \cdot \overline{AB} \cdot \overline{BC})$$

A B C D

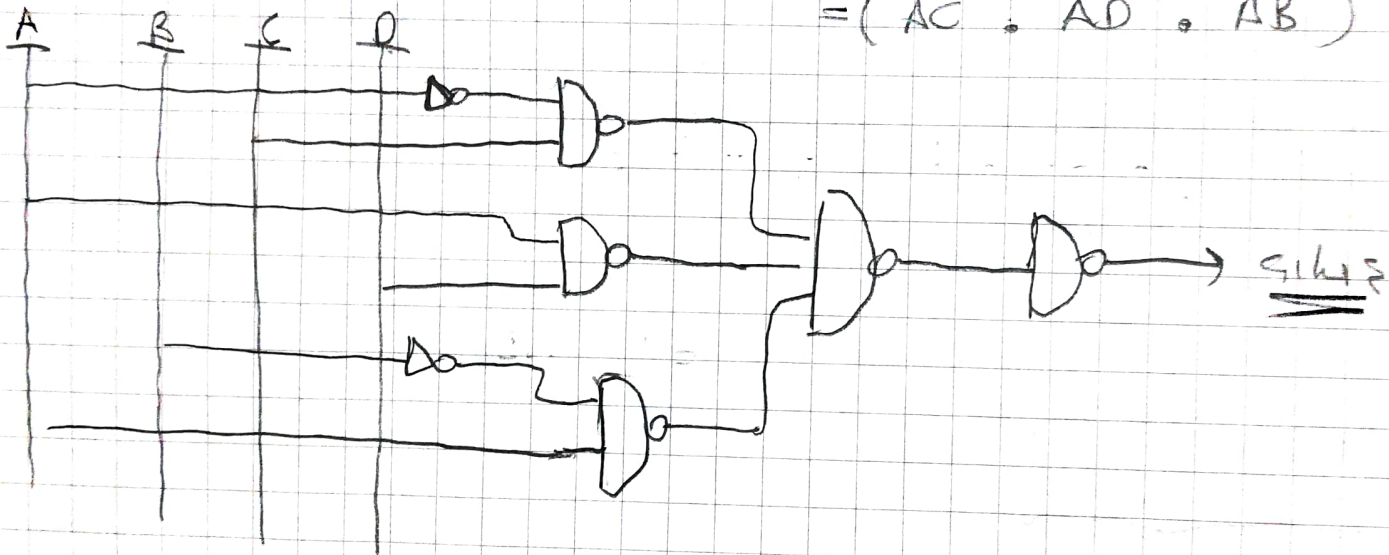| AB CD	00	01	11	10
00	X	X		1
01		1	1	X
11	1	X	1	1
10	1	1		X

3 grub var!

$$\overline{A}C \;+\; AD \;+\; A\overline{B}$$

ve değil $= \overline{\left(\overline{A}C + AD + A\overline{B}\right)}$

$= \left(\overline{\overline{A}C} \cdot \overline{AD} \cdot \overline{A\overline{B}}\right)$

A   B   C   D

→ çıkış

Soru 5

x_1	x_2	x_3	x_4	B ÇILIŞI
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	1
1	1	0	0	0
1	1	0	1	1
1	1	1	0	0
1	1	1	1	1

$$Q_{min} = x_1 x_2 x_4 + x_1 \overline{x_2} x_3$$