150180005 Yağmur Çağlar

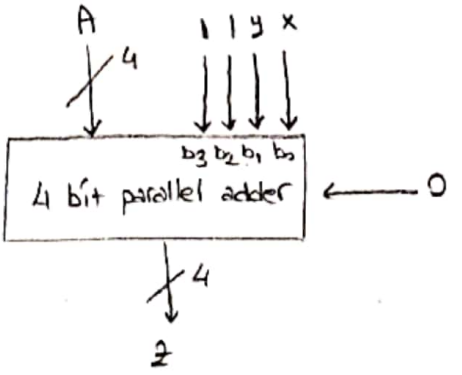
Question 4a)

A-4 = A + "1100"

A-3 = A + "1101"

A-2 = A + "1110"

A-1 = A + "1111" .



for "11yx" x is least significant bit and 0 is the carry input for parallel adder.

Question 4b) $f(a,b,c,d) = U_1(2,9,10,12,15) + U_d(1,5)$

$m_7 = 0111$

$m_9 = 1001$

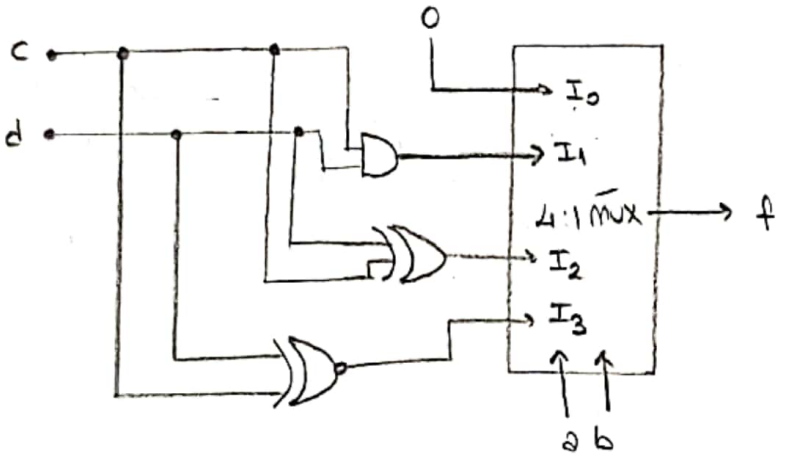
$m_{10} = 1010$

$m_{12} = 1100$

$m_{15} = 1111$

$m_1 = 0001$

$m_5 = 0101$



	AB	CD	output	
m_1	00	01	1	
m_5	01	01	1	→ c.d
m_7	01	11	1	
m_9	10	01	1	→ $\bar{c}d + \bar{d}c$ → XOR
m_{10}	10	10	1	
m_{12}	11	00	1	→ $\bar{c}\bar{d} + cd$ → NXOR
m_{15}	11	11	1	