

$$\text{Q 5. } A = \{a_2, a_1, a_0\}$$

$$B = \{b_2, b_1, b_0\}$$

$$f = (A > B)$$

$A > B$  when:-

$$a_2 > b_2$$

or when  $(a_2 = b_2)$  then  $a_1 > b_1$

or when  $(a_2 \neq b_2)$  and  $(a_1 = b_1)$  and  $(a_0 > b_0)$

$$\therefore a = b \Rightarrow \underline{\underline{a \oplus b}}$$

$$a > b = a \bar{b} \text{ (when } a, b \in \text{Boolean)}$$

$$\therefore f = a_2 \bar{b}_2 + (a_2 = b_2) \cdot (a_1 \bar{b}_1) + (a_2 \neq b_2)(a_1 = b_1) \cdot a_0 > b_0$$

$$= a_2 \bar{b}_2 + (a_2 \oplus b_2)(a_1 \bar{b}_1) + (a_2 \oplus b_2)(a_1 \oplus b_1)(a_0 \bar{b}_0)$$

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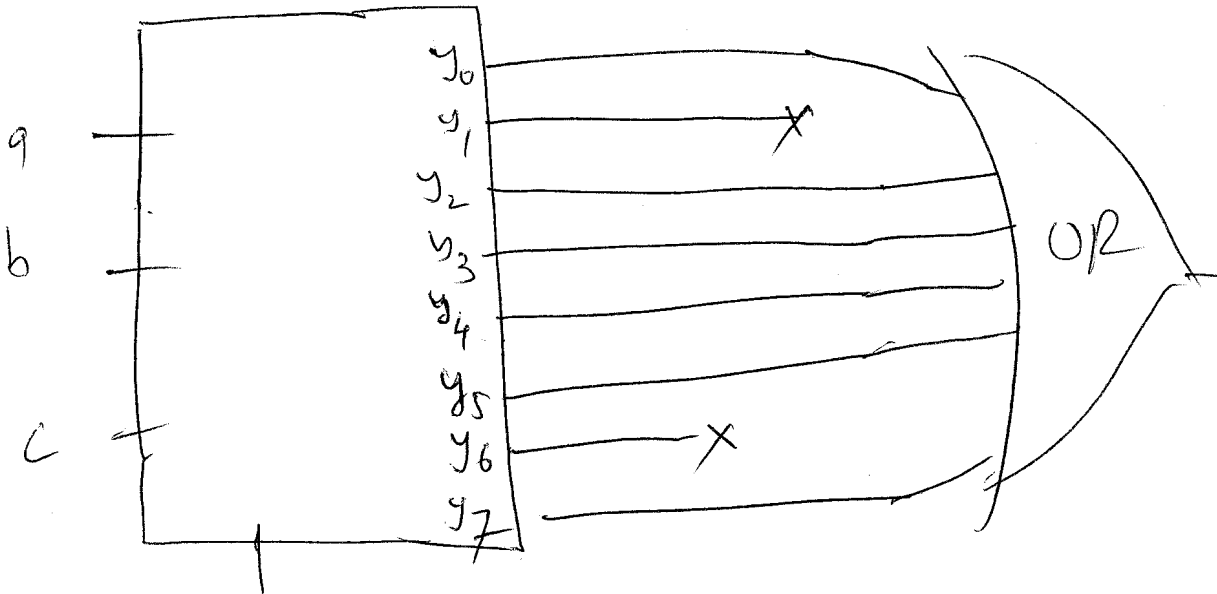
Q.6

$$f = \sum m(0, 2, 3, 4, 5, 7)$$

Pr. 6.5

pp-375

	a	b	c	f
$m_0$	0	0	0	1
$m_1$	0	0	1	0
$m_2$	0	1	0	1
$m_3$	0	1	1	1
$m_4$	1	0	0	1
$m_5$	1	0	1	1
$m_6$	1	1	0	0
$m_7$	1	1	1	1



Enable = 1

Note, when  $\langle abc = 001 \rangle$ ,  $f = 0$ .  $\leftarrow$   
 $\leftarrow y_1 = 1$ , all other  $y_i$ 's = 0

Q7

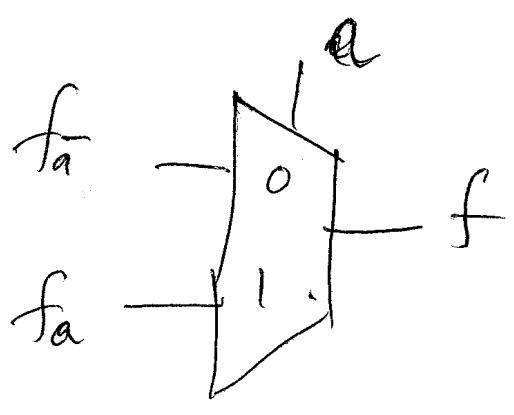
$$f = \sum m(0, 2, 3, 6)$$

a	b	c	f
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	0

$$f = a f_a + \bar{a} f_{\bar{a}}$$

$$f_a = f(a=1) = b\bar{c}$$

$$\begin{aligned} f_{\bar{a}} &= f(a=0) = \bar{b}\bar{c} + b\bar{c} + bc \\ &= \bar{c} + bc \\ &= b + \bar{c} \end{aligned}$$



⇒

