

تمرين رقم ٥ (جزء ثالث تمارين)  
العنوان (Geico)

a)  $f(A, B, C, D) = \sum m(1, 3, 4, 5, 7, 9, 11, 13)$

①

	$\sqrt{1}$	0 0 0 1	$\circ P_0$
-1	$\sqrt{\lambda}$	1 0 0 0	
-3			
-4	$\sqrt{3}$	0 0 1 1	
-5	$\sqrt{4}$	0 1 1 0	
-7	$\sqrt{7}$	1 0 0 1	
-9	$\sqrt{13}$	1 1 0 0	
-11	$\sqrt{15}$	0 1 1 1	
-13	$\sqrt{14}$	1 1 1 0	

$P_{1,2} : (1, 3)$

$(1, 3) \quad -001 \quad P_{1,2}$

$(\sqrt{3}, 4) \quad 100 - \quad P_{1,3}$

$(\sqrt{7}, 12) \quad 1 - 0 0 \quad P_{1,4}$

$(3, \sqrt{4}) \quad 0 - 1 1 \quad P_{1,5}$

$(\sqrt{4}, \sqrt{5}) \quad 0 1 1 - \quad P_{1,6}$

$(4, \sqrt{5}) \quad - 1 1 0 \quad P_{1,7}$

$(12, \sqrt{14}) \quad 1 1 - 0 \quad P_{1,8}$

$(1,3) (1,9) (1,9) (1,12) (1,15) (1,15) (1,15) (1,15)$ 
 $m(1,3,4,5,6,7,12,15)$ 

	1	2	3	4	5	6	7	8	9	10	11	12
P1	X	X										
P12		X										
P13								X	X			
P14								X		X		
P15		X			X							
P16				X	X							
P17				X								X
P18										X	X	

$$\sum_{i=1}^8 P1_i = \bar{A}\bar{B}D + \bar{B}\bar{C}D + A\bar{B}\bar{C} + A\bar{C}\bar{D}$$

$$+ \bar{A}CD + \bar{A}BC + \bar{B}CD + ABD$$



$$\text{b) } f(A, B, C, D, E) = \sum m(0, 4, 11, 19, 20, 24) + d(1, 2, 14)$$

 $P_0$ 

(b)	$\checkmark F$	0 0 1 0 0
(c)	$\checkmark 4$	0 0 1 1 0
	$\checkmark 11$	1 0 0 1 0
	$\checkmark 20$	1 0 1 0 0
(d)	$\checkmark 11$	0 1 0 1 1
	$\checkmark 19$	1 0 0 1 1
	$\checkmark 24$	1 0 1 1 1
(e)	$\checkmark 24$	1 1 0 1 1

$$\begin{aligned}
 & \bar{A}\bar{B}C\bar{E} + \bar{B}C\bar{D}\bar{E} \\
 & + A\bar{B}\bar{C}D + B\bar{C}DE \\
 & + \dots, A\bar{B}DE
 \end{aligned}$$

$0 0 1 - 0$	$(E, 4) * ①$	$P_{11}, P_{14}, P_{15}$
$- 0 1 0 0$	$(E, 20) * ③$	
$1 0 0 1 -$	$(1, 19) * ⑤$	
$- 1 0 1 1$	$(11, 24) * ⑥$	$P_{13} + P_{15} + P_{16}$
$1 0 - 1 1$	$(19, 24) @$	
$1 - 0 1 1$	$(19, 24) * ⑦$	

	E	4	11	19	20	24	25	11
P11	X	X						
P12	X				X			
P13					X		X	
P14				X			X	
P15					X		X	
P16						X		X

امتحان (١٢) دورة (٣) جمهورية مصر العربية

(P) ١٢

فرنك	٠	٠ ٠ ٦ ٦
١	٠	٠ ٠ ٠ ١
٢	٠	٠ ٠ ١ ٠
٤	٠	٠ ١ ٠ ٠
٨	٠	٠ ٠ ١ ١
٩	١	٠ ٠ ١ ١
٧	٠	٠ ١ ١ ١
١١	١	٠ ١ ١ ١

فرنك	٠	٠ ٠ ٥ ٥
١	٠	٠ ٥ ٥ ١
٢	٠	٠ ٥ ١ ٥
٤	٠	٥ ٥ ٠ ٥
٨	١	٥ ٥ ١ ١
٩	١	٥ ٥ ١ ١
٧	١	٥ ٥ ١ ١
١١	١	٥ ٥ ١ ١

P<sub>1</sub>

P<sub>T</sub>

✓ (١٠)	٠ ٠ ٠ -	٣ (١٠, ١٠)	٠ ٠ - -
✓ (١٢)	٠ ٠ - ٠	٣ (١٢, ١٢)	٠ ٠ - -
✓ (٤)	٠ - ٠ ٠	(١٢, ٩, ١١)	- ٠ - ١

✓ (١٣)	٠ ٠ - ١	(١٢, ٩, ١١)	٠ ٠ - -
✓ (١٩)	- ٠ ٠ ١	(١٢, ٩, ١١)	- ٠ - ١
✓ (٢٣)	٠ ٠ ١ -	(٤, ١٢)	٠ - ٠ ٠
(٤, ١٢)	- ١ ٠ ٠	(٤, ١٢)	- ١ ٠ ٠
(٣, ٧)	٠ - ١ ١	(٣, ٧)	٠ - ١ ١
✓ (٤, ١١)	- ٠ ١ ١		
✓ (٩, ١١)	١ ٠ - ١		

Subject:

Year:

Month:

KDN  
Date:

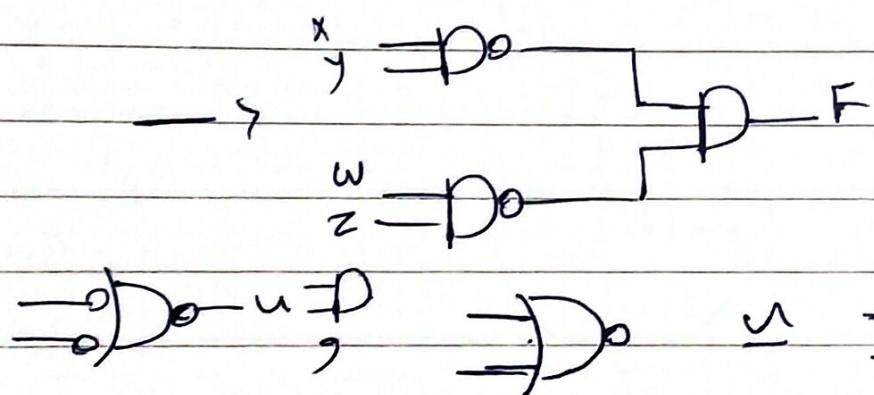
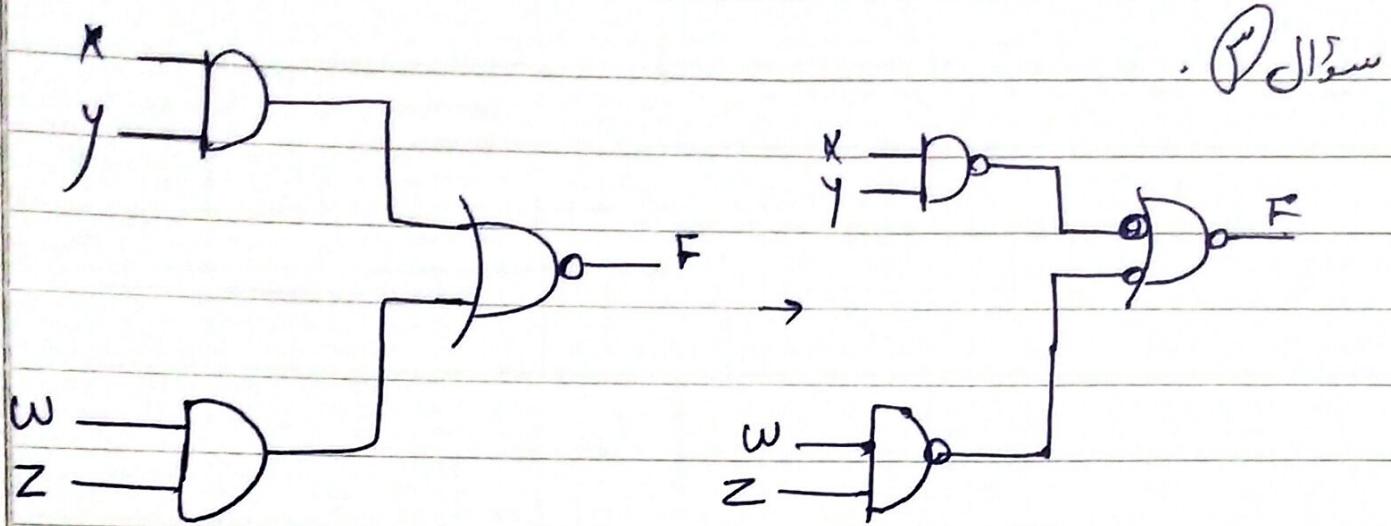
$P1$	$\ominus$	$\oplus$	$\ominus$								
$P1\alpha$	$\times$	$\times$	$\times$	$\times$	$\times$						
$P1\beta$		$\times$	$\times$		$\times$					$\times$	$\times$
$P1\gamma$	$\times$					$\times$					
$P1\delta$						$\times$					$\times$
$P1\omega$				$\times$				$\times$			

$$P1_\alpha + P1_\beta + P1_\gamma + P1_\delta$$

$$(A+B) \cdot (B+\bar{D}) \cdot (\bar{B}+C+D) - (A+\bar{C}+\bar{D})$$

$$(\bar{A}, \bar{B}, C)(A, \bar{B}, \bar{D})(\bar{A}, \bar{B}, D)$$





یا از مجموع

$$(xy + wz) = (\bar{y}) \circ (\bar{w}z)$$

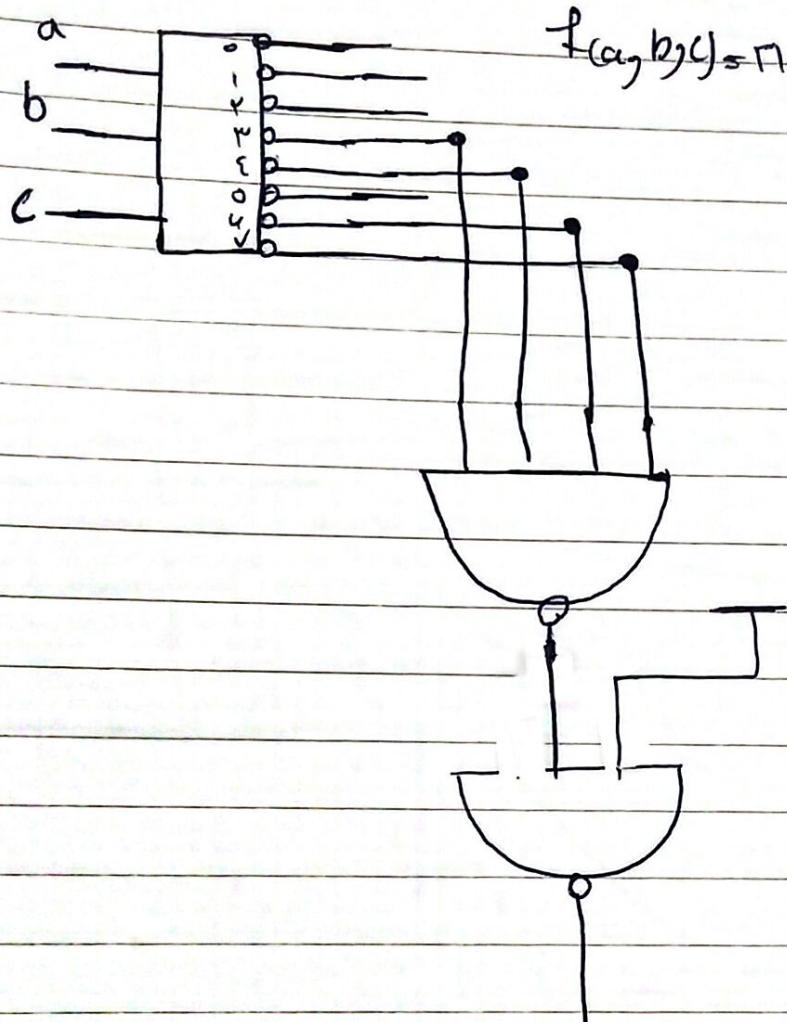
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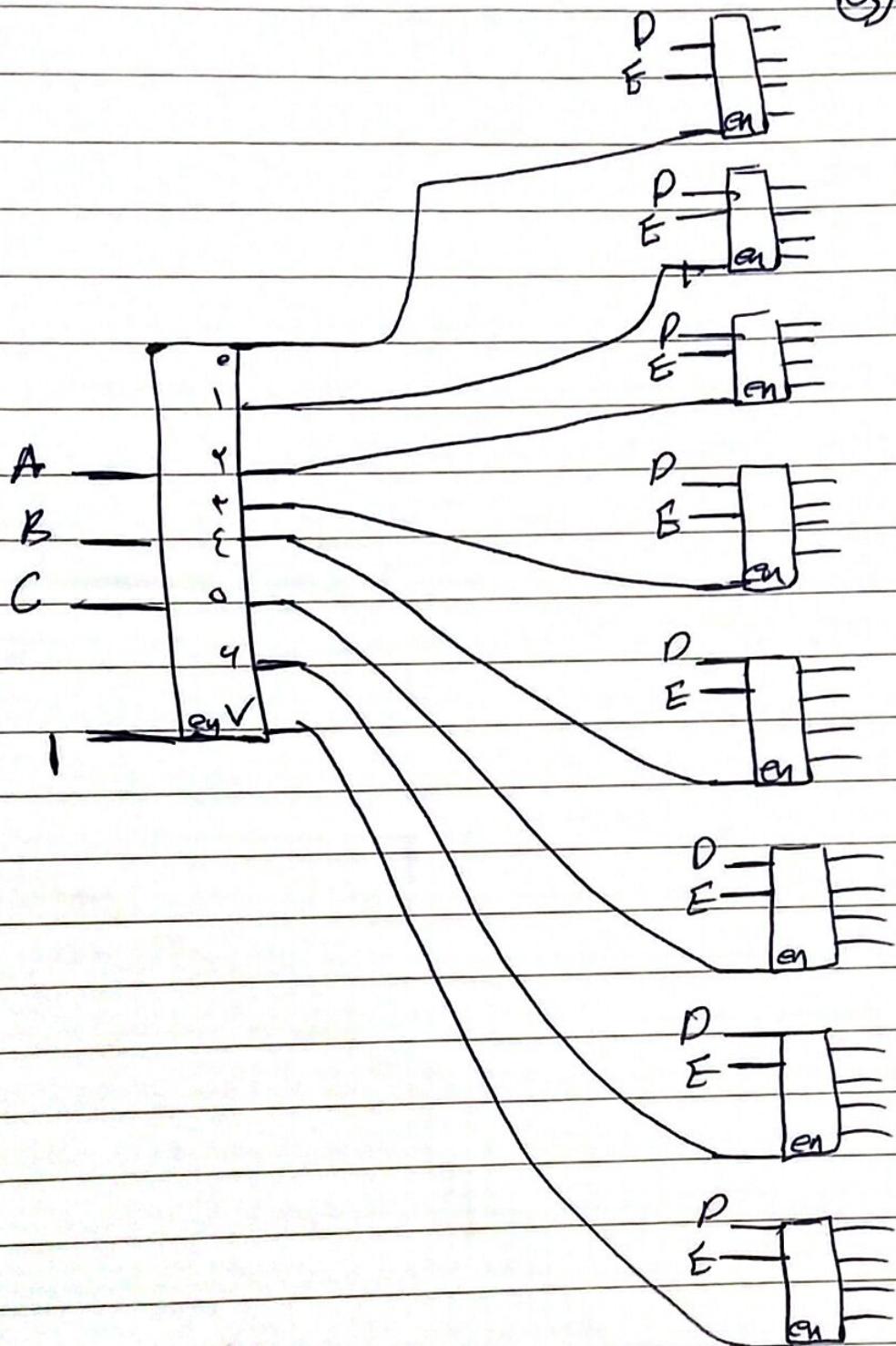
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$$f(a_1, b_1) \in \Pi(r, \varepsilon, \gamma, v)$$

(S) 15

@acdJew

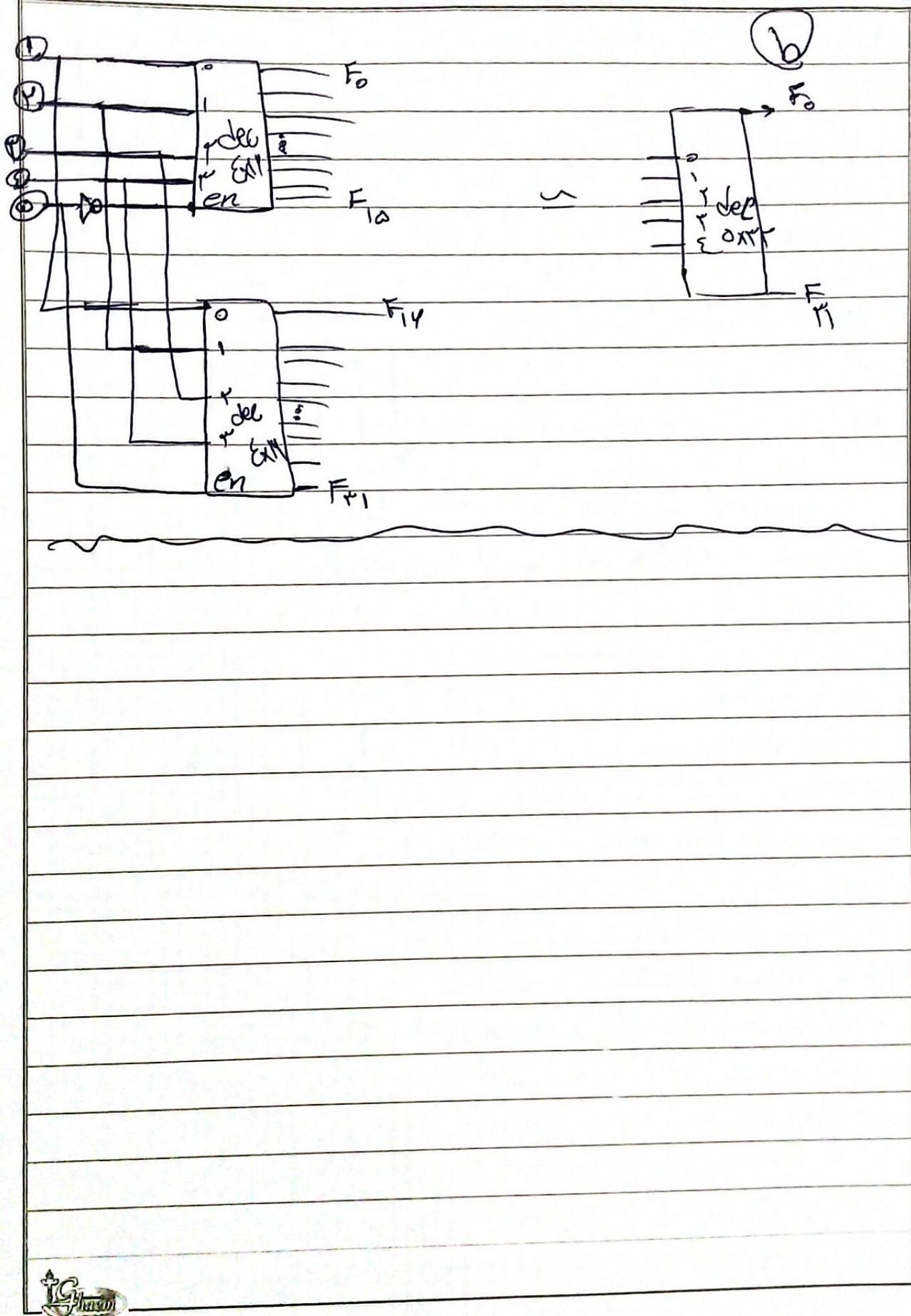


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Year:

Month:

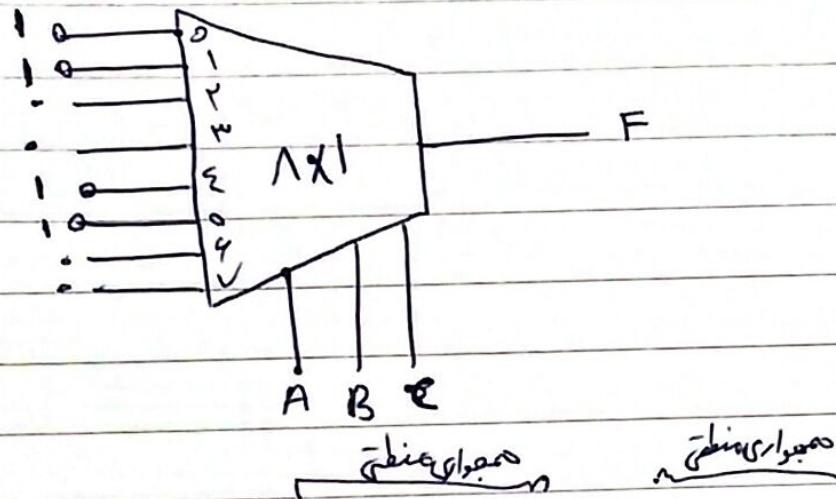
Day:



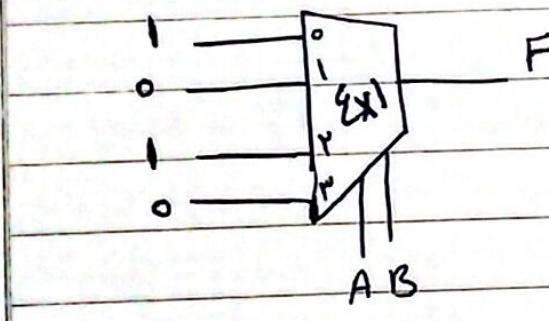
$$f(A, B, C) = \sum m(0, 1, 5, 6)$$

(Q) 15

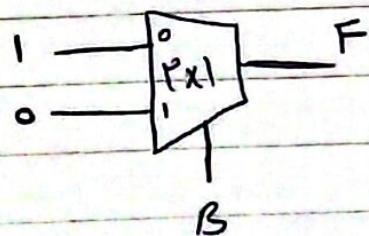
$$= \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C + A\bar{B}\bar{C} + A\bar{B}C$$



$$\begin{aligned} F(A, B, C) &= \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C + A\bar{B}\bar{C} + A\bar{B}C \\ &= \bar{A}\bar{B} + A\bar{B} \end{aligned}$$



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



مکالمہ میں صورتی:

$$\begin{array}{r}
 1010 \quad 1101 \quad 0010 \\
 \quad \quad \quad | \quad 1011 \\
 \hline
 101,010 \quad 100,111
 \end{array}$$

0 1 2 3 ✓

مسئلہ 15

$$\begin{array}{l}
 2 - 1 = 200, \\
 (10,2) = 5 \quad 200 \div 5 = 51
 \end{array}$$

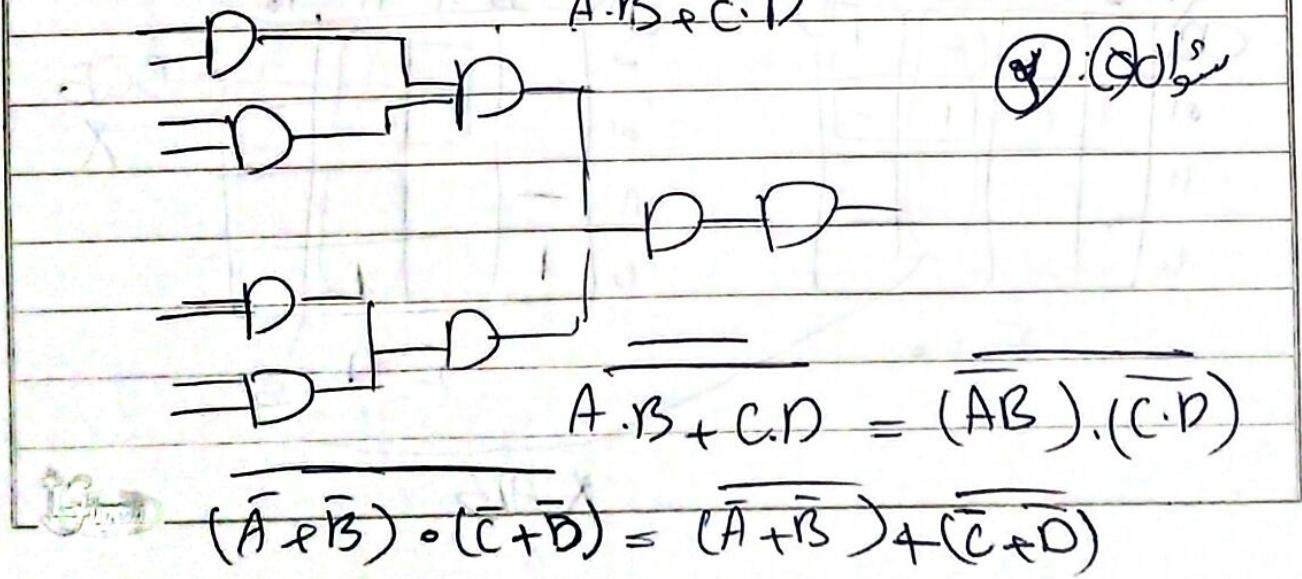
$$51 = 110011$$

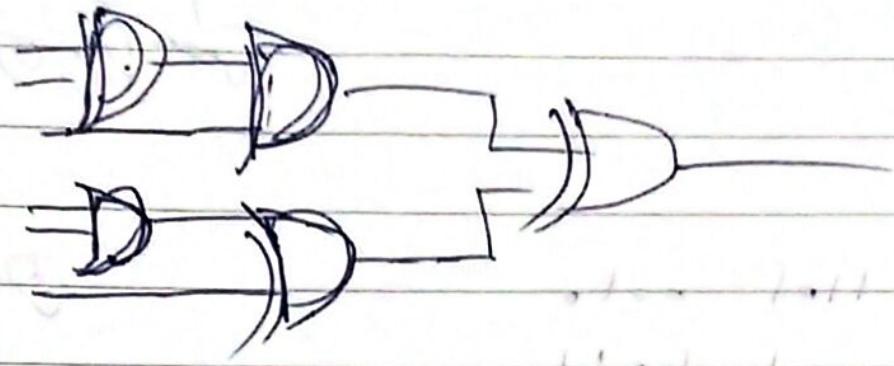
$$eb+1 = e(b+1) \rightarrow b=1$$

مسئلہ 16

مسئلہ 17

$$A \cdot B + C \cdot D$$





(P) (Q) 15

comes from E. Vellin

$$f(x, w, z, y) = y \cdot w$$

(P): QD 15

$$\bar{f}(x, w, z, y) = \overline{y + w} = \bar{y} \cdot \bar{w}$$

x	w	z	y	xw	$\bar{x}$	z	$\bar{y}$	1	11	10	1
-	0	-	0	0	1	0	1	1	1	0	1
0	-	-	0	0	1	0	1	0	1	0	0
1	-	-	0	0	0	1	0	0	0	1	0
11	-	-	0	0	0	1	0	0	0	1	0
10	-	-	0	0	1	1	0	0	0	0	1
10	1	1	0	0	1	1	0	0	0	0	1

m(0, 9, 10, 11)

	AB	0	1	11	10	
CD	1	1	1	1	1	
01	1	1	1	1	1	
11						
10						

ĀC̄B̄ (P) (Q) 15

	AB	0	1	11	10	
CD	0	1	1	1	1	
01						
11						
10						

B̄C̄B̄ X

E = 0

E = 1

X AB

$\checkmark 0$	0 0 0 0
$\checkmark 1$	0 0 0 1
$\checkmark 4$	0 1 1 0
$\checkmark 9$	1 0 0 1
$\checkmark 12$	1 1 0 0
$\checkmark 11$	1 0 1 1
$\checkmark 13$	1 1 1 0

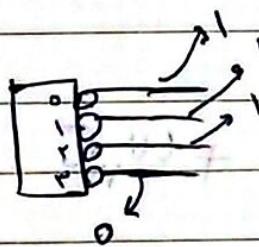
$$\left. \begin{array}{l} (09) \\ (19) \\ (4914) \\ (9,11) \\ (12914) \end{array} \right\} \quad \begin{array}{l} 000 - ③ \\ - 001 \\ - 110 \\ 10 - 1 \\ 11 - 0 \end{array}$$

سؤال ⑩

$(11) \rightarrow 3$

$(11) \rightarrow 3$

سؤال ⑪

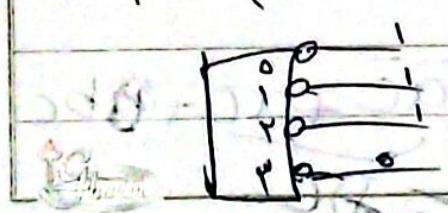


$$\begin{array}{l} D_0 = 0 \\ D_1 = 1 \\ D_2 = 1 \end{array}$$

$$(011) \rightarrow ③$$

$$A_1 A_0 = (11) = 3$$

سؤال ⑫



$$\begin{array}{l} D_0 = 0 \\ D_1 = 1 \\ D_2 = 0 \end{array}$$

جبر مجرد ٤٣

$$w_1: \begin{cases} b & a=0 \\ 1 & a=1 \end{cases} \rightarrow \cancel{b\bar{a}} + \cancel{1 \cdot a} \quad \text{Q: ١٥ جزء}$$
$$\bar{b}\bar{a} + a = b + a$$

$$w_2: \begin{cases} 0 & w_1=0 \\ c & w_1=1 \end{cases} \rightarrow 0 \cdot \bar{w}_1 + cw_1 = cw_1$$

$$w_3: \begin{cases} \bar{a}, c=0 \\ w_1, c=1 \end{cases} \rightarrow \bar{a} \cdot \bar{c} + w_1 \bar{c}$$

$$w_4 = c(b\cancel{+}a)$$

$$w = \bar{a}\bar{c} + c(b\cancel{+}a) = \underbrace{\bar{a}\bar{c} + ac}_{\bar{a} \oplus c} + bc$$

Subject:

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جامعة الملك عبد الله

$$\begin{array}{cccc} x_1 & x_2 & x_3 & x_4 \\ 0 & 0 & 0 & 0 \end{array} \rightarrow F = 0 \quad \text{جاذبية} \\ \begin{array}{cccc} 0 & 0 & 1 & 0 \end{array} \rightarrow F = 1 \quad \text{جاذبية, } m_p \\ \begin{array}{cccc} 0 & 0 & 1 & 1 \end{array} \rightarrow F = 0 \quad \text{جاذبية, } m_p \end{array}$$