

a) y = a (bcd) e = a (b, c+d) e = ab'e + ac'	1 le		<u> </u>
	,,	7	(2 0')
y = a(b+C+d) e = abe+ac	etade	= L(17, 19,	21,23,25,27,29)
		50 g	i e
a bede	y	a bede	у
0 0000	o	1 0000	0
0 0001	_0	1 0001	1
0 00 10	0	10010	0
00011	0	1 0 100	0
0 0 100	0	0 10 1	1
00101	0	• Mail 10/10/200	0
0 0 111	0	10111	1
0 0 111		10111	A
a 1000	0	11000	0
0 1001	0 .	11001	1.
9 10 10	0	11.010	0
0 1011	0		1.
0-11-00	0	11011	6
0 1101	0	11101	1
0 1 1 10	0	11110	0
0 1111	0	un	0
		70.8	
b) y,=a o (c+d+e) = a'(C+d+	e \ a (d	ما الما	
			+ad+ac+acde
y, = b'(c+d+e)f = bcf+k	of bef		
, , , ,	· . · . ·	acde	1
a-ca-da	e-	0- 0- 0	
	0010=2		•
00/00/ =9	11		1:33 :
001010=10		11 000	
00/0//2//		11 000	1=35
00 1 100 = 12	-		
00 1 0 1 = 13		6-d-f	-bef
001110=14		0100/59	000011=3
		,	
011000 = 24			
011010 = 26			

a) F(A,B,	c101= 3	(0,2,1	5,8,10,14)	T S	· (- ·	r	سوال 3-)
_		And I	v					
	iputs ABCO	mux input	solue	FLABICIDI		11 1		
	0000	0	0	! F=10	1 " 14 1 14 1 14 1 14 1	The state of the s		
	0010	0	2 ·		1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	0011	ì	3	o F=D'		11 -11		
(1)	0100	2 2	4 5	° F=D		i / / / /		
	0101			<u> </u>		0		-
	0111	3 3	6 7	0 F=0	2	821 Y	F	-
	1 000	4	8	1 F=D	40-1	B MUX		
	1001	<u>4</u> 5	10	0 1 1 1	0	5		
	1011	ち	П	6 F=1)		7		
	1101	6	12	0 F = 0		7,		
	1110	7	14	F=D				
97	1111	7	15					
	,,,,,	<u> </u>		1012				
	.,,,,	•		1 0 1 - 12				
hl								
b)	F(A,B,	C,D)=	- M (2,6	, 11)	1,,,	2 1 21		
F	F(A,B,	(11) = (11) =	- M(2,6	(11) (A) (A) 13.		B+C+D)		
F	F(A,B,	(11) = (11) =	- M(2,6	(11) (A) (A) 13.		β ₊ C+D)		
F	F(A,B,	(11) = (A (11) = (A	- M (2,6 (A + B + C B C D) +	(11) C+D')(A-13. -(ABCD')	Z (13,9,4)	B, C+D)		
F	F(A,B,	(11) = (A (11) = (A	- M (2,6 (A + B + C B C D) +	(11) (A) (A) 13.	Z (13,9,4)	β'+C+D)		
F	F(A,B, -= M(2,0 -= MABC's	(11) = (A (11) = (A	- M(2,6 (A+B+6 B'C'D)+ 5,6,7,8	(11) C+D')(A-13. -(ABCD')	Z (13,9,4)			
F	F(A,B, = 11(2,G) = (ABC)	(1) = (2,3,1) = (A	- M(2,6 (A+B+6 b(1))+	(11) C+D')(A-13. -(ABCD')	Z (13,9,4)			
F	F(A,B, -= [1 (2,0) -= [(A,B,C) -= [(A,B,C) -= [(A,B,C)	(,1)) = (()) + (A () 1 (2,3) 1	1 (2,6 (A+B+6 (BC))+ 5,6,7,8	(11) C+D')(A+13- -(ABCD')= -10,11,12,11	\(\frac{13,9,4}{4,15}\)	/ -\ So		
F	F(A,B, -= M(2,G) -= M(2,G	(, 1)) = (()) + (A () 1, 2, 3, 1, 1, 1, 2, 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	1 (2,6 (A+B+6 (A+B+6 (BC))+ 5,6,7,8	(11) (ABCD) = (10,11,12,11) (F=1)	<u> </u>	/ So Si		
F	F(A,B, -= [1 (2,0) -= [(A,B,C) -= [(A,B,C) -= [(A,B,C)	(,1)) = (()) + (A () 1 (2,3) 1	1 (2,6 (A+B+6 (BC))+ 5,6,7,8	(11) C+D')(A+13- -(ABCD')= -10,11,12,11	\(\frac{13,9,4}{4,15}\)	50 51 52 0, 82	່ ບ ├──	4
F	F(A,B, = 11 (2,6) = (ABC) 1 (ABC) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(, 1) = (() + (A 1, 2, 3, 1) 1 2 2 3	1 (2,6 (A+B+6 (BC))+ 5,6,7,8	(11) (ABCD) = (10,11,12,11) (F=1) (F=D)	\(\frac{13,9,4}{4,15}\)	50 51 52 0, 82 1	່ ບ ├──	
F	F(A,B, -= M(2,6) -=	(, D) = (C, D) = (D) + (A 1, 2, 3, 1) 1, 2 2, 2 3, 3	1 (2,6 (A+B+C BCD)+ 5,6,7,8	(ABCD) = (AB	\(\frac{13,9,4}{4,15}\)	50 51 52 0 1 2 4 4	່ ບ ├──	
F	F(A,B, = 11 (2,6) = (ABC) 1 (ABC) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(, 1) = (() + (A 1, 2, 3, 1 1 1 2 2 3 4	1 (2,6 (A+B+C BCD)+ 5,6,7,8 1 2 3 4 5 6 7	(11) (ABCD) = (10,11,12,11) (F=1) (F=D)	\(\frac{13,9,4}{4,15}\)	50 51 52 0, 82 1	່ ບ ├──	
F	F(A,B, = 11 (2,6) = (ABC) =	(, 1) = (() + (A 1, 2, 3, 1 1 1 2 2 3 4	- M(2,6 (A+B+6 BCD)+ 5,6,7,8	(ABCD) = (AB	\(\frac{13,9,4}{4,15}\)	50 51 52 a 82 1 2 4 5 6	່ ບ ├──	
F	F(A,B, = 11 (2,0) = (ABC) 1 (ABC) 0 0 0 0 0 0 0 0 0 10 0 0 10 0 0 11 0 0 11 0 0 11 0 0 10 1	C,D) = (P) + (A)	1 (2,6 (A+B+C BCD)+ 5,6,7,8 1 2 3 4 5 6 7	(ABCD) = (AB	\(\frac{13,9,4}{4,15}\)	50 51 52 a 82 1 2 4 5 6	່ ບ ├──	
F	F(A,B, = 11 (2,6) = (ABC) 1 (ABC) 0 0 0 0 0 10 0 0 10 0 0 11 0 0 10 0 1 0 10	(, ()) = (()) + (A ()) + (A () () + (A () () + (A () () + (A ()) + (A () () + (A ()) + (A ()	1 (2,6 (A+B+C BCD)+ 5,6,7,8 1 1 2 3 4 5 6 7	(ABCD) = (AB	\(\frac{13,9,4}{4,15}\)	50 51 52 a 82 1 2 4 5 6	່ ບ ├──	

