

9/11/20

A	B	C	m	M	
0	0	0	$A'B'C'$	$A+B+C$	1
0	0	1	$A'B'C$	$A+B+C'$	1
0	1	0	$A'BC'$	$A+B+C$	0
0	1	1	$A'BC$	$A+B+C'$	0
1	0	0	$AB'C'$	$A+B+C$	0
1	0	1	$AB'C$	$A+B+C'$	1
1	1	0	ABC'	$A+B+C'$	0
1	1	1	ABC	$A+B+C$	1

من تر: $F = A'B'C' + A'B'C + AB'C + ABC$

$$F = A'B'(C+C') + A C (B'+B)$$

$$F = A'B' + AC \quad \text{--- SOP}$$

$$POS = (A+B')(A'+C)$$

$$x \cdot F(1, y, z) + \bar{x} \cdot F(0, y, z) = x(\bar{y} + y\bar{z}) + \bar{x}(\bar{z} + y\bar{z})$$

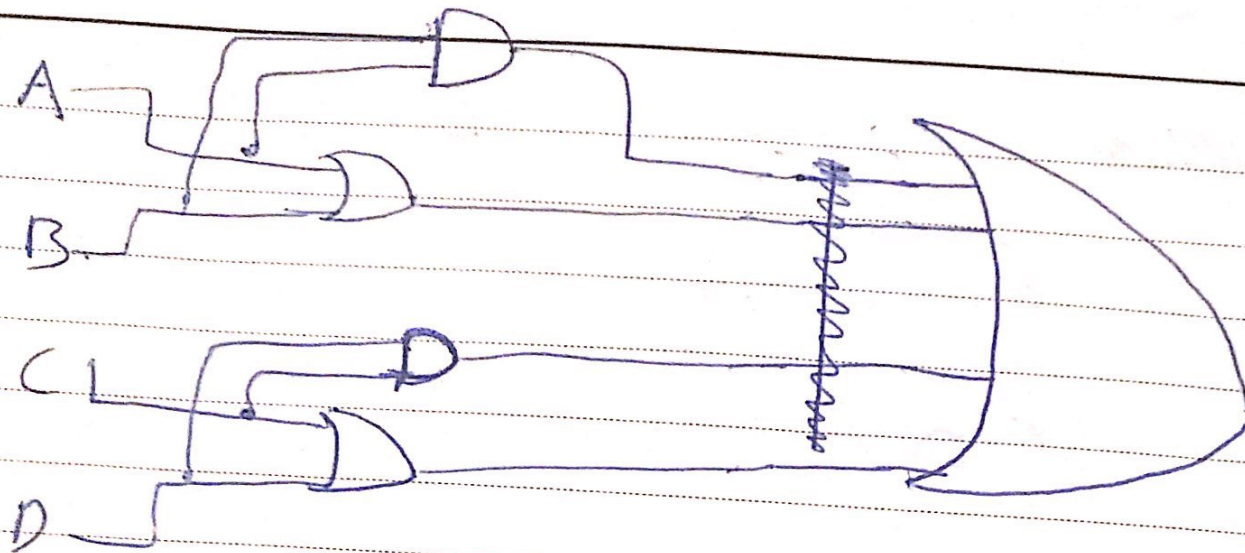
$$\Rightarrow (x + \bar{x}\bar{z} + y\bar{z}) (\bar{x} + \bar{y} + y\bar{z})$$

$$AB + AC + AD + BC + \cancel{BD} + CD \quad \text{— 1$$

$$A(B + A(C + D)) + B(C + D) + CD$$

$$= (C + \cancel{D})(A + B) + CD + AB \quad \text{— 16 ✓}$$

Subject: _____
Date _____



x	y	z	
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

(الف)

$$xy'z + x'y'z + xyz' + xyz = \text{SOP}$$

$$(x+y+z) \cdot (x+y'+z) \cdot (x'+y+z) \cdot (x+y+z') = \text{POS}$$

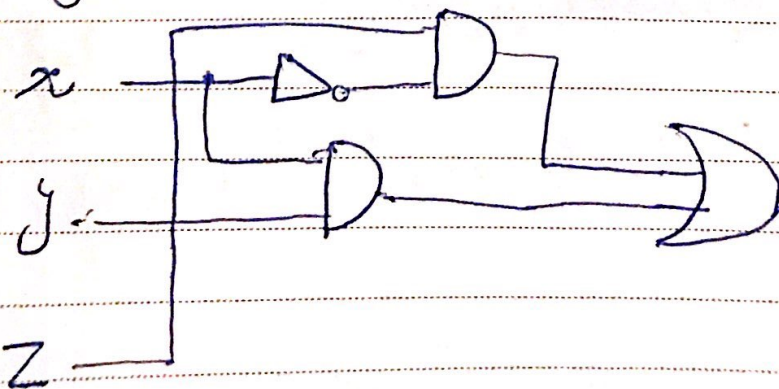
$$xy + x'z = \text{SOP}$$

(ب)

$$(x+z) \cdot (\bar{x}+y) = \text{POS}$$

$$xy + x'z$$

(ج)



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

$$f = a'b'c'd' + a'b'c\underline{d} + a'b\underline{c}d' + a'bcd + a\underline{b}cd' + a\underline{b}c\underline{d}' + abc'd + \underline{abcd}$$

$$\Rightarrow b'c'd' + abd + d'bd + b'cd'$$

$$\Rightarrow b'd' + bd$$

