

3.2

(c) $F(x, y, z) = \Sigma(2, 3, 5, 6)$

$x \backslash y^2$					
		00	01	11	10
0	0	0	0	1	1
	1	0	1	0	1

$$F = x'y + yz' + xy'z$$

(f) $F(x, y, z) = \Sigma(3, 4, 5, 6, 7)$

$x \backslash yz$		y			
		00	01	11	10
0	m_0			1	
	m_1				
1	m_4	1	1	1	1
	m_5				
		z			
		00	01	11	10
		m_0	m_1	m_3	m_2
		m_4	m_5	m_7	m_6

$$F = x + yz$$

3.6

(c) $F = A\bar{B}CD + ABC + CD + B\bar{D}$

$= \Sigma(1, 3, 7, 9, 11, 14, 15)$

$AB \backslash CD$		CD			
		00	01	11	10
AB	00	0	1	1	0
	01	0	0	1	0
	11	0	0	1	1
	10	0	1	1	0

$F = B\bar{D} + CD + ABC$

(d) $F = C\bar{D} + A\bar{B}D + A\bar{B}C'$

$AB \backslash CD$		C			
		00	01	11	10
A	00	m_0 1	m_1 1	m_3	m_2
	01	m_4	m_5 1	m_7 1	m_6
	11	m_{12}	m_{13} 1	m_{15}	m_{14}
	10	m_8	m_9 1	m_{11}	m_{10}
		D		B	

3.11

$$F(w, x, y, z) = \Sigma(0, 1, 3, 5, 7, 9, 10, 13, 15)$$

$wx \backslash yz$					
		00	01	11	10
00		1	1	1	0
01		0	1	1	0
11		0	1	1	0
10		0	1	0	1

$(w + y' + z)$ points to the cell (00, 10)
 $(x' + z)$ points to the cell (11, 00)
 $(w' + y + z)$ points to the cell (10, 00)
 $(w' + x + y' + z')$ points to the cell (10, 10)

$$F = (x' + z)(w' + y + z)(w + y' + z)(w' + x + y' + z')$$

3.15

$$(c) F = S(5, 6, 7, 11, 14, 15)$$

$$d = S(3, 9, 13)$$

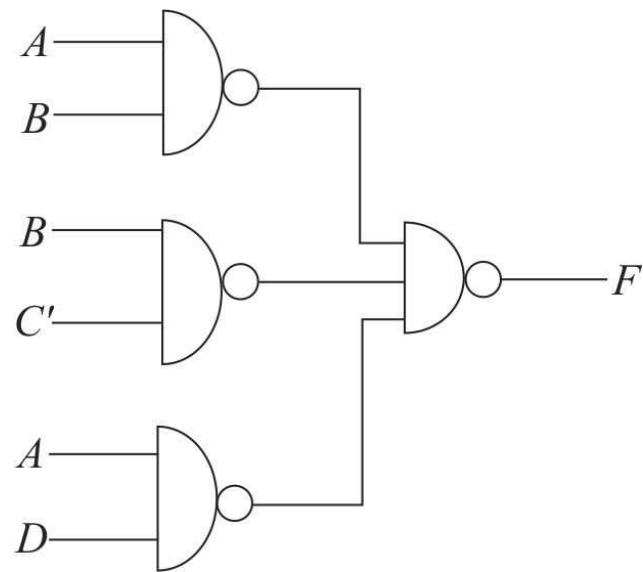
$AB \backslash CD$					
		00	01	11	10
00		0	0	-	0
01		0	1	1	1
11		0	-	1	1
10		0	-	1	0

$$F = BD + BC + AD$$

3.16

(a) $F(A, B, C, D) = AD + BC'D' + ABC + A'BC'D$

		CD			
		00	01	11	10
AB	00	0	0	0	0
	01	1	1	0	0
	11	1	1	1	1
	10	0	1	1	0



$$F = AB + BC' + AD$$

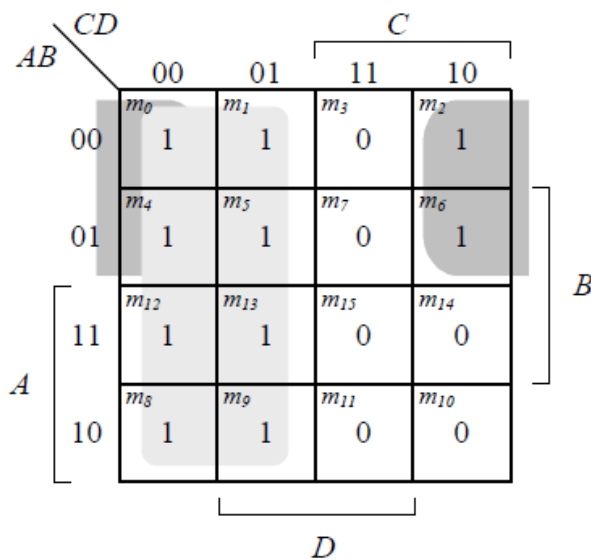
$$= [(AB)'(BC')'(AD)']'$$

(c)

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

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

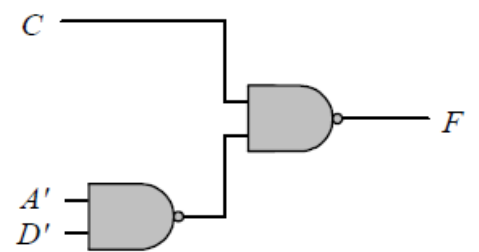
$$F' = ACD + AC + CD$$



$$F = C' + A'D'$$

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

$$F = (C(A'D'))'$$



3.21

$$F = w(x' + y' + z) + xy'z$$

$$= wx' + wy' + wz + xy'z$$

$$= [(wx)'(wy)'(wz)'(xy'z)']'$$

