

(Lecture 16+17)

K-map

→ K-map has been drawn in reference of Min-Terms.

→ For two-variables:-

		0	1
0	0	0	1
1	0	0	1

Qno1:- $f = m_1 + m_3$

= y Ans

Qno2:-

$f = m_1 + m_2 + m_3$

= $y + x$

		0	1
0	0	0	1
1	1	1	1

→ For three-variables:-

Qno3:- $f = m_0 + m_1 + m_2 + m_6 + m_7$

= $x'y' + xz + xy + y'z$

		00	01	11	10
0	m_0	m_1	m_3	m_2	
1	m_4	m_5	m_7	m_6	

Qno4:- $f = m_0 + m_2 + m_4 + m_6$

= z

		00	01	11	10
0	m_0	m_1	m_3	m_2	
1	m_4	m_5	m_7	m_6	

Ques:- $F = m_0 + m_3 + m_7 + m_5 + m_4$

	yz	00	01	11	10
x	0	1	0	1	0
	1	1	1	1	0

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

Ques:- $F = m_0 + m_1 + m_2 + m_3 + m_4 + m_5 + m_6 + m_7$

	yz	00	01	11	10
x	0	1	1	1	1
	1	1	1	1	1

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

$F = 1$ ANS

Four-Variables

Question:

$$f = m_0 + m_5 + m_7 + m_2 +$$

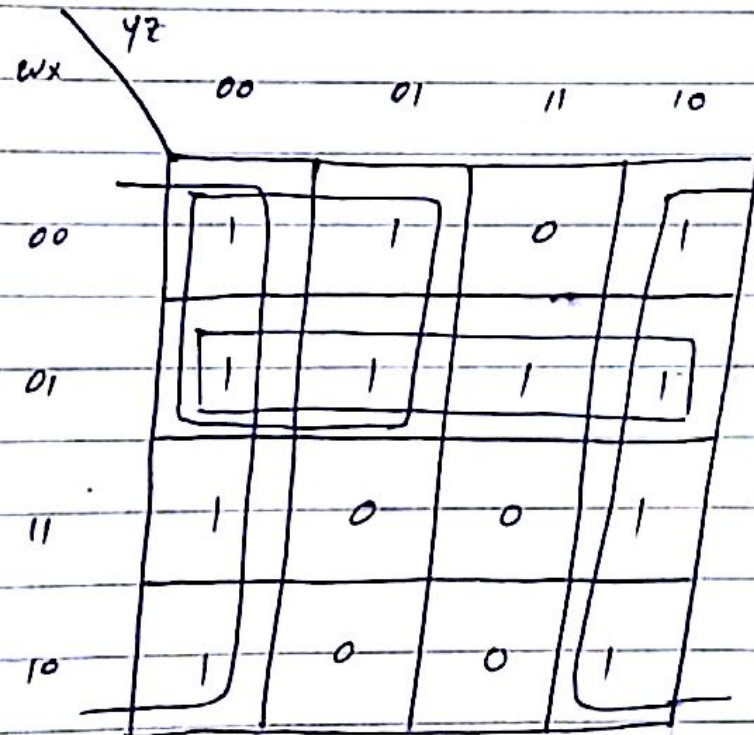
$$m_6 + m_{14} + m_{10} + m_{12} + m_9$$

$$+ m_4$$

w	x	y	z	
0	0	0	0	m_0
0	0	0	1	m_1
0	0	1	0	m_2
0	0	1	1	m_3
0	1	0	0	m_4
0	1	0	1	m_5
0	1	1	0	m_6
0	1	1	1	m_7
1	0	0	0	m_8
1	0	0	1	m_9
1	0	1	0	m_{10}
1	0	1	1	m_{11}
1	1	0	0	m_{12}
1	1	0	1	m_{13}
1	1	1	0	m_{14}
1	1	1	1	m_{15}

BCD

Unattended



$$f = z'x + w'y' + w'x$$

ANS