

04)

a) $F(X,Y,Z) = \pi M(2, 3, 5, 7)$

| m | x y z | maxtermos | PoS (2, 3, 5, 7) |
|---|-------|------------------|--------------------|
| 0 | 000 | $x+y+z$ | 1 |
| 1 | 001 | $x+y+z'$ | 1 |
| 2 | 010 | $x+y'+z = m_2$ | 0 |
| 3 | 011 | $x+y'+z' = m_3$ | 0 |
| 4 | 100 | $x'+y+z = m_5$ | 0 |
| 5 | 101 | $x'+y+z'$ | 1 |
| 6 | 110 | $x'+y'+z$ | 1 |
| 7 | 111 | $x'+y'+z' = m_7$ | 0 |

b) $F(X,Y,Z) = \pi M(0, 2, 3, 5, 6)$

| m | x y z | maxtermos | PoS (0, 2, 3, 5, 6) |
|---|-------|-----------------|-----------------------|
| 0 | 000 | $x+y+z = m_0$ | 0 |
| 1 | 001 | $x+y+z'$ | 1 |
| 2 | 010 | $x+y'+z = m_2$ | 0 |
| 3 | 011 | $x+y'+z' = m_3$ | 0 |
| 4 | 100 | $x'+y+z = m_5$ | 0 |
| 5 | 101 | $x'+y+z'$ | 1 |
| 6 | 110 | $x'+y'+z = m_6$ | 0 |
| 7 | 111 | $x'+y'+z'$ | 1 |

c) $F(X,Y,W,Z) = \pi M(0, 1, 2, 4, 7, 8, 12, 13)$

| m | x y w z | minitermos | PoS(0, 1, 2, 4, 7, 8, 12, 13) |
|----|---------|-----------------------|---------------------------------|
| 0 | 0000 | $x+y+w+z = m_0$ | 0 |
| 1 | 0001 | $x+y+w+z' = m_1$ | 0 |
| 2 | 0010 | $x+y+w'+z = m_2$ | 0 |
| 3 | 0011 | $x+y+w'+z'$ | 1 |
| 4 | 0100 | $x+y'+w+z = m_4$ | 0 |
| 5 | 0101 | $x+y'+w+z'$ | 1 |
| 6 | 0110 | $x+y'+w'+z$ | 1 |
| 7 | 0111 | $x+y'+w'+z' = m_7$ | 0 |
| 8 | 1000 | $x'+y+w+z = m_8$ | 0 |
| 9 | 1001 | $x'+y+w+z'$ | 1 |
| 10 | 1010 | $x'+y+w'+z$ | 1 |
| 11 | 1011 | $x'+y+w'+z'$ | 1 |
| 12 | 1100 | $x'+y'+w+z = m_{12}$ | 0 |
| 13 | 1101 | $x'+y'+w+z' = m_{13}$ | 0 |

d) $F(X,Y,W,Z) = \pi M(0, 2, 4, 5, 9, 11, 13)$

| m | x y w z | minitermos | PoS (0, 2, 4, 5, 9, 11, 13) |
|----|---------|-----------------------|-------------------------------|
| 0 | 0000 | $x+y+w+z = m_0$ | 0 |
| 1 | 0001 | $x+y+w+z'$ | 1 |
| 2 | 0010 | $x+y+w'+z = m_2$ | 0 |
| 3 | 0011 | $x+y+w'+z'$ | 1 |
| 4 | 0100 | $x+y'+w+z = m_4$ | 0 |
| 5 | 0101 | $x+y'+w+z' = m_5$ | 0 |
| 6 | 0110 | $x+y'+w'+z$ | 1 |
| 7 | 0111 | $x+y'+w'+z'$ | 1 |
| 8 | 1000 | $x'+y+w+z$ | 1 |
| 9 | 1001 | $x'+y+w+z' = m_9$ | 0 |
| 10 | 1010 | $x'+y+w'+z$ | 1 |
| 11 | 1011 | $x'+y+w'+z' = m_{11}$ | 0 |
| 12 | 1100 | $x'+y'+w+z$ | 1 |
| 13 | 1101 | $x'+y'+w+z' = m_{13}$ | 0 |

e) $F(X,Y,W,Z) = \pi M(0, 1, 2, 5, 6, 12, 14)$

| m | x y w z | minitermos | PoS (0, 1, 2, 5, 6, 12, 14) |
|----|---------|--|-------------------------------|
| 0 | 0000 | $x+y+w+z = m_0$ | 0 |
| 1 | 0001 | $x+y+w+z' = m_1$ | 0 |
| 2 | 0010 | $x+y+w'+z = m_2$ | 0 |
| 3 | 0011 | $x+y+w'+z'$ | 1 |
| 4 | 0100 | $x+y'+w+z$ | 0 |
| 5 | 0101 | $x+y'+w+z' = m_5$ | 1 |
| 6 | 0110 | $x+y'+w'+z = m_6$ | 1 |
| 7 | 0111 | $x+y'+w'+z'$ | 0 |
| 8 | 1000 | $x'+y+w+z$ | 0 |
| 9 | 1001 | $x'+y+w+z'$ | 0 |
| 10 | 1010 | $x'+y+w'+z$ | 0 |
| 11 | 1011 | $x'+y+w'+z'$ | 0 |
| 12 | 1100 | $x' \cdot y' \cdot w \cdot z = m_{12}$ | 1 |
| 13 | 1101 | $x'+y'+w+z$ | 0 |
| 14 | 1110 | $x'+y'+w+z' = m_{14}$ | 1 |