

$$(1) A + \underbrace{A \cdot A'}_0 = (A + A) \cdot (A + A') \\ A \cdot 1 = A$$

$$(2) \underbrace{AB}_x + \underbrace{(A \cdot B)'}_{x'} \underbrace{C}_y = x + x'y = \underbrace{(x + x')}_{=1} \cdot (x + y) \\ = x + y = \underline{\underline{AB + C}}$$

$$(3) A + \overline{AB} = A + AB = (A \cdot 1) + (AB) \\ = A(B + 1) \\ = \underline{\underline{A}}$$

$$(4) (A + A') B \cdot B' = (A + A') 0 = 1 \cdot 0 = \underline{\underline{0}}$$

$$(5) \underbrace{AB}_x + \underbrace{(AB)'}_{x'} \underbrace{CD}_y + \underbrace{(ABC')}_0 DC =$$

$$= x + x'y = (x + x') \cdot (x + y)$$

$$\rightarrow \underline{\underline{AB + CD}}$$

$$\cancel{x} + \cancel{x} + y + \cancel{\phi} = x + y \quad \Rightarrow$$

$$\begin{aligned} \textcircled{6} \quad AB + A'C + B'A &= A + A'C \\ &= (A + A') \cdot (A + C) \\ &= \underline{\underline{A + C}} \end{aligned}$$

$$\textcircled{7} \quad A + \underbrace{A'B'C}_{\substack{x \\ x' \quad y}} + BCD' =$$

$$x + \cancel{x}y = x + y = A + B'C + BCD'$$

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

$$= A + \underbrace{x + x'y}_{x+y}$$

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

$$= A + B'C + B'D$$

$$\textcircled{8} \quad \underbrace{A'B'C'}_{\substack{x \\ y \quad x}} + \underbrace{A'B'C}_{\substack{y \quad x'}} + ABC' + AB'C' =$$

$$= xz + yz$$

$$= z(x+y)$$

$$= A'B' + \underbrace{AB}C' + \underbrace{AB'}C'$$

$$= A'B' + AC'(B+B')$$

$$= A'B' + AC'$$

$\cdot \rightarrow$ seri (boş)
 $+$ \rightarrow paralel (boş)

$$\textcircled{9} \quad \underbrace{A'B'C} + \underbrace{A'BC} + AB'$$

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

$$= A'C + AB'$$

$$\textcircled{10} (A'+B)(A+C)(B+C)$$

$$\underbrace{[A'A + A'C + AB + BC]}_0 (B+C)$$

$$\underline{A'BC} + \underline{AB} + BC + \underline{A'C} + \underline{ABC} + BC$$

$$A'C(B+1) + ABC(C+1) + BC$$

$$A'C + AB + BC$$

$$(11) AB + AB' + A'C + A'C'$$

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

$$A + A' = 1$$

① rule: distributive

$$\boxed{x + x'y = x + y}$$

distributive

$$(12) ABC + ABC' + A'BC' =$$

$$AB(C+C') + A'BC'$$

$$AB + A'BC'$$

$$B(A + A'C') = (A + C')B = AB + BC'$$

$x + x'y \rightarrow x + y$

$$13-) (A'+B) [A'(B+A)] = (A'+B) A' (B+A)$$

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

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

$$= A'BA' + ABB$$

$$= A'B + A'B$$

$$= A'B$$

$$14 (A+C)(A+AD+AD') + AC + C$$

$$\begin{array}{c} AC(D+D') \quad C(A+1) \\ \left[(A+C) \quad A \right] + C \\ AA + AC + C \end{array}$$

$$= A + AC + C$$

$$= \underline{\underline{AC}}$$

$$= A + AC + C$$

Standard Geprink
Teploni fernu=?

15

$$= A.(B+B')(C+C') + BC + A'C$$

$$= (AB + AB').(AC + AC') + BC + A'C$$

$$ABAC + AB'AC$$

$$= ABC + ABC' + AB'C + AB'C' + BC + AC$$

$$= ABC + ABC' + AB'C + AB'C' + BC(A+A') + A'C(B+B')$$

$$= \textcircled{ABC} + ABC' + AB'C + AB'C' + \cancel{ABC} + \cancel{A'BC} + \cancel{A'BC} + A'B'C$$

$$= ABC + ABC' + AB'C + AB'C' + A'BC + A'B'C$$

15 (2. Gözüm) $F(ABC) = A + BC + A'C$

$$\begin{array}{c} A \\ \hline ABC \\ 100 \\ 101 \\ 110 \\ 111 \end{array}$$

$$\begin{array}{c} BC \\ \hline ABC \\ 011 \\ 111 \end{array}$$

$$\begin{array}{c} A'C \\ \hline ABC \\ 001 \\ 011 \end{array}$$

$$AB'C' + A'B'C + ABC' + ABC + A'BC + A'B'C$$

Standard
SOP ✓

3 Girdi: 5ir Fonksiyon

16 $F(A,B,C) = A'B'C + A'BC + ABC \rightarrow$ stand
set P ✓

A	B	C	F	minterm
0	0	0	0	m_0
0	0	1	1	m_1
0	1	0	0	m_2
0	1	1	1	m_3
1	0	0	0	m_4
1	0	1	0	m_5
1	1	0	0	m_6
1	1	1	1	m_7

$\rightarrow A'B'C$

$\rightarrow A'BC$

$\rightarrow ABC$

$$F(ABC) = \sum (1, 3, 7)$$

