

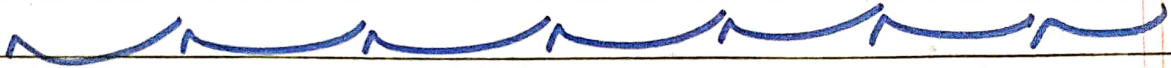


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Sec. 20.

"DLD"



## 2. Minimum POS:-

→ Standard POS,

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

$$(B+D+A+\bar{A}+C+\bar{C})$$

$$= [(A+B+C)(A+B+\bar{C})+D+\bar{D}] [(A+\bar{C}+B)(\bar{A}+C+\bar{B}+D+\bar{D})]$$

$$[(B+\bar{D}+A)(B+\bar{D}+\bar{A})+C+\bar{C}]$$

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

$$(\bar{A}+B+C+D)(\bar{A}+B+C+\bar{D})(\bar{A}+\bar{B}+C+D)$$

$$\neq (\bar{A}+B+\bar{C}+\bar{D})(A+B+C+D)(A+B+C+D)$$

$$(B+\bar{A}+C+D)(B+\bar{A}+C+D)$$

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

$$(\bar{A}+B+C+D)(\bar{A}+\bar{D}+C+D)(\bar{A}+\bar{B}+C+D)$$

$$\cancel{(\bar{A}\bar{B})} (\bar{A}+\bar{B}+C+D)(\bar{A}+\bar{B}+C+\bar{D})$$

$$(\bar{A}+B+\bar{C}+D)$$

For POS

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

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

Minimum

$$(\bar{A} + C)(A + B)(B + \bar{C} + D)A$$

SOP

$$\sum m(4, 5, 6, 7, 11, 14, 15)$$

Minimum for SOP

$$\bar{A}B + BC + AC$$

For SOP equation,

$$\begin{aligned} & ABCD + \bar{A}B\bar{C}D + \bar{A}B + CD \\ & + ABC\bar{D} + AB\bar{C}D + ABCD + ABC\bar{D} + \bar{A}BCD \end{aligned} \quad \text{Ans}$$