Q NO 4 20P-0147 Shoaib Akhlaq BSCS-8B

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

(A) Standard PoS

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

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

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

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

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

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

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

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

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

20P-0442
Shoaib Akhtar

(3) Minimum POS

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

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

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

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

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

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

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

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

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

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

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

(Sol)

$= (A.\bar{A} + AC + \bar{A}.B + BC)(B+D)$

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

$= ABC + ACD + ABB + ABD + ABD + BBC + BCD$

$= ABC + ACD + AB + ABD + BC + BCD$

$ABC.(D+D') + ACD.(B+B') + AB.(C+C') + ABD + BC(C+C') + BC.(A+A') + BCD.(A+A')$

$= ABCD + ABCD' + ABCD + AB'CD + ABC(D+D') + ABC'(D+D)$

$ABCD + ABCD' + ABCD + AB'CD + ABCD + ABCD' + ABC'D + AB'C'D'$

$ABCD + ABCD' + ABCD + ABCD' + ABC'D + ABC'D' + ABCD + A'BCD$