Atividade Avaliativa - AOC I

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① $Z = \overline{A \cdot B \cdot \bar{C}} \rightarrow \bar{A} + \bar{B} + \bar{\bar{C}} \rightarrow \bar{A} + \bar{B} + C$

② Figura 1:

$Y_1 = \overline{\bar{A} \cdot B} \cdot (A + B)$

$\overline{A \cdot \bar{B}} + \overline{A + B}$

$A \cdot \bar{B} + \overline{A + B}$

Figura 2:

$Y_2 = A \cdot B + \overline{A + B}$

③ $y = \overline{A \cdot B} \cdot \overline{B + C}$

$(\bar{A} \cdot \bar{B}) \cdot \bar{B} \cdot \bar{C}$

$\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{B} \cdot \bar{B} \cdot \bar{C}$

$\bar{B} \cdot \bar{C} \cdot (\bar{A} + 1)$

$\bar{B} \cdot \bar{C}$

				$\overline{AB}$	$\overline{B+C}$	$\overline{AB} \cdot \overline{B+C}$
0	0	0		1	1	1
0	0	1		1	0	0
0	1	0		1	0	0
0	1	1		1	0	0
1	0	0		1	1	1
1	0	1		1	0	0
1	1	0		0	0	0
1	1	1		0	0	0

④ a) $Y = AB + A(B+C) + B(B+C)$

$AB + AB + AC + BB + BC$

$AB + AC + B + BC$

$B(1 + A + C) + AC$

$B1 + AC \rightarrow B + AC$

b) $Y = (A\bar{B}(C + BD) + \bar{A}\bar{B})C$

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

$A\bar{B}CC + \bar{A}\bar{B}C$

$A\bar{B}C + \bar{A}\bar{B}C$

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

$\bar{B}C(1) \rightarrow \bar{B}C$

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

$AA + AC + A\bar{B} + \bar{B}C$

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

$A(1 + C + \bar{B}) + \bar{B}C$

$A(1) + \bar{B}C \rightarrow A + \bar{B}C$

d) $Y = AB + \overline{A\bar{B}}C + A$

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

$1(AB + C) + A$

$AB + C + A$

$A(1 + B) + C$

$A(1) + C \rightarrow A + C$

e) $Y = \bar{A}\bar{B}C + \overline{A + \bar{B} + \bar{C}} + \bar{A}\bar{B}\bar{C}D$

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

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

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

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

$\bar{A}\bar{B}((1)(C + D)) \rightarrow \bar{A}\bar{B}(C + D)$

f) $Y = ABC(AB + \bar{C}(BC + AC))$

$ABC(AB + B\bar{C}C + AC\bar{C})$

$ABC(AB + 0 + 0)$

$ABC(AB)$

$AABBC \rightarrow ABC$

g) $Y = \overline{A\bar{B}} + \overline{\bar{A}+C}$

$\bar{A} + \bar{\bar{B}} + \bar{A}\bar{C}$

$\bar{A}(1 + \bar{C}) + \bar{\bar{B}}$

$\bar{A}1 + \bar{\bar{B}} \rightarrow \bar{A} + \bar{\bar{B}}$

h) $Y = \overline{\overline{A\bar{B} + CD} + \overline{AC\bar{D}}}$

$\overline{\overline{A\bar{B}}\,\overline{CD}} + \overline{AC} + \bar{\bar{D}}$

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

$\bar{C}1 + (\bar{A} + A)(\bar{A} + \bar{B}\bar{D}) + D$

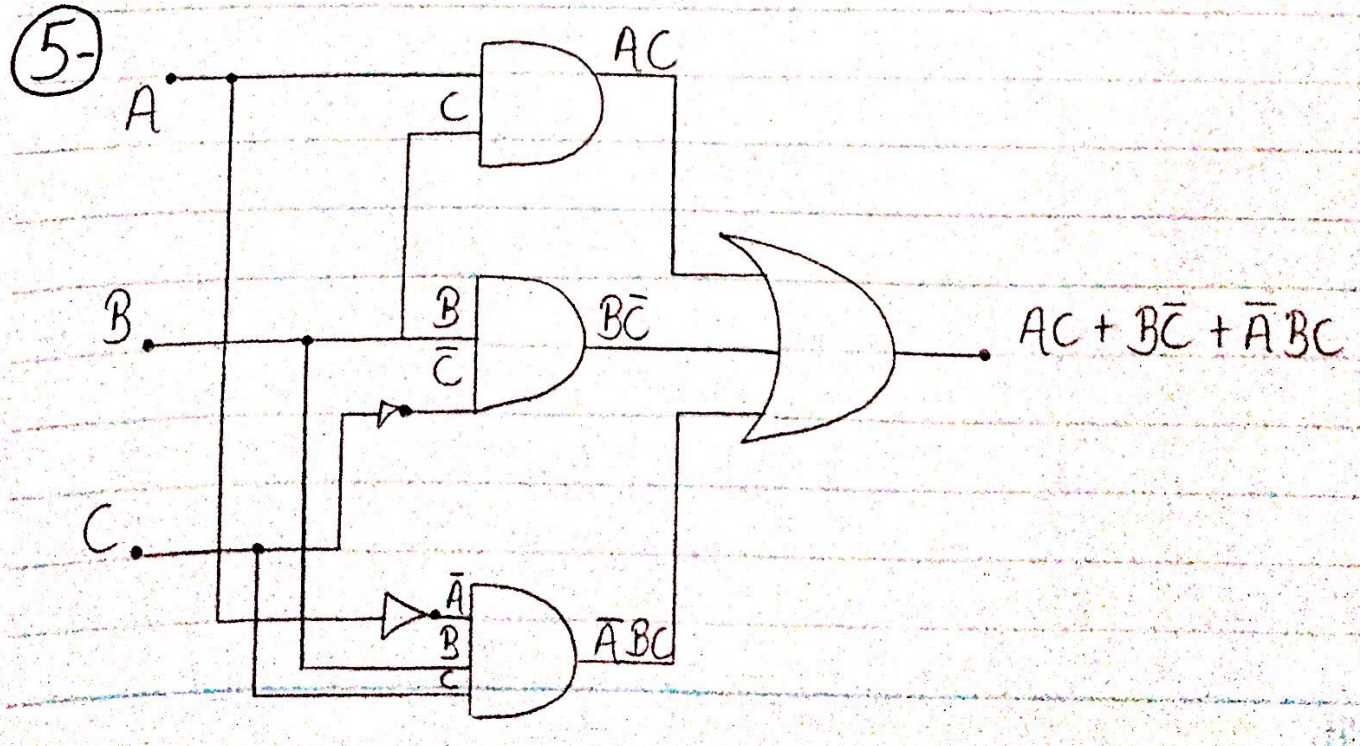
$\bar{C} + 1(\bar{A} + \bar{B}\bar{D}) + D$

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

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

$\bar{C} + \bar{A} + 1(D + B) \rightarrow \bar{C} + \bar{A} + D + B$

5-



⑥-

OR	AND	NOT
0	0	1
1	0	0
1	0	
1	1	

⑦- $\bar{A} \cdot B \cdot \bar{C} + \bar{A}BC + A \cdot \bar{B} \cdot C + AB\bar{C}$