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**Name :****ID. No. :**

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**Task:** Design a combinational circuit whose truth table is given below.  $A_3$ ,  $A_2$ ,  $A_1$  and  $A_0$  are inputs; and  $Y_3$ ,  $Y_2$ ,  $Y_1$  and  $Y_0$  are outputs. Use minimum number of gates in circuit.

$A_3$	$A_2$	$A_1$	$A_0$	$Y_3$	$Y_2$	$Y_1$	$Y_0$
0	0	0	0	0	0	0	0
0	1	0	0	0	1	0	0
0	1	0	1	0	0	1	1
0	1	1	0	0	0	1	0
0	1	1	1	0	0	0	1
1	0	0	0	1	0	0	0
1	0	0	1	0	1	1	1
1	0	1	0	0	1	1	0
1	0	1	1	0	1	0	1
1	1	1	1	1	0	0	1