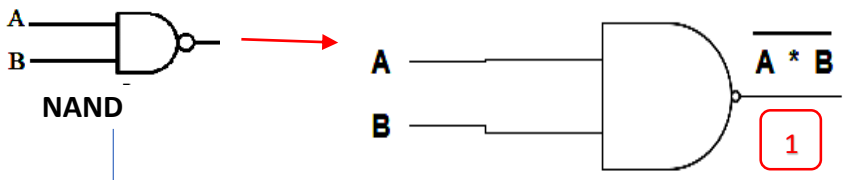
AUDIO MATERIAL

-CS-UNIT-3-

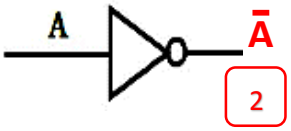
Introduction to Boolean Algebra.

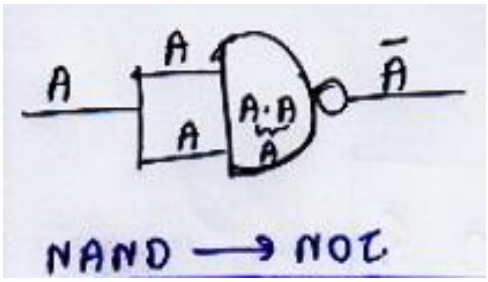
Part 3

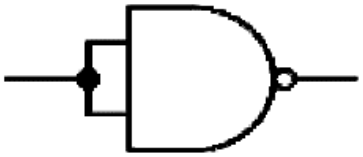
1. Implementation given function only using NAND gates.



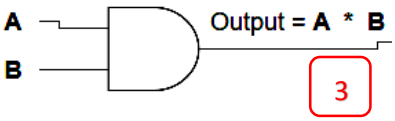
NOT

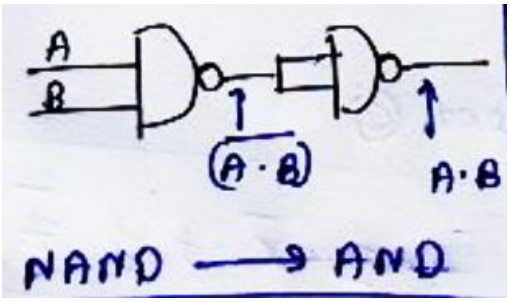


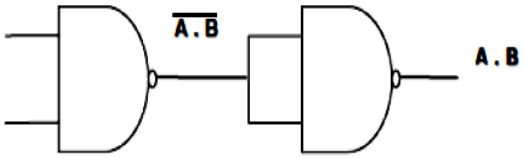




AND







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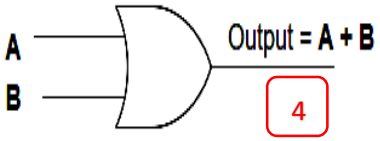
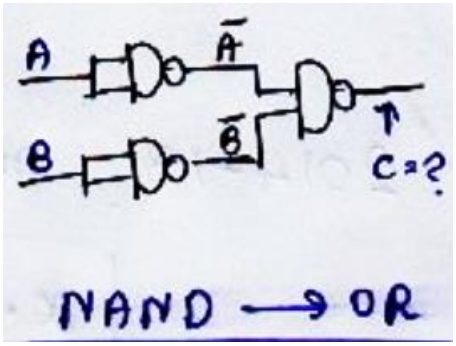
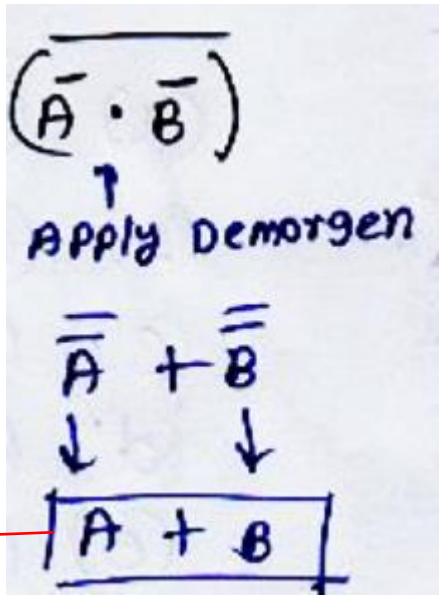
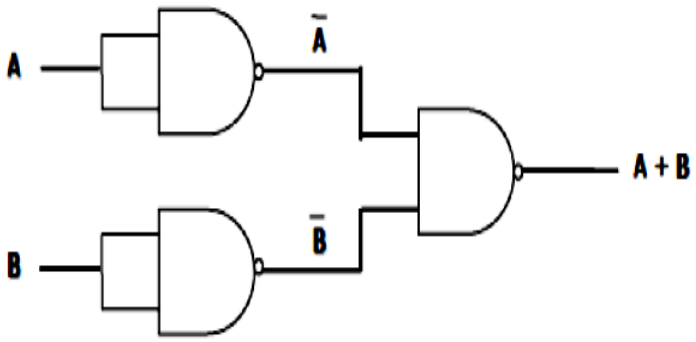


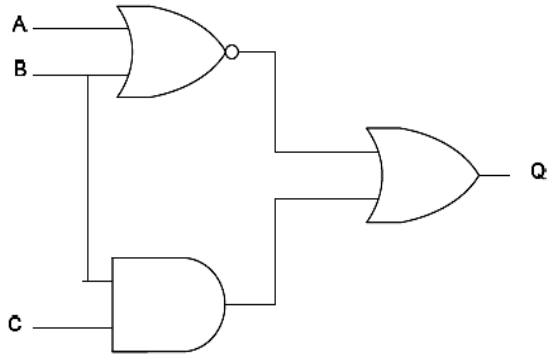




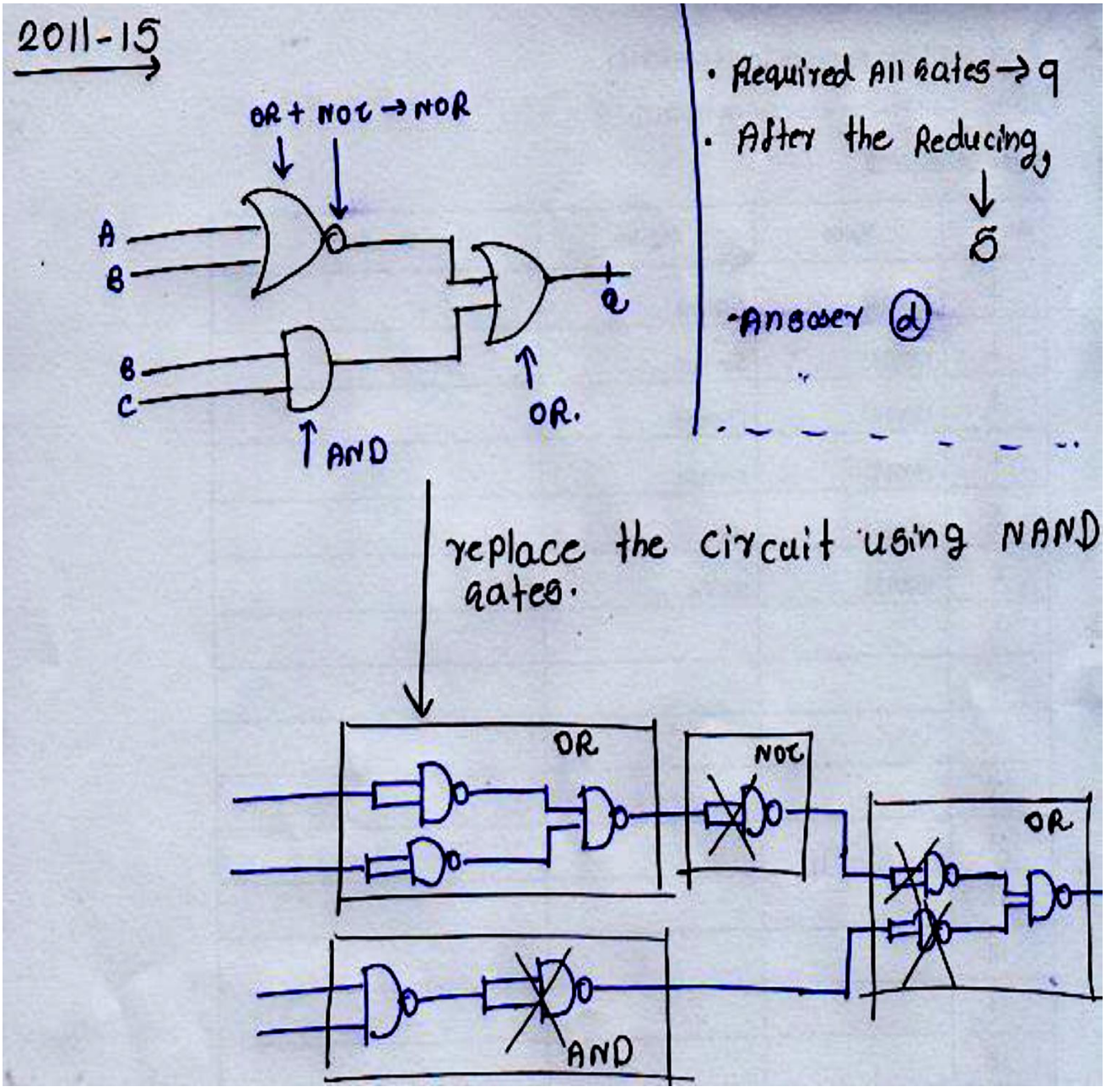


2011-15

15) How many NAND gates are required if each of the gates in the following logic circuit is to be replaced directly by a combination of NAND gates only?

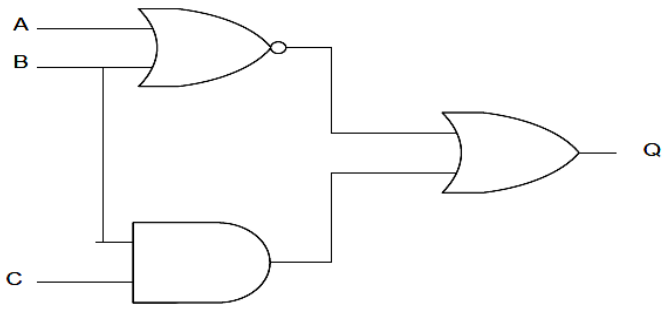


(a) 6.	(b) 7.	(c) 8.
(d) 9.	(e) 10.	

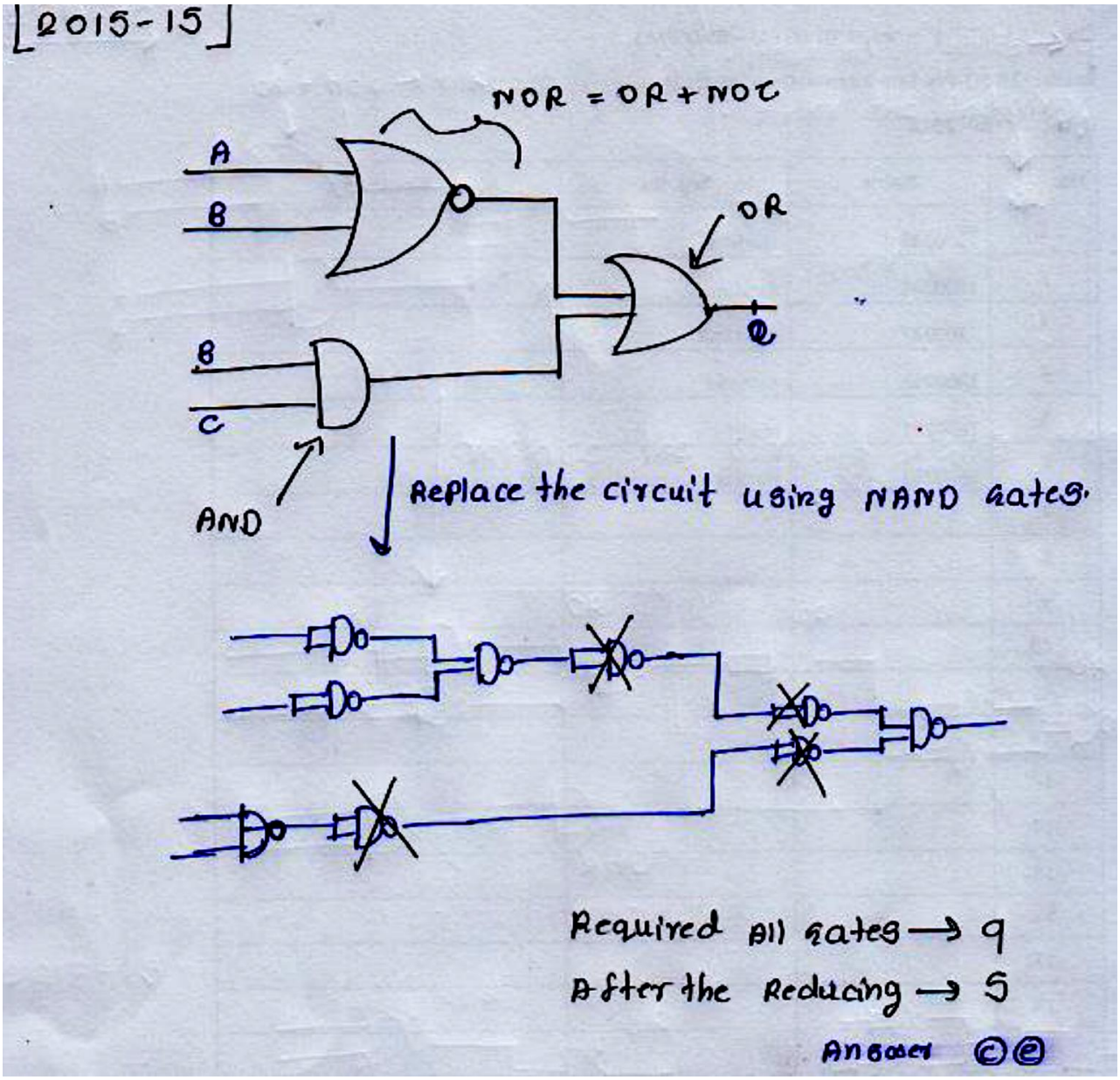


2015-15

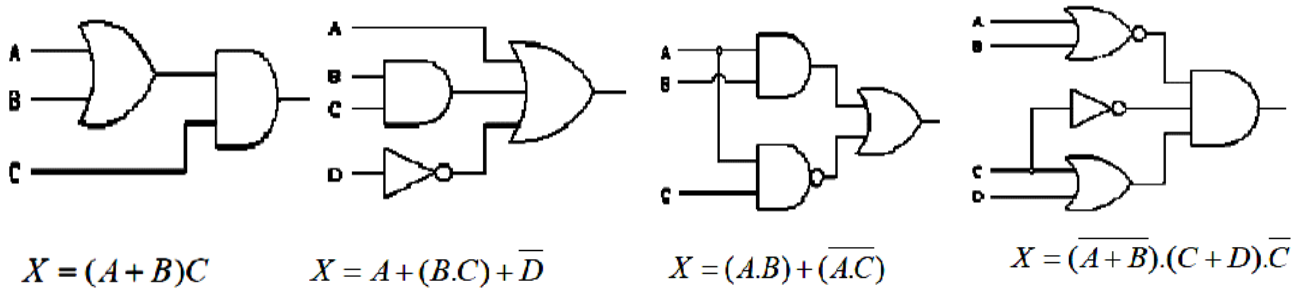
15) How many NAND gates are required for the following logic circuit, if it is to be implemented only using NAND gates?



(a) 3	(b) 4	(c) 5
(d) 6	(e) 9	



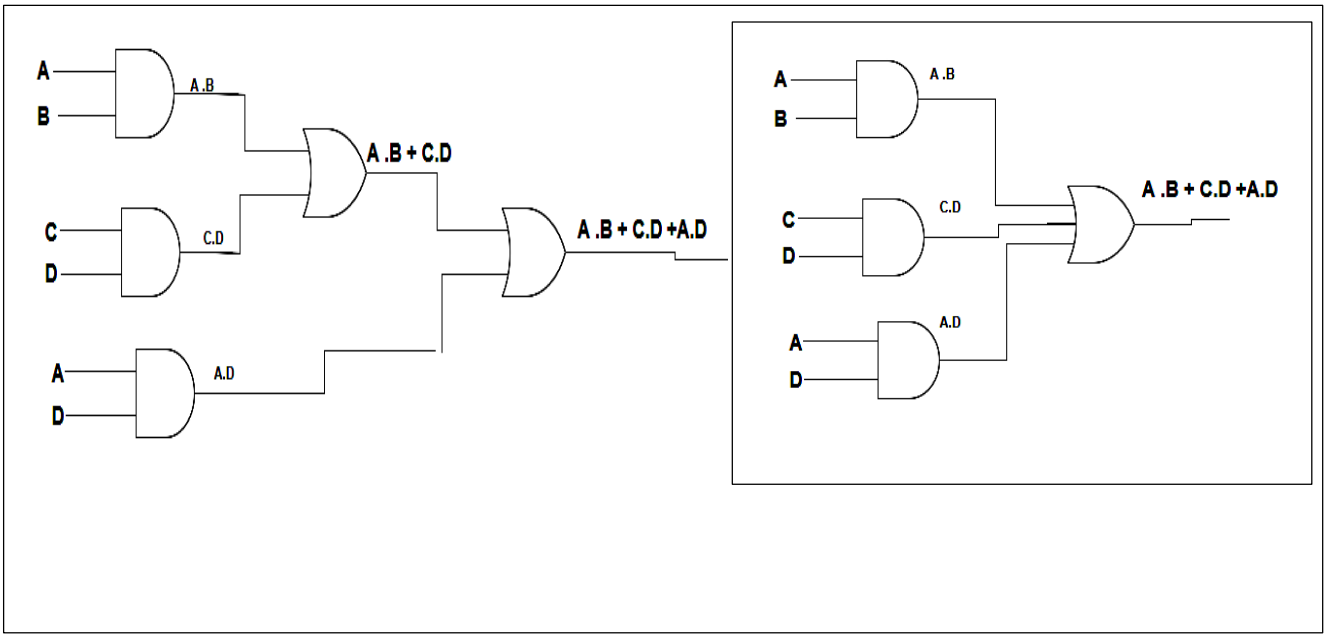
2. Check answers with diagram,



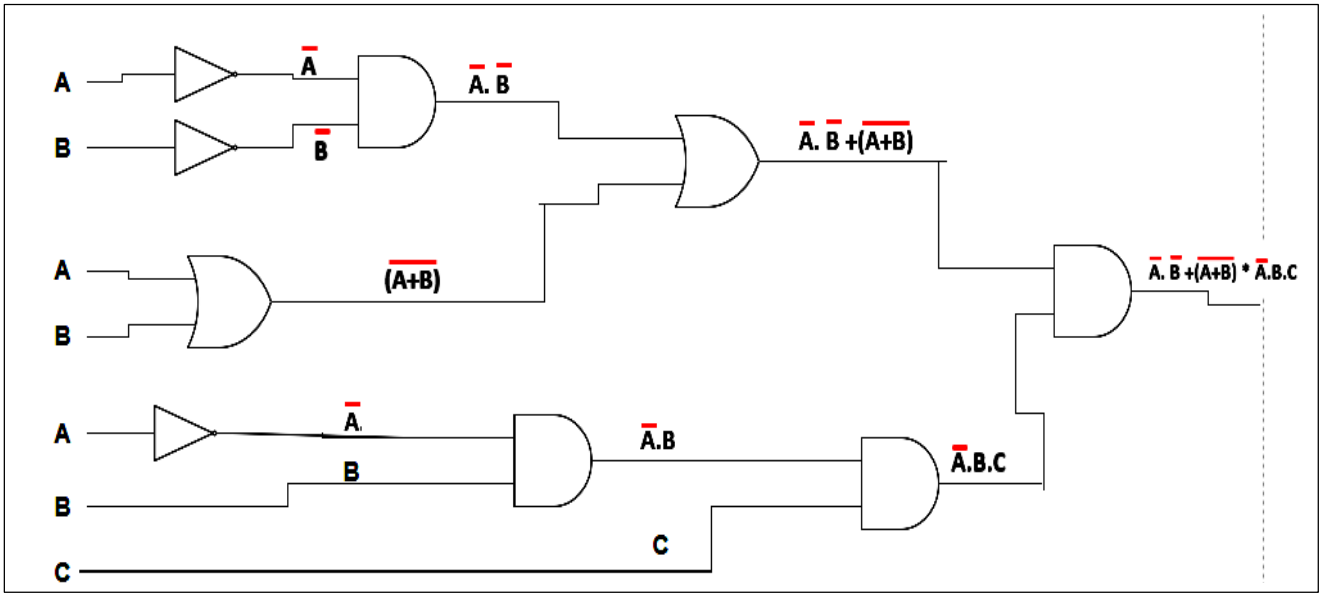
$X = (A+B)C$ $X = A+(B.C)+\overline{D}$ $X = (A.B)+(\overline{A.C})$ $X = (\overline{A+B}).(C+D).\overline{C}$

3. Drawing Logic Gate System (Circuit) According to Equation.

a. AB + CD + AD



b. $\overline{A}$. $\overline{B}$ +($\overline{A+B}$) * $\overline{A}$.B.C



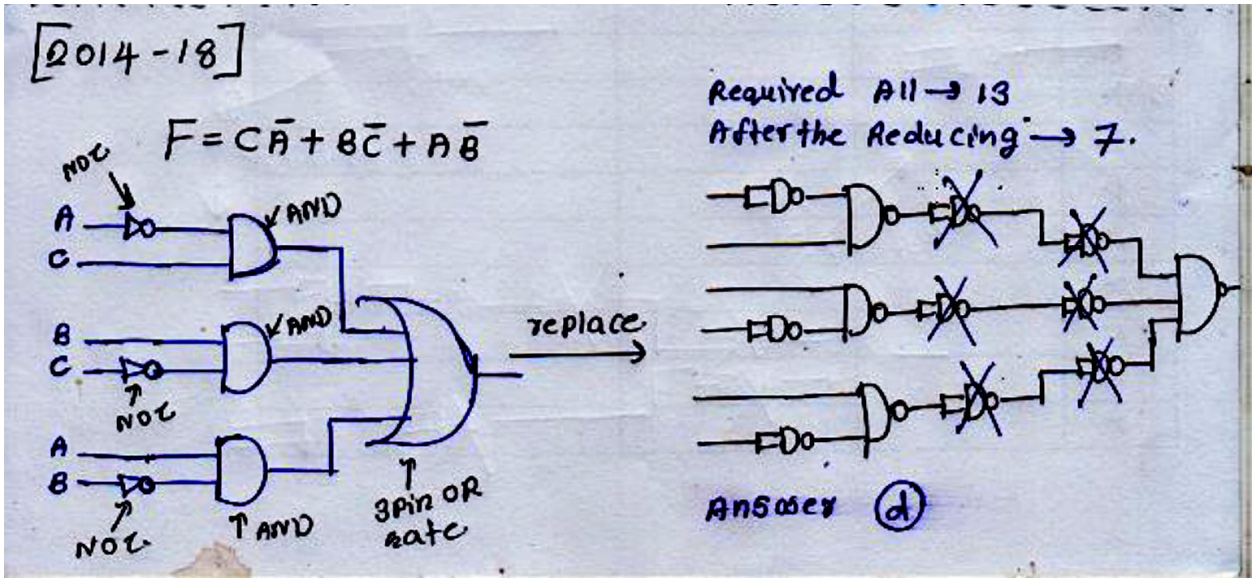
c. $\overline{A.B.C}$ +(A+BC) * A.B

2014-18

18) How many NAND gates are required for the logic function F, if it is to be implemented using NAND gates only?

$$F = C\overline{A} + B.\overline{C} + A.\overline{B}$$

(a) 4	(b) 5	(c) 6
(d) 7	(e) 8	



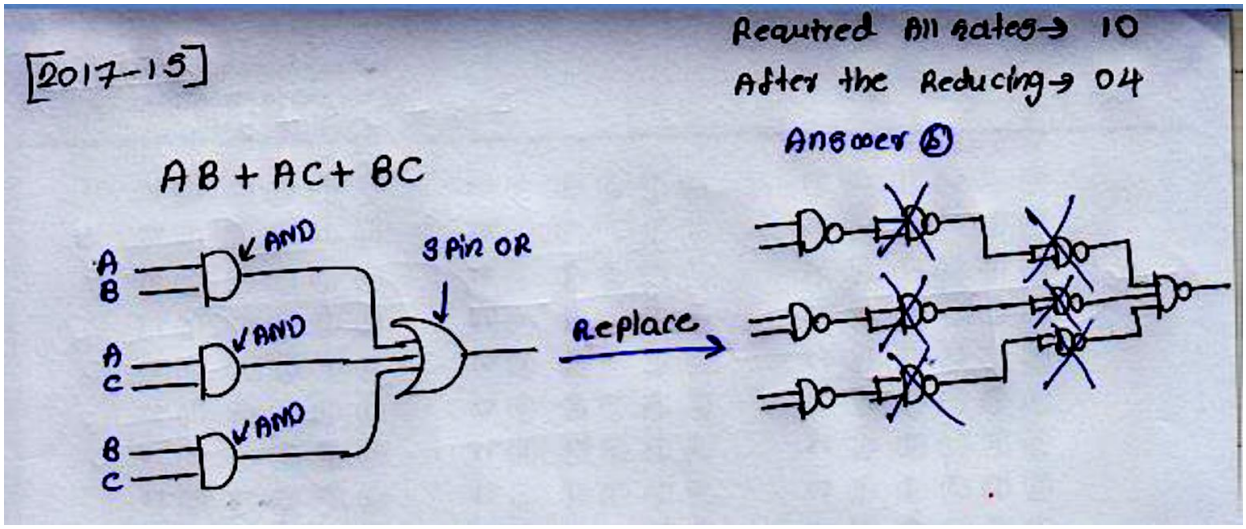
2017-15

15) Consider the following Boolean function

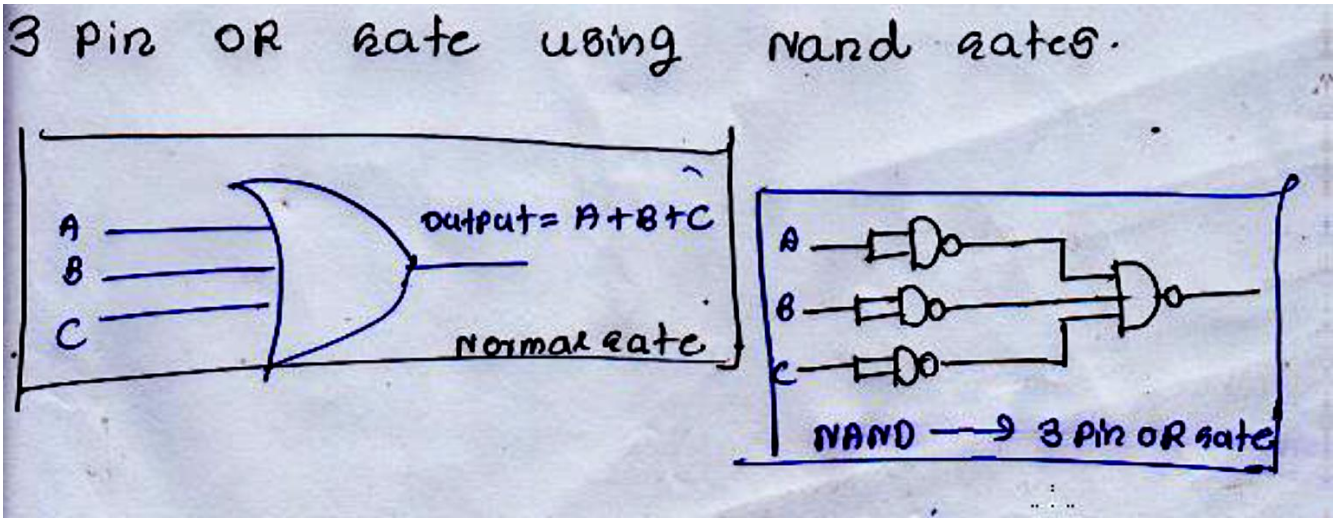
$$F(A, B, C) = (A.B) + (A.C) + (B.C)$$

How many NAND gates are required for the above Boolean function, if it is to be implemented only using NAND gates?

(a) 3	(b) 4	(c) 5
(d) 6	(e) 7	



NOTE:-



NEXT TUTE → KMAP.