IOT ASSIGNMENT

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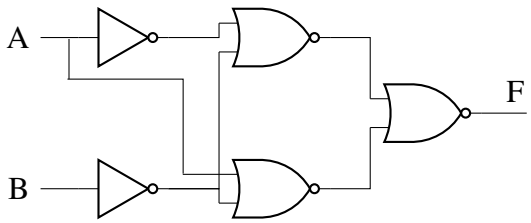
IITH - Future Wireless Communication

CONTENTS

I. QUESTION

The logic block shown has an output F given by

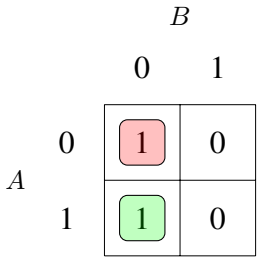


(A) $A + B$
(B) $A \cdot \bar{B}$
(C) $A + \bar{B}$
(D) $\bar{B}$

II. ANSWER

The above question can be solved as follows:
$\rightarrow \bar{A} \cdot \bar{B} + A \cdot \bar{B}$
$\rightarrow (A + \bar{A}) \cdot \bar{B}$
$\rightarrow \bar{B}$
Therefore, the output $F = \bar{B}$.

III. K-MAP IMPLEMENTATION



Therefore $F = \bar{B}$.

IV. TRUTH TABLE

A	B	F
0	0	1
0	1	0
1	0	1
1	1	0

Truth table for Boolean function F

V. LOGIC DIAGRAM

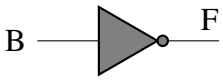


Fig. 2

VI. COMPONENTS

Components	**Values**	**Quantity**
VAMAN		1
Jumper Wires	M-M	4
Breadboard		1

VII. IMPLEMENTATION

VAMAN PIN	**INPUT**	**OUTPUT**
2	A	
4	B	
13		F

Connections

Procedure

1. Connect the circuit as per the above table.
2. Connect inputs to Vcc for Logic 1 and ground for Logic 0.
3. Execute the circuit using the provided codes. *Approach 1*

   https://github.com/Chakali23/FWC/tree/main/IDE/IOT

4. Change the values of A and B in the hardware and verify the truth table.