MID TERM PRACTICAL

Computer Organisation

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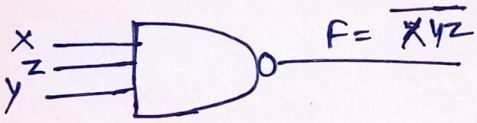
Q.1. NAND Gate : The NAND gate is 'AND' gate succeeded by NOT Gate.

→ NAND gate is an inverted AND gate. (Not + AND)

Symbol:



Truth Table :

X	Y	Z	F = $\overline{XYZ}$
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

$F = \overline{XYZ}$

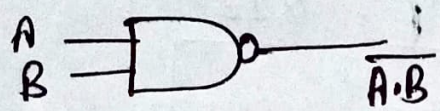
→ The NAND gate is a combination of an AND gate and NOT gate. They are connected in cascade form.
It is also called Negated And gate.

→ The NAND gate provides the false or low output only when their outputs is high or true.

→ The NAND gate is essential because different types of a boolean function are implemented by using it.

→ The NAND gate has the property of functional completeness. Functional completeness means any type of gate can be implemented by using the NAND gate.

→ NAND gate diagram



Truth table:

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