

Ans 1 - NAND Gate :-

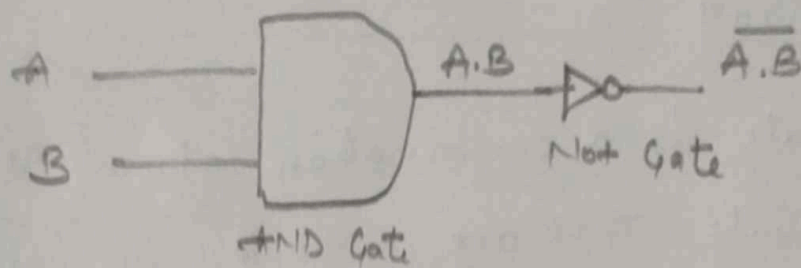
A NAND Gate is a combination of an AND gate and NOT Gate. They are connected in cascade form. It is also called negated And Gate. The NAND gate provides the false or low output only when their output is high or true.

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

Truth table :-

| Inputs |   | Output                     |
|--------|---|----------------------------|
| A      | B | $X = \overline{A \cdot B}$ |
| 0      | 0 | 1                          |
| 0      | 1 | 1                          |
| 1      | 0 | 1                          |
| 1      | 1 | 0                          |

## Circuit Diagram :-



The symbol of NAND Gate is similar to AND Gate, but a bubble is drawn at the output point of the AND Gate.

