

Ans 1. Working of NAND gate :

A NAND gate is a logic gate that produces a low output (0) only if all its inputs are true, & high output (1) otherwise.

Hence, NAND gate is the inverse of an AND gate, and its circuit is produced by connecting an AND gate to a NOT gate. NAND gates are known as universal gate.

The basic logical construction of the NAND gate is :



Here, in the NAND gate, the output is only logical 0 when & only when all inputs of the gate are 1s, & in all other cases, the output of the NAND gate is high or 1.

Here, the truth table of a 2-input NAND gate :

A	B	$X = \overline{A \cdot B}$
0	0	1
0	1	1
1	0	1
1	1	0