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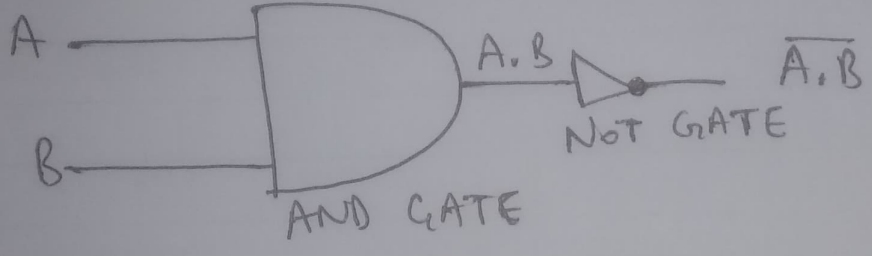
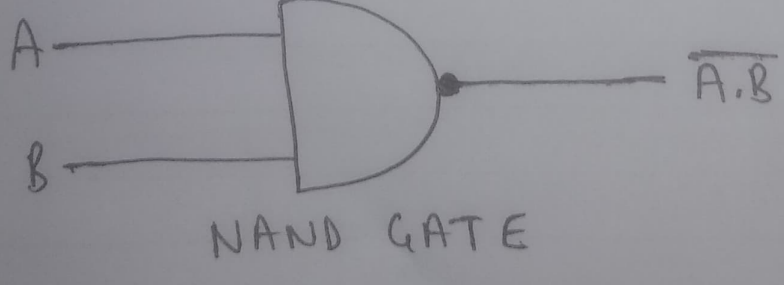
Ques 2) Discuss the working of NAND gate with the help of circuit diagram and truth table

Solution: A NAND gate is a logic gate that produces a low output (0) only if all its inputs are true, and high output (1) otherwise Hence the NAND gate is the inverse of an AND gate, and its circuit is produced by connecting an AND gate to a NOT gate.
It is also known as universal gates.





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

NAND gate means "not AND gate". hence the output of this gate is just reverse of that of a similar AND gate

As the output of the AND gate is only high or 1 when all the inputs are high or 1. In all other cases, the output of the AND gate is low or 0.

In the NAND, the fact is the opposite, here the output is only logical 0 when and only when all inputs of the gate are 1s and in all other cases, the output of the NAND gate is high or 1.

Truth Table:

Inputs		Outputs
A	B	$X = \overline{A.B}$
0	0	1
0	1	1
1	0	1
1	1	0