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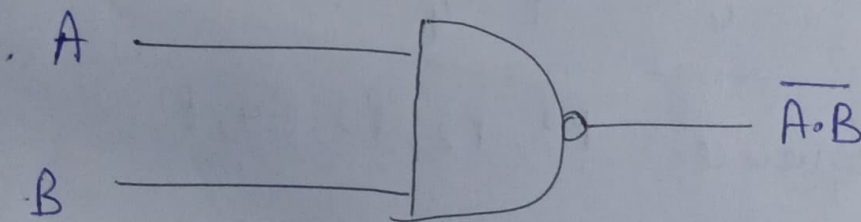Subject Name: Computer Org & Arch. Subject Code: TMC 102  Date: 22/3/22

## Q1  NAND GATE

A NAND Gate is a logic gate that produces a low output i.e 0 only if all its inputs are TRUE, and high output i.e 1 only if it otherwise.

NAND Gate is the inverse of AND Gate. Its circuit is produced by connecting and AND Gate to a NOT Gate.

The NAND gate performs logical NAND operation. It is known as universal gate.

## Circuit Diagram

A

B ——— $\overline{A \cdot B}$

NAND gate is a "NOT AND Gate".

The output of NAND gate in sense of AND gate.

The output of NAND gate is only logical 0 when and only when all inputs of the gate are 1 and in all other cases the output in high.

## Truth Table

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