

23.10.24.

## Digital Electronics.

All electronic components either have high / low voltage.

AND OR NOT  
NAND NOR XOR XNOR

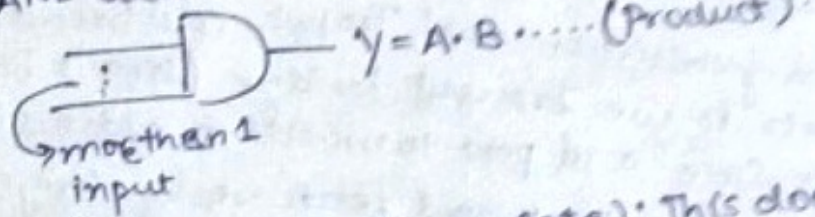
All logic circuit depend on these gates

Truth Table: On input voltage what output. Logic Gate (more than one input and only one output).

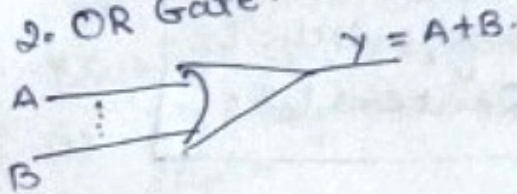
### Basic Gates.

1. AND.
2. OR.
3. NOT.

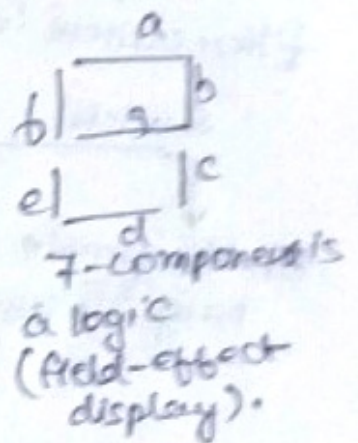
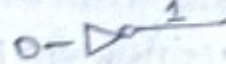
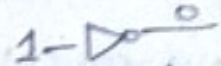
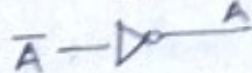
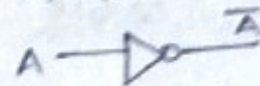
#### 1. AND Gate



#### 2. OR Gate.



#### 3. NOT (Buffer Gate): This does complementing.

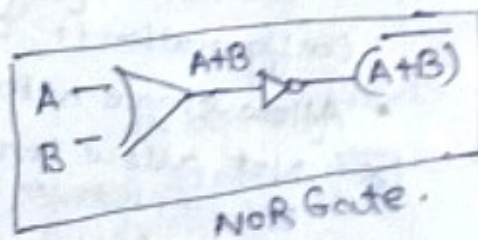
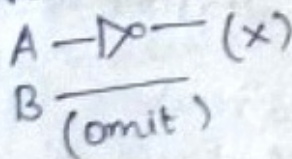


### Universal logic Gate:

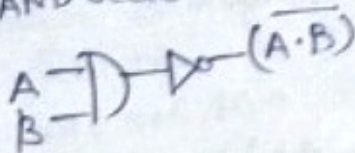
The Gate in which Basic Gate output is obtained:

- ① NOR = NOT AND OR.
- ② NAND = NOT AND AND.

#### 1. NOR



#### 2. NAND Gate



Combination is acc. to logic. They are logical components and not physical component.

### Derived Logic Gates

- 2 Derived Logic Gates
  1. X-OR (Exclusive OR)
  2. X-NOR (Exclusive NOR)
- It is made using the Universal Gates.