## 5 Lecture - CS302 <br> Important Subjective

1. What is the basic function of a NOT gate?

Answer: The basic function of a NOT gate is to invert the input signal. It has only one input and one output.
2. What is the basic function of an AND gate?

Answer: The basic function of an AND gate is to produce a high output signal only if all its input signals are high. It has two or more inputs and one output.
3. What is the basic function of an OR gate?

Answer: The basic function of an OR gate is to produce a high output signal if any of its input signals are high. It has two or more inputs and one output.
4. What is the basic function of a NAND gate?

Answer: The basic function of a NAND gate is to produce a low output signal if all its input signals are high. It is the combination of an AND gate followed by a NOT gate.
5. What is the basic function of a NOR gate?

Answer: The basic function of a NOR gate is to produce a high output signal if all its input signals are low. It is the combination of an OR gate followed by a NOT gate.
6. What is the basic function of an XOR gate?

Answer: The basic function of an XOR gate is to produce a high output signal if the number of high input signals is odd. It has two inputs and one output.
7. What is a truth table?

Answer: A truth table is a table that shows the output of a logic gate or circuit for all possible input combinations.
8. What is a logic gate circuit?

Answer: A logic gate circuit is a combination of logic gates that perform a specific logical operation. These circuits are used to implement complex digital systems.
9. What is the difference between a combinational logic circuit and a sequential logic circuit ?
Answer: A combinational logic circuit's output is determined solely by the input signals, while a sequential logic circuit's output is determined by both the input signals and the current state of the circuit.
10. What is a half adder?

Answer: A half adder is a combinational logic circuit that adds two binary digits and produces a sum and a carry output.

