

# 8 Lecture - CS302

## Important Mcqs

1. Which of the following is NOT a basic logic gate?

- A) AND
- B) OR
- C) NOT
- D) XOR

Solution: D) XOR

2. Which of the following is the identity law for AND operation?

- A)  $A + 0 = A$
- B)  $A + 1 = 1$
- C)  $A \cdot 1 = A$
- D)  $A \cdot 0 = 0$

Solution: C)  $A \cdot 1 = A$

3. Which of the following is the complement of the Boolean expression  $A + B$ ?

- A)  $AB$
- B)  $A + B$
- C)  $A \cdot B$
- D)  $A'B'$

Solution: D)  $A'B'$

4. Which of the following is the DeMorgan's Law for NAND operation?

- A)  $A \cdot B = A + B$
- B)  $A + B = A'B'$
- C)  $A'B' = AB$
- D)  $(A + B)' = A' \cdot B'$

Solution: D)  $(A + B)' = A' \cdot B'$

5. Which of the following is the output of the XOR gate if both inputs are 1?

- A) 0
- B) 1
- C) Cannot be determined
- D) None of the above

Solution: A) 0

6. Which of the following is a Boolean expression for the NOR gate?

- A)  $A + B$
- B)  $A \cdot B$
- C)  $A'B'$
- D)  $(A + B)'$

Solution: D)  $(A + B)'$

7. Which of the following is the associative law for OR operation?

- A)  $A + (B + C) = (A + B) + C$

B)  $A(B + C) = AB + AC$

C)  $A + B = B + A$

D)  $A(B + C) = AB + AC + BC$

**Solution: A)  $A + (B + C) = (A + B) + C$**

8. Which of the following is the complement of the Boolean expression  $A \cdot B$ ?

A)  $A + B$

B)  $A \cdot B$

C)  $A'B'$

D)  $AB$

**Solution: C)  $A'B'$**

9. Which of the following is a Boolean expression for the XOR gate?

A)  $A + B$

B)  $A \cdot B$

C)  $A'B' + AB$

D)  $(A + B) \cdot (A'B')$

**Solution: C)  $A'B' + AB$**

10. Which of the following is a method used for logic simplification?

A) Karnaugh map

B) Quine-McCluskey algorithm

C) Boolean algebra

D) All of the above

**Solution: D) All of the above**