

CHAPTER-3 BOOLEAN LOGIC

ONLINE TEST-ANSWERKEY

I. OTQ (Objective Type Questions)

- The involution of A is equal to _____
a) A **b) \bar{A}** c) 1 d) 0
- The output of a two-input OR gate is high when.....
a) Both inputs are low b) Both inputs are high
c) Any one input is high d) only one input is high
- If an input A is given to an inverter gate, the output will be: _____
a) $1/A$ b) 1 c) A **d) \bar{A}**
- The output of a two-input AND gate is high when.....
a) Both inputs are low **b) Both inputs are high**
c) Any one input is high d) only one input is high
- According to the associative law:
a) $A+B=B+A$ b) $A=A+A$ **c) $(A+B)+C=A+(B+C)$** d) $A+0=A$
- According to Boolean laws: $A + 1 = \underline{\hspace{1cm}}?$
a) 1 b) A c) 0 d) \bar{A}
- According to Boolean laws: $A + 0 = \underline{\hspace{1cm}}?$
a) 1 **b) A** c) 0 d) \bar{A}
- Which gate produces 1 when all inputs are low?
a) NOT **b) NAND** c) AND d) NOR
- According to Boolean laws: $A \cdot 0 = \underline{\hspace{1cm}}?$
a) 1 b) A **c) 0** d) \bar{A}
- The expression for the Absorption law is given by _____.
a) $A+AB=A$ b) $A+AB=B$ c) $AB+A\bar{A}=A$ d) $A+B=B+A$
- What gate produces 0 when all inputs are high?
a) NOT b) NAND c) AND **d) NOR**
- Which of the following is/are the universal logic gates?
a) OR and NOR b) AND **c) NAND and NOR** d) NOT
- Gate NAND can be simplified as ;
a) AND followed by OR **b) AND followed by NOT**
c) NOT followed by AND d) OR followed by AND
- Gate XNOR can be simplified as ;
a) XOR followed by OR **b) XOR followed by NOT**
c) NOT followed by XOR d) XOR followed by AND

15. According to the distributive law $A(B+C)= ?$

- a) ABC **b) $AB+AC$** c) $A+B+C$ d) $A+BC$

16. According to the commutative law

- a) $AB=BA$** b) $A=AA$ c) $(AB)C=A(BC)$ d) $A.0=A$

17. The logic gate that provides high output for same inputs for all variables in a 2-variable truth table is _____ gate.

- a) NOT **b) XNOR** c) AND d) XOR

II. Fill in the blanks

18. The NOT gate takes only _____ input.

19. The NOR gate produces 1 when all inputs are _____.

20. The statements that can be determined as TRUE/FALSE are called _____ statements.

21. Truth values are _____ and _____

22. A logical expression, which is always TRUE for all inputs, is termed as _____

23. The XOR gate produces _____ when odd numbers of 1's are there in the input combination.

24. Basic gates are _____ types.

25. NOR Gate is inverter of _____ gate.

Key Answer for Fill up:

18. **One**

19. **0**

20. **Logical**

21. **0 and 1**

22. **Tautology**

23. **1**

24. **3**

25. **OR**