Chapter No: 6 Boolean Algebra

Multiple Choice Questions

1: Boolean algebra was formulated by English Mathematician George Boole in
(a) 1857 (b) 1853 (c) 1854 (d) 1847

2: If Z is a Boolean variable then its value can be
(a) 0 - 9 (b) 0 - 7 (c) 0 & 1 (d) 0 or 1

3: Which of the following are basic logical operators in Boolean algebra?
(a) AND (b) OR (c) NOT (d) All

4: The operator that gives complement of the given value is called
(a) AND (b) OR (c) NOT (d) All

5: If A =1, B= 0 then A And B = ?
(a) 0 (b) 10 (c) 11 (d) 1

6: Boolean Algebra is the _____of logic
(a) Mathematics (b) Solution (c) Algebra (d) Geometry

7: _____uses symbols to represents logical statements instead of words.
(a) Algebra (b) Geometry (c) Boolean Algebra (d) Digital data

8: If A =1, B= 1 , C=0 then A.B.C = ?
(a) 0 (b) 10 (c) 11 (d) 1

9: If A =1, B= 1 , C=0 then A+B+C = ?
(a) 0 (b) 10 (c) 01 (d) 1

10: If A =1, B= 0 , C=1 then X = A + B + C
(a) 0 (b) 101 (c) 1 (d) 10

11: A + B = B + A and A . B = B. A represents which of the followings.
(a) Existence of identity (b) Commutative law
(c) Associative law (d) Idempotent law

12: Boolean Algebra was formulated by the
(a) Charles Babbage (b) Napir (c) Pascal (d) George Boole

13: According to distributive law A . (B + C) = ?
(a) A + (B . C) (b) (A + B) . (A + C)
(c) A .B + A . C (d) (A + B) + C

14: According to Existence of identity element A . 1
(a) 1A (b) 0 (c) A (d) 1

15: As per Existence of inverse A + $\overline{A}$ = ?
(a) 0 (b)2A (c) 0 (d) 1

16: Computer chips are made up of
(a) Transmitters (b) Transistors (c) Circuits (d) None

17: According to inverse the output will be 0 if
(a) A + A (b) A . A (c) 1 + A (d) 0 + A

18: Boolean Algebra consists of
(a) Variables (b) Constant (c) Both a & b (d) Nothing

19: AND operator represent
(a) . (b) * (c) / (d) " "

20: **In Boolean Algebra each variable at one time can taken how many values?**
(a) 1 (b) 2 (c) 3 (d) 4

21: **Which is called an unary operator?**
(a) NOT (b) AND (c) OR (d) All

22: **All electronic devices consist of circuits of**
(a) Buttons (b) Cables (c) Elements (d) Switches

23: **A switch at any given time is in one of the states.**
(a) 2 (b) 4 (c) 1 (d) 5

24: **Which operator is used for logical multiplication?**
(a) OR (b) AND (c) NOT (d) All

25: **Which of the following operations are used by the Boolean Algebra**
(a) Boolean Addition (b) Boolean Multiplication
(c) Complement (d) All

26: **Logical addition refers to operation of**
(a) OR gate (b) AND gate (c) NOT gate (d) Inverter gate

27: **A serial circuit is represented by**
(a) - operator (b) . operator (c) + operator (d) All

28: **Boolean Algebra derives its name form the British mathematician**
(a) Napir (b) Charles Babbage (c) George Boole (d) Bill Gates

29: **A Boolean variable can only have one of the two values**
(a) 3,1 (b) 2,0 (c) 0,1 (d) 0,0

30: **An OR gate has at least inputs**
(a) 2 (b) 3 (c) 4 (d) 1

31: **An AND gate has at least inputs**
(a) 2 (b) 3 (c) 4 (d) 1

32: **A parallel circuit is represented by**
(a) . operator (b) - operator (c) + operator (d) All

33: **Two valued Boolean Algebra is a set that has elements and operations**
(a) 2 (b) 5 (c) 4 (d) 3

34: **In order to get high output in AND gate all the input must be**
(a) High (b) Low (c) Equal (d) None

35: **The output of the NOT gate is always the _____of the original value.**
(a) Same (b) Reverse (c) Both a & b (d) None

36: **Which of the following is a proposition?**
(a) What is your Name? (b) Who is your father?
(c) Are you male? (d) None of these

37: **In the representation of Boolean function, the A bar is assigned the value**
(a) 0 (b) 1 (c) A (d) Aa

38: **The table that represents the output of a Boolean expression for all possible combination of input is called**
(a) True Table (b) Truth Table (c) Test Table (d) Boolean Table

39: **Which of the following logical operator is denoted by + sign**
(a) AND (b) OR (c) NOT (d) None

40: **Boolean Algebra deals with**

(a) Octal digits (b) Hexadecimal digits (c) Decimal digits (d) Binary digits

41: Truth table show all possible combinations of

(a) Inputs (b) Outputs (c) Both a & b (d) None

42: Boolean operators and Boolean variables combine to form Boolean

(a) Outputs (b) Expression (c) Both a & b (d) None

43: Who did overcome the disadvantages of Boolean algebra laws for simplification of expression?

(a) Pascal (b) Charles Babbage (c) Maurice Karnaugh (d) George Boole

44: Which is Boolean constant

(a) 0 (b) 1 (c) 0 & 1 (d) – 1

45: X, Y are called

(a) Boolean constant (b) Variables (c) Numbers (d) None

46: We can use _____ to change the order of evaluation of operations in a Boolean expression.

(a) Bars (b) Parentheses (c) Square brackets (d) Braces

47: A truth table of a two variable expression will always have

(a) 2^0 (b) 2^1 (c) 2^2 (d) 2^3

48: f (x, y) = x + y is a

(a) Boolean variable (b) Boolean Expression
(c) Boolean Function (d) Boolean Algebra

49: Standard product is known as

(a) Boolean function (b) Maxterms (c) Minterms (d) Literals

50: Standard sum is known as

(a) Boolean function (b) Maxterms (c) Minterms (d) K-map

Answer Key

Q No.	Ans.	Q No.	Ans.	Q No.	Ans.	Q No.	Ans.	Q No.	Ans.
1	A	11	B	21	A	31	A	41	C
2	D	12	D	22	D	32	C	42	B
3	D	13	C	23	C	33	D	43	C
4	C	14	C	24	B	34	A	44	C
5	A	15	D	25	D	35	B	45	B
6	C	16	C	26	A	36	C	46	B
7	C	17	B	27	B	37	D	47	C
8	A	18	C	28	C	38	B	48	C
9	D	19	A	29	C	39	B	49	C
10	C	20	A	30	A	40	D	50	B