



WORKSHEET – 5

TOPIC – LOGIC GATES & COMBINATIONAL CIRCUITS

SUBJECT: COMPUTER APPLICATION
F.M.: 15

CLASS: XII
DATE: 07.05.2020

➤ Choose the correct option:

(1X15=15)

1) The basic operation of a half adder circuit is to add _____ binary digits:

- (a) 2 (b) 3 (c) 4 (d) 5

2) To add 3 binary digits the combinational circuit used is:

- (a) Binary Adder (b) Full Adder (c) Whole Adder (d) 3 Digit Adder

3) The sum output of a circuit adding the binary bits X, Y and carry - in Z is given by:

- (a) $X \oplus Y + Z$ (b) $X + Y \oplus Z$ (c) $(X \oplus Y).Z$ (d) $X \oplus Y \oplus Z$

4) The carry - out output of a circuit adding the binary bits X, Y and carry in Z is given by:

- (a) $X \oplus Y + XZ$ (b) $X + Y \oplus Z$ (c) $(X \oplus Y).XY$ (d) $(X \oplus Y)Z + XY$

5) How many half adder circuits are required to design a full adder circuit?:

- (a) 4 (b) 3 (c) 2 (d) 1

6) The difference output for a half subtractor circuit subtracting the bit B from bit A is :

- (a) $A . B$ (b) $A \oplus B$ (c) $A - B$ (d) None of these

7) How many inputs are there in a full subtractor circuit? :

- (a) 3 (b) 2 (c) 1 (d) None of these

8) The difference of a full subtractor circuit is given by an expression like:

- (a) $X \oplus Y + Z$ (b) $X + Y \oplus Z$ (c) $(X \oplus Y).Z$ (d) $X \oplus Y \oplus Z$

9) A full subtractor can be formed by using two half subtractors and a:

- (a) NAND gate (b) NOR gate (c) OR gate (d) AND gate

10) The number of AND gates in a full adder circuit (FA using 2 HA) are:

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

11) A full adder can be formed by using two half adders and a:

- (a) NAND gate (b) NOR gate (c) OR gate (d) AND gate

12) The number of NOT gates in a full adder (FA using 2 HA) circuit is:

- (a) 0 (b) 1 (c) 2 (d) None of these

13) $1 + 1 + 1$ will have a carry – out:

- (a) 10 (B) 11 (c) 1 (d) 0

14) Full adder is a _____ circuit:

- (a) Sequential (b) Odd (c) Even (d) Combinational

15) $0 + 1 + 1$ will have a carry – out:

- (a) 10 (B) 11 (c) 1 (d) 0

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