ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

WORKSHEET – 6

TOPIC – LOGIC GATES & COMBINATIONAL CIRCUITS

SUBJECT: COMPUTER APPLICATION **CLASS: XII**

F.M.: 15 **DATE: 08.05.2020**

➢ **Choose the correct option:** **(1X15=15)**

1) How many minimum Half adders may be used to add two 4 digit binary numbers?:
(a) 1 (b) 2 (c) 3 (d) 4

2) How many minimum subtractors may be used to subtract two 4 digit binary numbers?:
(a) 1 (b) 2 (c) 3 (d) 4

3) How many minimum Half subtractors may be used to subtract two 4 digit binary numbers?:
(a) 1 (b) 2 (c) 3 (d) 4

4) How many minimum adders may be used to add two 4 digit binary numbers?:
(a) 1 (b) 2 (c) 3 (d) 4

5) How many half adder circuits are required to design a full adder circuit?:
(a) 4 (b) 3 (c) 2 (d) 1

6) How many minimum Full adders may be used to add two 5 digit binary numbers?:
(a) 3 (b) 4 (c) 5 (d) 6

7) How many minimum Full subtractors may be used to subtract two 5 digit binary numbers?:
(a) 3 (b) 4 (c) 5 (d) 6

8) 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

9) To add two binary numbers we need _____ circuit:
(a) Multiple – bit subtractor (b) Multiplier (c) Multiple – bit adder (d) None of these

10) To add two binary numbers we need _____ circuit:
(a) Multiple – bit subtractor (b) Multiplier (c) Multiple – bit adder (d) None of these

11) As there is no carry bit for the rightmost column during addition of 2 binary numbers using multiple bit adder, the first circuit used is a:

(a) NAND gate (b) NOR gate (c) Full adder (d) Half adder

12) 1 + 1 + 1 will have a carry – out:

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

13) Multiple bit adder is a/an _____ circuit:

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

14) To add two n-bits binary numbers, the minimum number of Full adders required is:

(a) 1 (b) n (c) n-1 (d) n+1

15) 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

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