ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

FOR GOD AND COUNTRY

WORKSHEET – 40

Topic: Inntroduction and adder circuits

Subject: COMPUTER SCIENCE **Class - 11** **F.M:15**

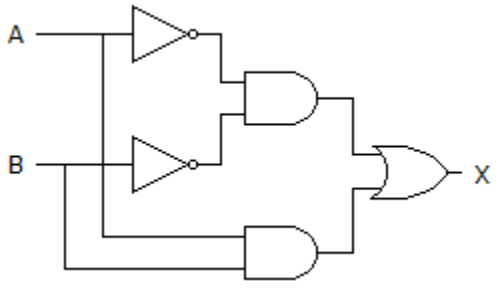
Chapter: Combinational logic Circuit **Date: 27/02/2021**

Choose the correct answer for each question: [5 X 1 = 15]

1. The basic components of combinational circuits are/is:
   a. Input variables
   b. Logic gates
   c. Output variables
   d. All of these
2. How many half adders are required to construct a full adder?
   a. 0
   b. 1
   c. 2
   d. 3
3. At any instant of time, the output of the _____ depends only on the present input terminals.
   a. Combinatory circuit
   b. combinational circuit
   c. combiform circuit
   d. combidigital circuit
4. The difference between half adder and full adder is _____
   a) Half adder has two inputs while full adder has four inputs
   b) Half adder has one output while full adder has two outputs
   c) Half adder has two inputs while full adder has three inputs
   d) All of the Mentioned
5. 3 bits full adder contains _____
   a) 3 combinational inputs
   b) 4 combinational inputs
   c) 6 combinational inputs
   d) 8 combinational inputs
6. If A, B and C are the inputs of a full adder then the carry is given by _____
   a) A AND B OR (A OR B) AND C
   b) A OR B OR (A AND B) C
   c) (A AND B) OR (A AND B)C
   d) A XOR B XOR (A XOR B) AND C
7. How many AND, OR and EXOR gates are required for the configuration of full adder?
   a) 1, 2, 2

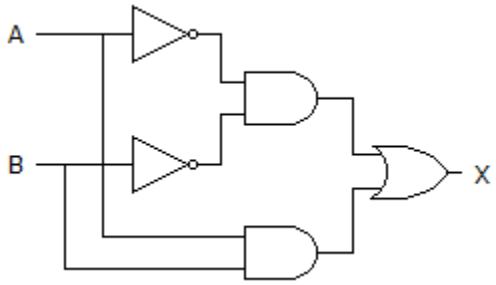
b) 2, 1, 2
c) 3, 1, 2
d) 4, 0, 1

8. If A and B are the inputs of a half adder, the carry is given by _____
   a) A AND B
   b) A OR B
   c) A XOR B
   d) A EX-NOR B
9. Half-adders have a major limitation in that they cannot _____
   a) Accept a carry bit from a present stage
   b) Accept a carry bit from a next stage
   c) Accept a carry bit from a previous stage
   d) Accept a carry bit from the following stages
10. If A and B are the inputs of a half adder, the sum is given by _____
    a) A AND B
    b) A OR B
    c) A XOR B
    d) A EX-NOR B
11. In which operation carry is obtained?
    a) Subtraction
    b) Addition
    c) Multiplication
    d) Both addition and subtraction
12. If A, B and C are the inputs of a full adder then the sum is given by _____
    a) A AND B AND C
    b) A OR B AND C
    c) A XOR B XOR C
    d) A OR B OR C
13. Which of the following logic expressions represents the logic diagram shown?



    a) X=AB'+A'B
    b) X=(AB)'+AB
    c) X=(AB)'+A'B'
    d) X=A'B'+AB

14. What type of logic circuit is represented by the figure shown below?



a) XOR
b) XNOR
c) AND
d) XAND

15. Total number of inputs in a half adder is _____
a) 2
b) 3
c) 4
d) 1

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