ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

FOR GOD AND COUNTRY

WORKSHEET – 40 (ANSWER KEY)

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 _____

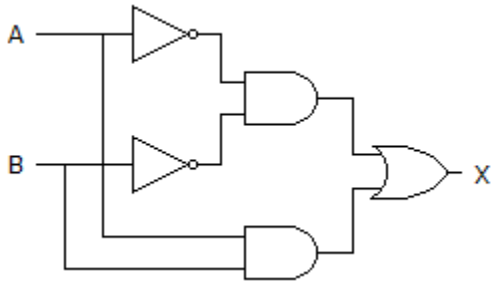
a) A AND B AND C

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?



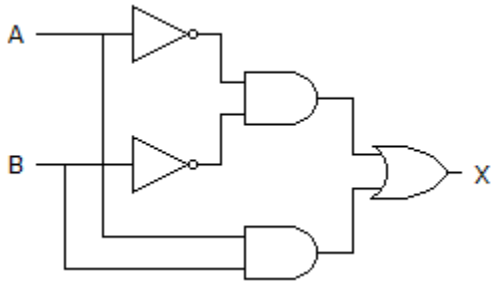
a) X=AB'+A'B

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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