Logic Questions

Question 1

A combinational logic circuit is one where the output:

A. depends on that the inputs have been in the past
B. depends only on the current state of the inputs
C. is usually analogue
D. requires at least three inputs

Question 2

A digital signal:

A. can take any value
B. can be negative or positive
C. must be either 1 volt or zero volts
D. can only be ON or OFF

Question 3

A floating input is:

A. connected to the positive power supply
B. connected to ground
C. not connected to anything
D. connected to the output

Question 4

The most appropriate value for a pull-down resistor would be:

A. 12 Ω
B. 120 Ω
C. 12 kΩ
D. 12 MΩ

Question 5

A logic gate with only one input is:

A. an AND gate
B. an OR gate
C. a NAND gate
D. a NOR gate
E. a NOT gate
F. an EOR gate

Question 6

A logic gate where the output is logic 0 only when both inputs are logic 1 is:

A. an AND gate
B. an OR gate
C. a NAND gate
D. a NOR gate
E. a NOT gate
F. an EOR gate

Question 7

A logic gate where the output is logic 1 when any of the inputs is logic 1 is:

A. an AND gate
B. an OR gate
C. a NAND gate
D. a NOR gate
E. a NOT gate
F. an EOR gate

Question 8

A logic gate where the output is logic 0 unless all inputs are logic 1 is:

A. an AND gate
B. an OR gate
C. a NAND gate
D. a NOR gate
E. a NOT gate
F. an EOR gate

Question 9

A logic gate where the output is logic 1 only when the two inputs are different is:

A. an AND gate
B. an OR gate
C. a NAND gate
D. a NOR gate
E. a NOT gate
F. an EOR gate

Question 10

A logic gate where the output is logic 1 only when all the inputs are logic 0 is:

A. an AND gate
B. an OR gate
C. a NAND gate
D. a NOR gate
E. a NOT gate
F. an EOR gate

Question 11

A logic circuit with three inputs needs a truth table with:

A. 3 rows
B. 4 rows
C. 8 rows
D. 16 rows

Question 12

Which of the following is NOT a reason to use intermediate columns?

A. A truth table for a circuit with many logic gates must have to contain more columns otherwise it is not valid
B. It is less confusing leading to fewer mistakes
C. Other people can follow the reasoning more easily
D. The output of each logic gate is determined separately

Answers

1. B
2. D
3. C
4. C
5. E
6. C
7. B
8. A
9. F
10. D
11. C
12. A

Website

http://www.pfnicholls.com/Electronics_Resources/QuestionIndex.html

January 2021