Started on	Monday, 24 June 2024, 7:50 AM
State	Finished
Completed on	Monday, 24 June 2024, 7:55 AM
Time taken	4 mins 54 secs
Grade	**9.00** out of 10.00 (**90**%)

Question 1

Correct

Mark 1.00 out of 1.00

Boolean algebra is used to:

- a. Simplify digital circuits ✔
- b. Design mechanical systems
- c. Analyze chemical reactions
- d. None of the above

Your answer is correct.

Question 2

Correct

Mark 1.00 out of 1.00

How many input combinations are possible for a 4-input OR gate?

- a. 2
- b. 3
- c. 4
- d. 16 ✔

Question 3

Correct

Mark 1.00 out of 1.00

Which Boolean operation is equivalent to an OR gate?

- a. AND
- b. NOT
- c. OR ✔
- d. XOR

Your answer is correct.

Question 4

Correct

Mark 1.00 out of 1.00

What is the output of an XOR gate when both inputs are the same?

a. True
b. False ✔

Question 5

Correct

Mark 1.00 out of 1.00

The result of the operation "1 AND 1" is always 1.

a. True ✔
b. False

Question 6

Correct

Mark 1.00 out of 1.00

What is the fundamental unit of digital design?

a. Logic gate ✔
b. Integrated circuit
c. Microprocessor
d. Transistor

Your answer is correct.

Question 7

Correct

Mark 1.00 out of 1.00

Which logic gate is the complement of an AND gate?

a. NOR
b. NAND ✔
c. XOR
d. NOT

Your answer is correct.

Question 8

Correct

Mark 1.00 out of 1.00

Which Boolean operator represents the complement of a variable?

- a. AND
- b. NOT ✔
- c. OR
- d. XOR

Question 9

Incorrect

Mark 0.00 out of 1.00

The output of an XNOR gate is true only when:

- a. All inputs are true ✖
- b. All inputs are false
- c. Both a and b
- d. One input is true

Question 10

Correct

Mark 1.00 out of 1.00

How many input combinations are possible for a 3-input NAND gate?

- a. 2
- b. 3
- c. 4
- d. 8 ✔