CSEE223 QUIZ

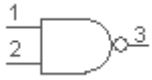
Name: _____

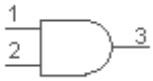
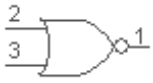
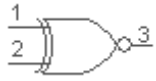
Logic Gates

Date:_____

CIRCLE THE CORRECT ANSWER.

1.	A logic gate is an device . . .
(a)	that implements a Boolean function.
(b)	that performs a logical operation on one or more logical inputs.
(c)	that is primarily implemented using diodes or transistors acting as electronic switches.
(d)	are made from field-effect transistors (FETs), particularly MOSFETs (metal–oxide–semiconductor field-effect transistors).
(e)	All of the above.
(f)	None of the above.
2.	Logic gates . . .
(a)	can be used to store data.
(b)	produce a single logical output.
(c)	are included in logic circuits such as multiplexers, registers, arithmetic logic units, computer memory, and microprocessors.
(d)	All of the above.
(e)	None of the above.
3.	*"fanout limit"* is . . .
(a)	spread of the logic gates from one to another.
(b)	number of inputs you can connect to other gates.
(c)	the change in input of a gate to the corresponding change in its output.
(d)	number of inputs to other gates that output of one gate can drive.
(e)	a and c
(f)	b only
(g)	b and d
4.	*"propagation delay"* is . . .
(a)	spread of the logic gates from one to another.
(b)	number of inputs you can connect to other gates.
(c)	the change in input of a gate to the corresponding change in its output.
(d)	number of inputs to other gates that output of one gate can drive.
(e)	a and c
(f)	b only
(g)	b and d

5.	The *AND* gate is know as the . . .
	(a) “Some but not ALL” gate.
	(b) “All or Nothing” gate.
	(c) “Any but not ALL” gate.
	(d) “All or Any” gate.
6.	The *XOR* gate is know as the . . .
	(a) “Some but not ALL” gate.
	(b) “All or Nothing” gate.
	(c) “Any but not ALL” gate.
	(d) “All or Any” gate.
7.	The *OR* gate is know as the . . .
	(a) “Some but not ALL” gate.
	(b) “All or Nothing” gate.
	(c) “Any but not ALL” gate.
	(d) “All or Any” gate.
8.	What gate is this: 
	(a) OR gate.
	(b) XNOR gate.
	(c) NAND gate.
	(d) NOR gate.
	(e) XOR
	(f) AND
	(g) NOT
9.	What gate is this:
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate
10.	What gate is this:
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate

11.	What gate is this: 
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate
12.	What gate is this: 
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate
13.	What gate is this: 
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate
14.	Boolean expression for a 2 input OR gate is . . .
	(a) AB = Y
	(b) A + B = Y
	(c) A · B = Y
	(d) A’ + B’ = Y
	(e) (AB)’ = Y
	(f) A’ · B’ = Y
15.	Boolean expression for a 2 input AND gate is . . .
	(a) AB = Y
	(b) A + B = Y
	(c) A · B = Y
	(d) A’ + B’ = Y
	(e) (AB)’ = Y
	(f) A’ · B’ = Y

16.	The gate known as the “Not XOR” gate is . . .
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate
17.	The gate known as the “Not OR” gate is . . .
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate
18.	The gate known as the “Not AND” gate is . . .
	(a) OR gate
	(b) XNOR gate
	(c) NAND gate
	(d) NOR gate
	(e) XOR gate
	(f) AND gate
	(g) NOT gate

19. Complete the truth table for a 3 input AND gate by filling in the missing bit

C	B	A	Y
0	0	0	0
0	0		0
0		0	0
0			0
	0	0	0
	0		0
		0	0

20. Complete the truth table for a 3 input OR gate by filling in the missing bit

C	B	A	Y
0	0	0	0
0	0		
0		0	
0			
	0	0	
	0		
		0	