

[Dashboard](#) / [Courses](#) / [Autumn 2021-22](#) / [BTech Sem-3](#) / [EC 261](#) / [EC-261-Mid Sem Online Test-19-11-2021](#)
/ [EC-261-Mid Sem Online Test-19-11-2021](#)

Started on Sunday, 19 December 2021, 10:30 AM

State Finished

Completed on Sunday, 19 December 2021, 11:00 AM

Time taken 29 mins 50 secs

Marks 22.00/30.00

Grade 7.33 out of 10.00 (73%)

Question **1**

Complete

Mark 1.00 out of 1.00

Adders can be used in

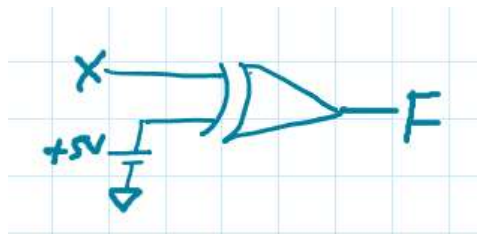
- ☐ a. Increment and decrement operators
- ☐ b. Addresses
- ☒ c. All of the mentioned
- ☐ d. Table indices

Question **2**

Complete

Mark 1.00 out of 1.00

The output F of the circuit given below is?



- ☐ a. 5V
- ☐ b. X
- ☒ c. X'
- ☐ d. 0V

Question 3

Complete

Mark 1.00 out of 1.00

A locker has been rented in the bank. Express the process of opening the locker in terms of digital operation?

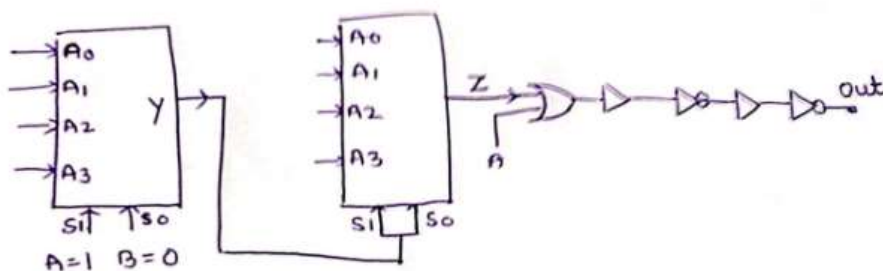
- ☐ a. $C = A \oplus B$
- ☐ b. $C = A + B$
- ☐ c. $C = A' + B'$
- ☒ d. $C = A \cdot B$

Question 4

Complete

Mark 1.00 out of 1.00

What is the output of the circuit given below?



- ☒ a. $A + Z$
- ☐ b. AZ'
- ☐ c. None of the mentioned
- ☐ d. $A' + Z'$

Question **5**

Complete

Mark 1.00 out of 1.00

Divide the binary numbers: **11101.01** ÷ **1100** and find the **quotient is**

- ☐ a. 00.0111
- ☐ b. 10.0011
- ☒ c. 10.0111
- ☐ d. 10.1111

Question **6**

Complete

Mark 0.00 out of 1.00

The minimum number of NAND gates required to implement the function $F(A, B, C) = AB'C$ are?

- ☐ a. 0
- ☐ b. 5
- ☐ c. 7
- ☒ d. 3

Question **7**

Complete

Mark 1.00 out of 1.00

For the given function $F(X,Y,Z,W) = \text{minterms } (0,2,8,10,14) + d(5,15)$ the K-map output is?

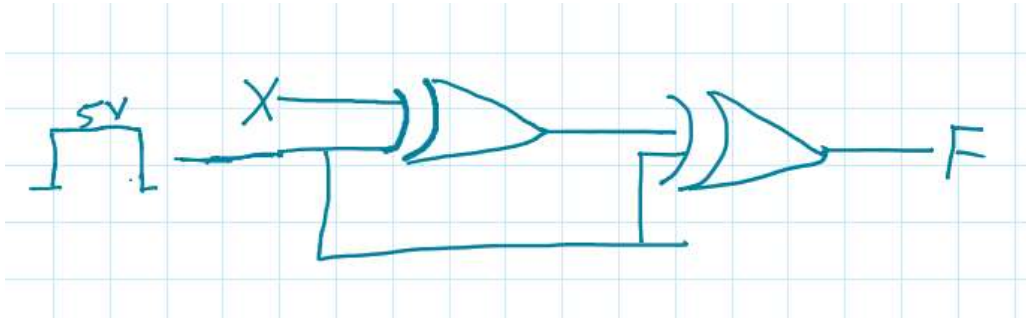
- ☐ a. $ZY + WX$
- ☒ b. NONE
- ☐ c. $XY + XZ$
- ☐ d. $XYZW$

Question 8

Complete

Mark 1.00 out of 1.00

The output F of the circuit given below is?



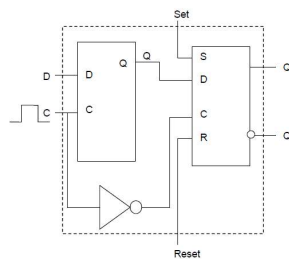
- ☐ a. logic 0
- ☐ b. Logic 1
- ☐ c. X'
- ☒ d. None

Question 9

Complete

Mark 0.00 out of 1.00

The circuit shown below is?



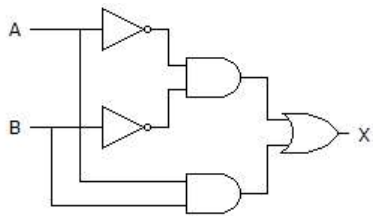
- ☒ a. S-R flip flop
- ☐ b. T-Flip flop
- ☐ c. None of the mentioned
- ☐ d. D-flip flop
- ☐ e. J-K flip flop

Question 10

Complete

Mark 1.00 out of 1.00

Realize the following diagram?



- ☒ a. $X = A'B' + AB$
- ☐ b. $X = (AB)' + AB$
- ☐ c. $X = AB' + A'B$
- ☐ d. $X = (AB)' + A'B'$

Question 11

Complete

Mark 1.00 out of 1.00

The Comparison between the half adder and full adder is -----

- ☐ a. All of the Mentioned
- ☒ b. Half adder has two inputs while full adder has three inputs
- ☐ c. Half adder has two inputs while full adder has four inputs
- ☐ d. Half adder has one output while full adder has two outputs

Question 12

Complete

Mark 1.00 out of 1.00

How many inputs are required for the truth table of 16 entries?

- ☐ a. 8
- ☐ b. 5
- ☒ c. 4
- ☐ d. 12

Question **13**

Complete

Mark 1.00 out of 1.00

Logic functions are used in _____ design

- ☐ a. Sampling
- ☐ b. All of the mentioned
- ☐ c. Analog
- ☒ d. Digital

Question **14**

Complete

Mark 1.00 out of 1.00

The basic gate, it's output is complementary to the input?

- ☐ a. OR Gate
- ☒ b. None of the mentioned
- ☐ c. NAND Gate
- ☐ d. AND Gate

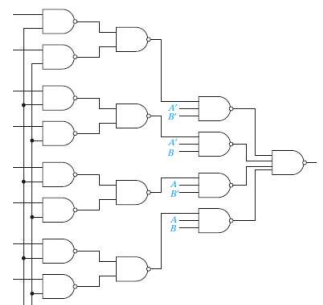
Question **15**

Complete

Mark 1.00 out of 1.00

The circuit shown below is?

- ☐ a. Encoder
- ☐ b. None of the mentioned
- ☒ c. Multiplexer
- ☐ d. Decoder
- ☐ e. Comparator

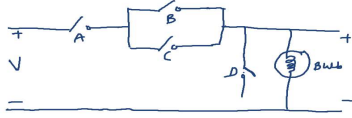


Question **16**

Complete

Mark 1.00 out of 1.00

The output of the switching circuit given below is?



- ☐ a. None
- ☐ b. $A' \cdot (B+C) \cdot D'$
- ☒ c. $A \cdot (B+C) \cdot D'$
- ☐ d. $A \cdot (B+C') \cdot D$

Question **17**

Complete

Mark 1.00 out of 1.00

If A, B and C are the inputs of a full adder then the carry is given by-----

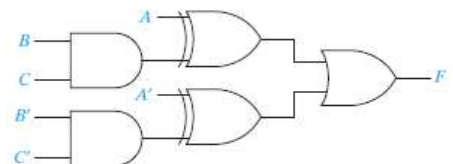
- ☐ a. A OR B OR (A AND B) C
- ☐ b. A XOR B XOR (A XOR B) AND C
- ☒ c. A AND B OR (A XOR B) AND C
- ☐ d. (A AND B) OR (A AND B)C

Question **18**

Complete

Mark 1.00 out of 1.00

What is the out F of the circuit given below?



- ☒ a. None of the mentioned
- ☐ b. $A'B + AB'$
- ☐ c. $C'B + AD'$
- ☐ d. $AC' + BC$

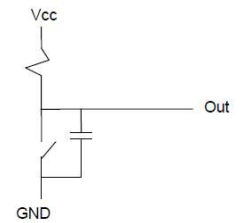
Question 19

Complete

Mark 0.00 out of 1.00

The circuit shown below is acting as

- ☒ a. Memory
- ☐ b. None of the mentioned
- ☐ c. Inverter
- ☐ d. Counter
- ☐ e. Buffer



Question 20

Complete

Mark 1.00 out of 1.00

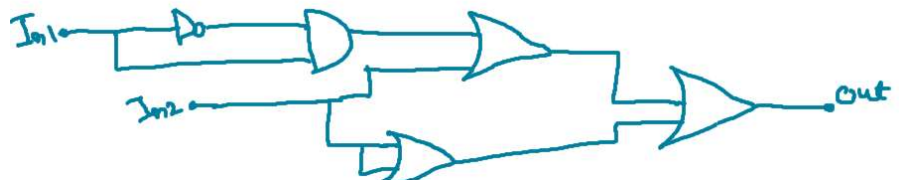
The simplified form of the function $F(A,B,C) = (A+B+C)(A+B'+C)(A+B+C')$ is

- ☐ a. $B+C$
- ☐ b. $A+C$
- ☒ c. $A+BC$
- ☐ d. $A+AC$
- ☐ e. $A+AC$

Question 21

Complete

Mark 0.00 out of 1.00



- ☐ a. $OUT = AB$
- ☐ b. $OUT = A'$
- ☐ c. $OUT = A+B$
- ☒ d. None of the mentioned
- ☐ e. $OUT = B'$

Question **22**

Complete

Mark 1.00 out of 1.00

For a two-input XNOR gate, with the input waveforms as shown below, which output the waveform is correct?



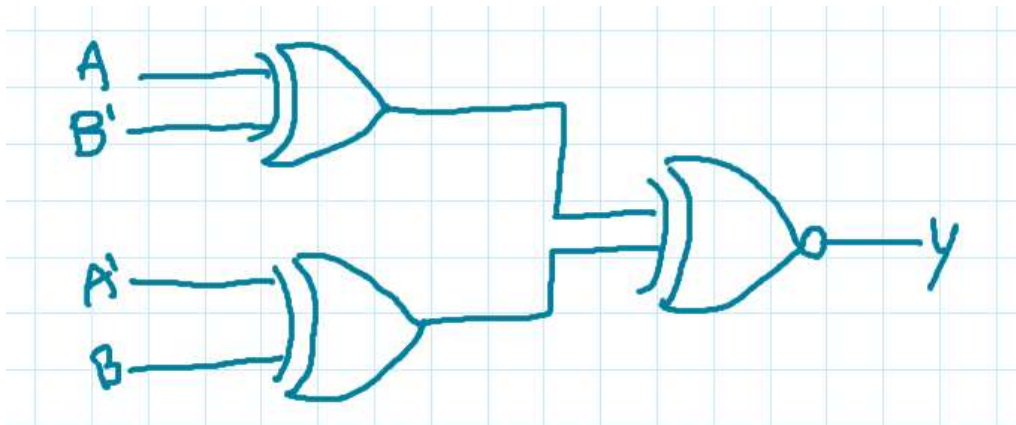
- ☐ a. OUTPUT c
- ☐ b. OUTPUT a
- ☐ c. OUTPUT b
- ☒ d. OUTPUT d

Question **23**

Complete

Mark 1.00 out of 1.00

The out Y of the circuit is?



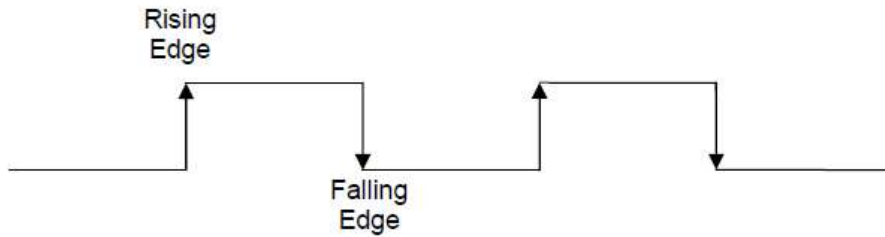
- ☐ a. None
- ☐ b. $A'B + AB'$
- ☒ c. Logic 1
- ☐ d. Logic 0

Question **24**

Complete

Mark 0.00 out of 1.00

The clock pulse given below is used for?



- ☐ a. Latch
- ☐ b. None of the mentioned
- ☐ c. Flip flop
- ☒ d. Latch and flip flop

Question **25**

Complete

Mark 0.00 out of 1.00

Circuit shown below is used for ?

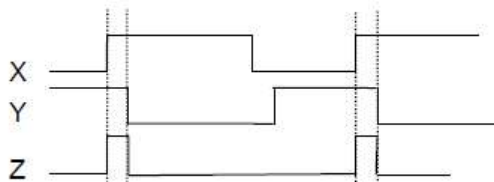
- ☒ a. Has no Application
- ☐ b. Lower the spark while switch is connecting to input in S-R FF
- ☐ c. Lower the spark while switch is connecting to input in J-K FF

Question **26**

Complete

Mark 0.00 out of 1.00

In the diagram below to get the output Z, the number of gates required are?



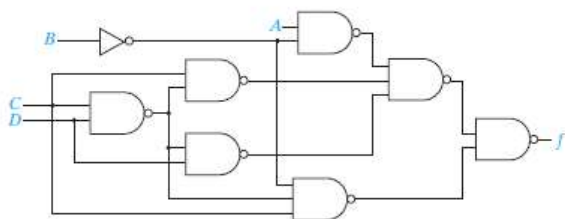
- ☐ a. 1 AND and 1 NOT
- ☐ b. 2 AND and 1 NOT
- ☒ c. 2 NAND and 1 NOT
- ☐ d. 2 NAND and 2 NOT
- ☐ e. **23 NAND and 0 NOT**

Question **27**

Complete

Mark 1.00 out of 1.00

Find the output f of the circuit given below.



- ☐ a. $A'B + CD'$
- ☐ b. $BC + BD$
- ☐ c. $AC + AD$
- ☒ d. None

Question **28**

Complete

Mark 0.00 out of 1.00

What are the basic gates are required to construct the XOR gate ?

- ☐ a. Only OR gate
- ☐ b. AND gates, OR gates, and NOT gates
- ☐ c. Only NOT Gate
- ☒ d. None
- ☐ e. Only AND & OR

Question **29**

Complete

Mark 1.00 out of 1.00

The simplified form of the function $(A,B,C,D) = \text{minterms } (0,1,3,5,7,8,9,11,13,15)$ is?

- ☒ a. $D+B'C'$
- ☐ b. $A+BC$
- ☐ c. $AC+BD$
- ☐ d. $B+DC$

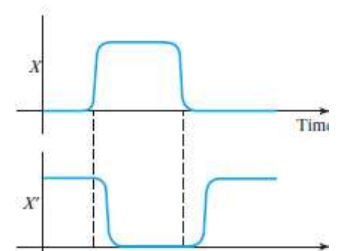
Question **30**

Complete

Mark 1.00 out of 1.00

The diagram given below is for?

- ☐ a. X-OR
- ☐ b. X-NOR
- ☐ c. NAND
- ☒ d. NONE of the mentioned
- ☐ e. NOR



Jump to...



