Started on	Saturday, 18 June 2022, 11:05 AM
State	Finished
Completed on	Saturday, 18 June 2022, 11:17 AM
Time taken	11 mins 38 secs
Marks	11.00/14.00
Grade	**11.79** out of 15.00 (**79**%)

Question 1

Complete

Mark 1.00 out of 1.00

A mod-12 counter must have: [2]

Select one:

- a. 4 flip flops
- b. 5 flip flops
- c. 10 flip flops
- d. 2 flip flops

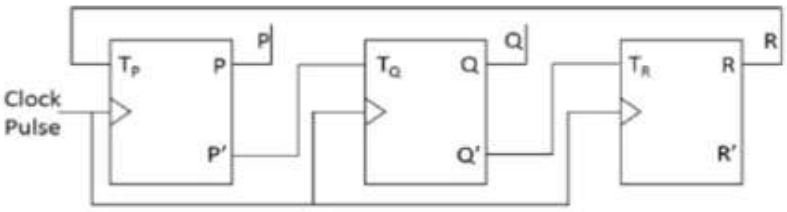
The correct answer is: 4 flip flops

Question 2

Complete

Mark 0.00 out of 2.00

Consider a 3-bit counter, designed using T flip-flops, as shown below:



Assuming the initial state of the counter given by PQR as 000, what are the next three states?

Select one:

- a. 011, 101, 111
- b. 001, 010, 000
- c. 011, 101, 000
- d. 001, 010, 111

The correct answer is: 011, 101, 000

Question 3

Complete

Mark 1.00 out of 1.00

If the input to a T flip-flop is a 264 MHz signal, the final output of three T flip-flop in a series is

Select one:

- a. 30 MHz
- b. 12.5 MHz
- c. 520 MHz
- d. 33 MHz

The correct answer is: 33 MHz

Question 4

Complete

Mark 1.00 out of 1.00

Five T flip-flops are connected to form a counter. The maximum states possible for the counter?

Select one:

- a. 16
- b. 40
- c. 32
- d. 64

The correct answer is: 32

Question 5

Complete

Mark 1.00 out of 1.00

Consider a 4-bit johnson counter with an initial value of 0000. The counting sequence of this counter is.

Select one:

- a. 0, 1, 3, 5, 7, 9, 11, 13, 15, 0
- b. 0, 1, 3, 7, 15, 14, 12, 8, 0
- c. 0, 2, 4, 6, 8, 10, 12, 14, 0
- d. 0, 8, 12, 14, 15, 7, 3, 1, 0

The correct answer is: 0, 8, 12, 14, 15, 7, 3, 1, 0

Question 6

Complete

Mark 0.00 out of 1.00

A 10-bit counter is used to count from 0, 1, 2,...,n. The value of n is _____?

Select one:

- a. 255
- b. 511
- c. 1023
- d. 2047

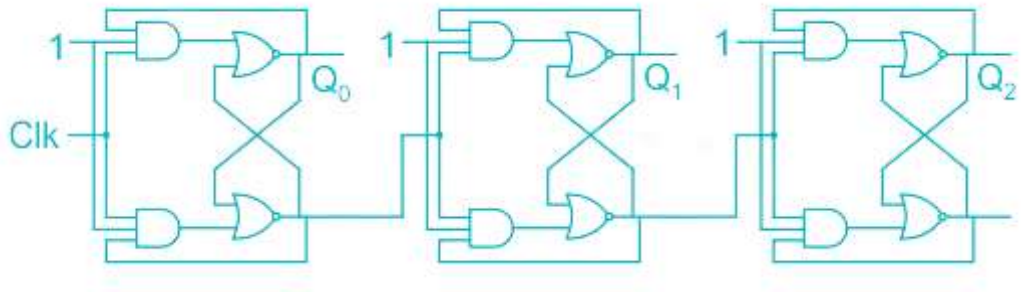
The correct answer is: 1023

Question 7

Complete

Mark 2.00 out of 2.00

The current state of $Q_2Q_1Q_0$ – 100 for the circuit below. The next-to-next state will be:



Select one:

- a. 101
- b. 011
- c. 010
- d. 100

The correct answer is: 101

Question 8

Complete

Mark 1.00 out of 1.00

In which counter the output of the last flip-flop is connected to the input of the first flip-flop?

Select one:

- a. BCD Counter
- b. Parallel Counter
- c. Ring Counter
- d. Ripple Counter

The correct answer is: Ring Counter

Question 9

Complete

Mark 1.00 out of 1.00

A minimum number of D ff needed to design a mod-258 counter is

Select one:

- a. 9
- b. 8
- c. 258
- d. 512

The correct answer is: 9

Question 10

Complete

Mark 1.00 out of 1.00

When two asynchronous active low inputs PRESET and CLEAR are applied to a J-K flip-flop the output will be _____?

Select one:

- a. Previous state
- b. Undefined
- c. 0
- d. 1

The correct answer is: Undefined

Question 11

Complete

Mark 1.00 out of 1.00

Race around condition is occurs in:

Select one:

- a. Multiplexer
- b. Sequential circuits
- c. Sequential circuits with level triggering
- d. Encoder

The correct answer is: Sequential circuits with level triggering

Question 12

Complete

Mark 1.00 out of 1.00

In a SR flip-flop, if R=S' , then it acts as a:

Select one:

- a. RS flip-flop
- b. T flip-flop
- c. JK flip-flop
- d. D flip-flop

The correct answer is: D flip-flop