

Learning4help by Waqas

Asslam-o-Alaikum! In this file we'll provide you **CS204 quiz 4 2023 Important Finalterm MCQs. Must Prepare Before Finalterm Exams.** Verify Answers yourself too. If you found mistake then inform me.

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Question # 7 of 10 (Start time: 06:54:32 PM, 25 July 2023)

An Astable multivibrator is known as a(n) -----

Select the correct option

- ☐ Dual-shot
- ☒ Oscillator
- ☐ Booster
- ☐ One-shot

Question # 8 of 10 (Start time: 06:54:32 PM, 25 July 2023)

The 3-bit up counter can be implemented using ----- flip-flop(s).

Select the correct option

- ☐ S-R Flip-flops Only
- ☒ S-R Flip-flops or D-Flip-flops
- ☐ D-Flip-flop Only
- ☐ S-R Flip-flops and D-Flip-flops

Question # 8 of 10 (Start time: 06:54:32 PM, 25 July 2023) Total Marks: 1

The 3-bit up counter can be implemented using _____ flip-flop(s).

Select the correct option

- ☐ S-R Flip-flops Only
- ☒ S-R Flip-flops or D-Flip-flops
- ☐ D-Flip-flop Only
- ☐ S-R Flip-flops and D-Flip-flops

Question # 9 of 10 (Start time: 06:54:32 PM, 25 July 2023) Total Marks: 1

A flip-flop is connected to +5 volts and it draws 5 mA of current during its operation, the power dissipation of the flip-flop is

Select the correct option

- ☐ 10 mW
- ☐ 1024 mW
- ☒ 25 mW
- ☐ 64 mW

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Question # 5 of 10 (Start time: 06:51:49 PM, 25 July 2023)

A flip-flop is connected to +5 volts and it draws 5 mA of current during its operation, the power dissipation of the flip-flop is

Select the correct option

- ☐ 10 mW
- ☐ 1024 mW
- ☒ 25 mW
- ☐ 64 mW

Question # 6 of 10 (Start time: 06:51:49 PM, 25 July 2023)

Divide-by-160 counter is achieved by using

Select the correct option

- ☐ DIV 16 and DIV 32
- ☐ Flip-Flop and DIV 10
- ☐ Flip-Flop and DIV 16
- ☒ DIV 16 and DIV 10

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Question # 1 of 10 (Start time: 06:44:50 PM, 25 July 2023) Total Marks: 1

In mealy machine the output depends on

Select the correct option

- ☒ current state and the inputs
- ☐ the inputs
- ☐ None of the above
- ☐ the current state

Question # 1 of 10 (Start time: 06:44:50 PM, 25 July 2023) Total Marks: 1

A decade counter can be implemented by truncating the counting sequence of a MOD-20 counter.

Select the correct option

- ☐ True
- ☒ False

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In synchronous digital circuits the _____ of one flip-flop is connected to the _____ of a second flip-flop.

Select the correct option

- ☐ Clock signal, Output
- ☒ Output, input
- ☐ Input, Output
- ☐ Input, clock signal

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Question # 9 of 10 (Start time: 01:29:32 PM, 25 July 2023) Total Marks: 1

A one-shot mono-stable device contains _____

Select the correct option

- ☒ NOR gate, Resistor, Capacitor and NOT Gate
- ☐ NAND gate, Resistor, Capacitor and NOT Gate
- ☐ AND gate, Resistor, Capacitor and NOT Gate
- ☐ XNOR gate, Resistor, Capacitor and NOT Gate

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1:31 PM Tuesday 7/25/2023

RCO stands for _____

Select the correct option

- ☒ Ripple Clock Output
- ☐ Reconfiguration Counter Output
- ☐ Ripple Counter Output
- ☐ Reconfiguration Clock Output

Three cascaded modulus-10 counters have an overall modulus of _____

Select the correct option

- ☒ 1000
- ☐ 100
- ☐ 30
- ☐ 10000

Question # 6 of 10 (Start time: 01:25:56 PM, 25 July 2023) Total Marks: 1

The n flip-flops store _____ states.

Select the correct option

☐ 0

☐ 1

☒ 2^n

☐ 2^{n+1}

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According to Moore circuit, the output of synchronous sequential circuit depend/s on _____ of flip flop.

Select the correct option

☐ Previous State

☐ Next State

☒ Present State

☐ External Inputs

The power consumed by a flip-flop is defined by _____

Select the correct option

- ☐ $P = I_{cc} \times R_{cc}$
- ☐ $P = M_{cc} \times V_{cc}$
- ☐ $P = V_{cc} \times R_{cc}$
- ☒ $P = V_{cc} \times I_{cc}$

The power consumed by a flip-flop is defined by _____

Select the correct option

- ☐ $P = I_{cc} \times R_{cc}$
- ☐ $P = M_{cc} \times V_{cc}$
- ☐ $P = V_{cc} \times R_{cc}$
- ☒ $P = V_{cc} \times I_{cc}$

Question # 3 of 10 (Start time: 01:22:37 PM, 25 July 2023) Total Marks: 1

_____ is said to occur when multiple internal variables change due to change in one input variable

Select the correct option

- ☐ Hold delay
- ☒ Race condition
- ☐ Hold and Wait
- ☐ Clock Skew

Question # 2 of 10 (Start time: 01:21:00 PM, 25 July 2023) Total Marks: 1

Which mechanism allocate the binary values to the states in order to reduce the cost of the combinational circuits?

Select the correct option

- ☒ State Assignment
- ☐ State Evaluation
- ☐ State Reduction

When the _____ Hz sampling interval is selected, the signal at the output of the J-K flip-flop has a time period of _____ seconds.

Select the correct option

☒ 1,2

☐ 0,2

☐ 2,5

☐ 1,1

A 4-bit binary UP/DOWN counter is in the binary state zero. the next state in the DOWN mode is _____

Select the correct option

☒ 1111

☐ 1000

☐ 1110

☐ 0001

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Question 10 (10 Marks)

Which of the following heap method lowers the value of key at position 'p' by the amount 'delta'?

Select the correct option

- ☐ percolateDown(p,delta)
- ☐ decreaseKey(p,delta)
- ☐ remove(p,delta)
- ☒ increaseKey(p,delta)

10:39 PM

Question # 2 of 10 (Start time: 05:12:12 PM, 19 July 2023)

Total Marks: 1

Which of the following method takes an array to make a heap out of it?

Select the correct option

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- ☒ Buildheap()
- ☐ Insert ()
- ☐ traverse ()
- ☐ percolatedown ()

In 1990, Bill Pugh proposed an enhancement on linked lists and the new data structure was termed as

Select the correct option

- ☒ Skip list
- ☐ Enhanced Linked list
- ☐ Fixed list
- ☐ Tree list

Question # 7 of 10 (Start time: 10:50:30 PM, 20 July 2023) Total Marks: 1

Suppose there are 100 elements in an equivalence class, so initially there will be 100 trees. The collection of these trees is called _____.

Select the correct option

- ☒ Forest
- ☐ Cluster
- ☐ Bunch
- ☐ Class

The total number of nodes on 5th level of a perfect binary tree are :

Select the correct option

- ☐ 16
- ☐ 31
- ☐ 15
- ☒ 32

Question # 5 of 10 (Start time: 10:49:11 PM, 20 July 2023) Total Marks: 1

A pair of sets which does not have any _____ element are called disjoint sets

Select the correct option

☐ Null

☒ Common

☐ Different

☐ Uncommon

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Question # 4 of 10 (Start time: 10:48:31 PM, 20 July 2023) Total Marks: 1

If we want to find median of 50 elements, then after applying buildHeap method, how many times deleteMin method will be called ?

Select the correct option

☐ 50

☐ 35

☒ 5

☐ 25

Question # 3 of 10 (Start time: 10:48:01 PM, 20 July 2023) Total Marks: 1

If ahmad is boss of ehsan and ehsan is boss of umer then ahmad is also boss of umer.
The above mentioned relation is _____.

Select the correct option

- ☒ Transitive
- ☐ Symmetry
- ☐ Reflexive
- ☐ None of given

Which of the following statement is NOT correct regarding Table ADT?

Select the correct option

- ☐ A major use of table is in databases where we build and use tables for keeping information.
- ☐ In a table, the type of information in columns may be different.
- ☒ A table consists of several columns, known as entities.
- ☐ The row of a table is called a record.

Question # 10 of 10 (Start time: 10:44:25 PM, 20 July 2023) Total Marks: 1

If a tree has 20 edges/links, then the total number of nodes in the tree will be :

Select the correct option

- ☒ 21
- ☐ 19
- ☐ 20
- ☐ Can't be determined

Question # 9 of 10 (Start time: 10:44:01 PM, 20 July 2023) Total Marks: 1

In heap data structure, the time required for insert() method will be proportional to -----

Select the correct option

- ☒ $\log_2 n$
- ☐ $N \log_2 N$
- ☐ N^2
- ☐ N

Click to Save Answer & Move to Next Question

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Question # 8 of 10 (Start time: 10:43:15 PM, 20 July 2023) Total Marks: 1

To remove any node in the min heap other than the root node, the remove method first calls the _____ method before calling deleteMin().

Select the correct option

☒ decreaseKey(p,delta)

☐ remove(p,delta)

☐ percolateDown(p,delta)

☐ increaseKey(p,delta)

Click to Save Answer & Move to Next Question

Question # 7 of 10 (Start time: 10:42:25 PM, 20 July 2023) Total Marks: 1

Which of the following properties are satisfied by Equivalence relationship?

Select the correct option

☐ Only Reflexive and Symmetric

☒ Reflexive , Symmetric and Transitive

☐ Only Reflexive and Transitive

☐ Only Symmetric and transitive

Question # 5 of 10 (Start time: 10:41:47 PM, 20 July 2023) Total Marks: 1

Which of the following is NOT an implementation of Table ADT?

Select the correct option

- ☐ Linked List
- ☐ Skip List
- ☒ Stack
- ☐ Sorted Sequential Array

Question # 5 of 10 (Start time: 10:41:24 PM, 20 July 2023) Total Marks: 1

The scenario "If Ali is brother of Asif and Asif is brother of Uzma then Ali is brother of Uzma" is the example of _____ property.

Select the correct option

- ☒ Transitive
- ☐ Reflexive
- ☐ Identity
- ☐ Symmetry

Click to Save Answer & Move to Next Question

Question # 4 of 10 (Start time: 10:40:53 PM, 20 July 2023) Total Marks: 1

Given the values are the array representation of heap;
12 23 26 31 34 44 56 64 78 100
What is the 5th smallest element in the given heap?

Select the correct option

☐ 31

☐ 44

☒ 34

☐ 56

Question # 3 of 10 (Start time: 10:39:57 PM, 20 July 2023) Total Marks: 1

In deletion, _____ method reorganizes the min heap.

Select the correct option

☐ DecreaseKey

☒ PercolateDown

☐ Percolate_Below

☐ IncreaseKey

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Click to Save Answer & Move to Next Question

Question # 9 of 10 (Start time: 05:17:46 PM, 19 July 2023) Total Marks: 1

In union operation , the root of one tree points to the _____ of other tree.

Select the correct option

☐ Leaf node

☐ Left Subtree

☒ Root node

☐ Right Subtree

Click to Save Answer & Move to Next Question

Question # 8 of 10 (Start time: 05:16:59 PM, 19 July 2023) Total Marks: 1

Which of the following method take one element at a time to make a heap?

Select the correct option

☐ Buildheap()

☒ Insert ()

☐ traverse ()

☐ percolatedown ()

Click to Save Answer & Move to Next Question

Question # 7 of 10 (Start time: 05:16:14 PM, 19 July 2023) Total Marks: 1

If the value to be searched in array using binary search algorithm is less than the mid value, this value will be searched in _____ of array.

Select the correct option

Mid index

Second half

Last index

First half

Click to Save Answer & Move to Next Question

Question # 5 of 10 (Start time: 05:14:34 PM, 19 July 2023) Total Marks: 1

Consider a max heap, represented by the following array:

49, 39, 36, 31, 27, 21, 35, 12

After the deletion of node with value 49. Which of the following is the updated max heap?

Select the correct option

39, 36, 31, 27, 21, 35, 12

39, 36, 31, 12, 27, 21, 35

39, 36, 35, 21, 27, 31, 12

39, 31, 36, 12, 27, 21, 35

Question # 4 of 10 (Start time: 05:14:07 PM, 19 July 2023) Total Marks: 1

In Binary Search Algorithm, if the value being searched is smaller than "mid", then updated "high" for the left half of array will be computed as:

Select the correct option

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☒ High = mid - 1

☐ High = mid - 2

☐ High = mid + 1

☐ High = mid + low

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 05:13:14 PM, 19 July 2023) Total Marks: 1

In min heap, deletemin() will put the _____ element at the first position of the array.

Select the correct option

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☒ Last

☐ Second

☐ Third

☐ None of the given options.

Click to Save Answer & Move to Next Question