

# Learning4help by Waqas

Asslam-o-Alaikum! In this file we'll provide you **CS502 quiz 3 2023 Important Finalterm MCQs. Must Prepare Before Finalterm Exams.** Verify Answers yourself too. If you found mistake then inform me.

If you found mistake then let us know.

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The component digraph is necessarily \_\_\_\_\_.

Select the correct option

- acyclic
- straight
- cyclic
- strong

In undirected graph, by convention all the edges are called \_\_\_\_\_ edges.

Select the correct option

- Both forward and back
- Forward
- Cross
- Back

Question # 5 of 10 ( Start time: 11:15:55 PM, 19 July 2023 ) Total Marks: 1

\_\_\_\_\_ technique is look like propagating wave-front outward.

Select the correct option

- Depth First Traversal
- Breadth First Traversal
- Time Stamp Traversal
- Generic Traversal

Question # 4 of 10 ( Start time: 11:14:58 PM, 19 July 2023 ) Total Marks: 1

A free tree with n vertices have exactly \_\_\_\_\_ edges.

Select the correct option

- $n - 1$
- 1
- n
- $n + 1$

Question # 10 of 10 ( Start time: 09:43:32 PM, 19 July 2023 ) Total Marks: 1

Digraphs \_\_\_\_\_ in communication and transportation networks.

Select the correct option

- parts are used
- final value is used
- are used
- are not used

Question # 9 of 10 ( Start time: 09:42:40 PM, 19 July 2023 ) Total Marks: 1

In computing the \_\_\_\_\_ components of a digraph, vertices of the digraph are partitioned into subsets.

Select the correct option

- strongly connected
- weakly connected
- best
- worst

Question # 8 of 10 (Start time: 09:41:54 PM, 19 July 2023) Total Marks: 1

Which technique is used in the implementation of Kruskal solution for the MST?

Select the correct option

- Dynamic Programming Technique
- Divide-and-Conquer Technique
- The algorithm combines more than one of the above techniques i.e. Divide-and-Conquer and Dynamic Programming
- Greedy Technique

Question # 9 of 10 (Start time: 09:42:17 PM, 19 July 2023) Total Marks: 1

In strong components algorithm, first of all DFS is run for getting \_\_\_\_\_ times of vertices.

Select the correct option

- Both start & finish
- Middle
- Start
- Finish

Question # 5 of 10 ( Start time: 09:40:15 PM, 19 July 2023 ) Total Marks: 1

In computing the strongly connected components of a digraph, vertices of the digraph are \_\_\_\_\_ into subsets.

Select the correct option

- Created
- Joined
- Partitioned
- Deleted

In strong components algorithm, vertices are sorted in \_\_\_\_\_ order of finish times.

Select the correct option

- strong
- Any
- Increasing
- Decreasing

Question # 3 of 10 ( Start time: 09:37:58 PM, 19 July 2023 ) Total Marks: 1

In strong components algorithm, the form of graph is used in which all the \_\_\_\_\_ of original graph G have been reversed in direction.

Select the correct option

- Trees
- Vertices
- Both edges & vertices
- Edges

Question # 2 of 10 ( Start time: 09:36:53 PM, 19 July 2023 ) Total Marks: 1

We say that two vertices u and v are mutually \_\_\_\_\_ if u can reach v and vice versa.

Select the correct option

- Crossed
- Forward
- Reachable
- Not Reachable

Forward edge is:

Select the correct option

- $(u, v)$  where  $v$  is a proper ancestor of  $u$  in the tree.
- $(u, v)$  where  $u$  is a proper ancestor of  $v$  in the tree.
- $(u, v)$  where  $v$  is a proper descendent of  $u$  in the tree.
- $(u, v)$  where  $u$  is a proper descendent of  $v$  in the tree.

The ancestor and descendent relation can be nicely inferred by the \_\_\_\_\_ lemma.

Select the correct option

- node
- addition
- division
- parenthesis

Question # 8 of 10 (Start time: 09:47:56 AM, 18 July 2023) Total Marks: 1

\_\_\_\_\_ components are not affected by reversal of all edges in terms of vertices reachability.

Select the correct option

- Strongly connected
- Last two
- First two
- Weakly connected

The relationship between number of back edges and number of cycles in DFS is:

Select the correct option

- Back edges are half of cycles
- Back edges are one quarter of cycles
- There is no relationship between no. of edges and cycles
- Both are equal

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Cross edge is :

Select the correct option

- $(u, v)$  where  $u$  and  $v$  are not ancestor of one another
- $(u, v)$  where  $u$  is ancestor of  $v$  and  $v$  is not descendent of  $u$ .
- $(u, v)$  where  $u$  and  $v$  are either ancestor or descendent of one another.
- $(u, v)$  where  $u$  and  $v$  are not ancestor or descendent of one another

A strongly connected component only apply to:

Select the correct option

- Minimum Spanning Tree
- Breadth First Search
- Undirected Graph
- Directed Graph

9:46 AM Tuesday 7/18/2023

9:44 AM Tuesday 7/18/2023

Question # 4 of 10 ( Start time: 09:43:11 AM, 18 July 2023 ) Total Marks: 1

A free tree with  $n$  \_\_\_\_\_ have exactly  $n-1$  \_\_\_\_\_

Select the correct option

- vertices,edges
- edges,vertices
- vertices,nodes
- nodes,vertices

Question # 3 of 10 ( Start time: 09:42:01 AM, 18 July 2023 ) Total Marks: 1

The \_\_\_\_\_ given by DFS allow us to determine a number of things about a graph or digraph.

Select the correct option

- color stamps
- line stamps
- node stamps
- time stamps

Question # 3 of 10 ( Start time: 09:42:01 AM, 18 July 2023 ) Total Marks: 1

The \_\_\_\_\_ given by DFS allow us to determine a number of things about a graph or digraph.

Select the correct option

- color stamps
- line stamps
- node stamps
- time stamps

Question # 2 of 10 ( Start time: 09:41:02 AM, 18 July 2023 ) Total Marks: 1

Networks are \_\_\_\_\_ in the sense that it is possible from any location in the network to reach any other location in the digraph.

Select the correct option

- Complete
- Incomplete
- Not graphs
- Transportation

Question # 10 of 10 ( Start time: 05:51:46 PM, 19 July 2023 ) Total Marks: 1

In Timestamped DFS-cycles lemma, if edge  $(u, v)$  is a back edge, then -----

Select the correct option Reload Math Equations

<input checked="" type="radio"/>	$f[u] \leq f[v]$
<input type="radio"/>	$f[u] \geq f[v]$
<input type="radio"/>	$f[u] < f[v]$
<input type="radio"/>	$f[u] > f[v]$

Click to Save Answer & Move to Next Question

You have an adjacency list for  $G$ , what is the time complexity to compute Graph transpose  $G^T$  ?

Select the correct option

<input type="radio"/>	$V$
<input type="radio"/>	$E$
<input type="radio"/>	$V \cdot E$
<input checked="" type="radio"/>	$(V+E)$

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You have an adjacency list for G, what is the time complexity to compute Graph transpose GAT ?

Select the correct option

- 
- E
- V.E
- (V+E)

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In Timestamped DFS, No back edges means -----

Select the correct option

- BFS
- 1 cycle
- DFS
- no cycles

Question # 6 of 10 ( Start time: 05:48:15 PM, 19 July 2023 ) Total Marks: 1

Adding any edge to a free tree creates a unique \_\_\_\_\_.

Select the correct option

- Cycle
- Strong component
- Edge
- Vertex

Question # 5 of 10 ( Start time: 05:46:33 PM, 19 July 2023 ) Total Marks: 1

In computing the \_\_\_\_\_ components of a digraph, vertices of the digraph are partitioned into subsets.

Select the correct option

- best
- strongly connected
- worst
- weakly connected

By breaking any edge on a cycle created in free tree, the free \_\_\_\_\_ is restored.

Select the correct option

- Vertex
- Edge
- Tree
- Cycle

There are no \_\_\_\_\_ edges in undirected graph.

Select the correct option

- Forward
- Both forward and back
- Cross
- Back