

CS302 2018 Final – Answer Sheet

Name: _____

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Question 1:

A: Value of the pivot: _____

B: Recursive call #1: start: _____ size: _____ Recursive call #2: start: _____ size: _____

C: Recursive call #1: start: _____ size: _____ Recursive call #2: start: _____ size: _____

D: Recursive call #1: start: _____ size: _____ Recursive call #2: start: _____ size: _____

E: Circle the answer: a b c d e f g h i j k l m n o p q r s t

F: Circle the answer: a b c d e f g h i j k l m n o p q r s t

Question 2: Write the three important details here.

Question 3: Circle the correct answer. Only circle one answer.

A: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

B: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

C: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

D: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

E: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

F: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

G: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

H: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

I: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

J: $O(1)$ $O(\alpha(V))$ $O(\log(V))$ $O(V)$ $O(E)$ $O(V+E)$ $O(V \log(V))$ $O(E \log(V))$ $O(V^2)$ $O(v!)$

Question 4:

A: Order that the nodes are printed: _____

B: Order that the nodes are printed: _____

C: Order that the nodes are printed: _____

D: Length of shortest path from 0 to 5: _____

E: Order of node removal from the multimap: _____

F: Edges in the minimum spanning tree: _____

G: Path with maximum flow from 0 to 5: _____

H: Use the adjacency matrix to the right:

If a value in the adjacency matrix changes, put the changed value in the box. If a value is unchanged, leave the box empty.

	0	1	2	3	4	5
0	- <input type="text"/>	30 <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>
1	- <input type="text"/>	- <input type="text"/>	22 <input type="text"/>	5 <input type="text"/>	- <input type="text"/>	- <input type="text"/>
2	12 <input type="text"/>	- <input type="text"/>	- <input type="text"/>	13 <input type="text"/>	8 <input type="text"/>	- <input type="text"/>
3	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	45 <input type="text"/>
4	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	22 <input type="text"/>	- <input type="text"/>	- <input type="text"/>
5	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	- <input type="text"/>	17 <input type="text"/>	- <input type="text"/>

I: Minimum cut with respect to 0 to 5.: _____

J: Maximum flow from 0 to 5: _____

Question 5: Put your answer here. If there's not enough room, please use the next page.

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Question 5: Put the rest of your answer here.