

Course Title: Data Structures & Algorithms Analysis
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 No. of Questions: 3 Questions
 Time: 2 hours
 Using Calculator (No)

University of Palestine



Final Exam
 2nd semester 2017/2018
 Total Grade: 50

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 College Name: IT
 Dep. / Specialist: _____
 Using Dictionary (No)

First Question

No. of Branches (1)

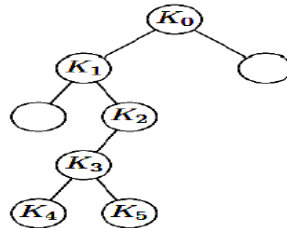
(10 marks)

Q1 B1

Choose the best Answer:

1. Below is a binary search tree; only some of the values in the nodes are shown, and those are given symbolically. Suppose that we delete K0. What key will be in the root of the resulting tree:

- A. K1
- B. K2
- C. K3
- D. K4
- E. K5



2. In the linked list implementation of the queue class, where does the delete method remove the node from the linked list?

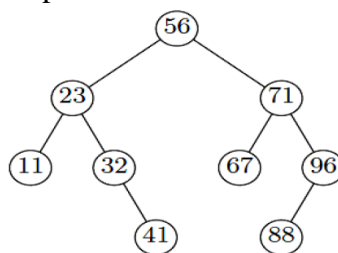
- A. At the head
- B. At the tail
- C. After all other entries that are greater than the new entry.
- D. After all other entries that are smaller than the new entry.

3. What additional requirement is placed on an array, so that binary search may be used to locate an entry?

- A. The array elements must form a heap.
- B. The array must have at least 2 entries.
- C. The array must be sorted.
- D. The array's size must be a power of two.

4. What is label of the 5th node in the postorder traversal of the tree shown below?

- A. 96
- B. 88
- C. 67
- D. 41



5. Suppose that a certain binary tree on seven nodes has in-order traversal **PQRSTUV** and postorder traversal **QRPTUVS**. What is the last character in its preorder traversal?

- A. R
- B. S
- C. T
- D. U
- E. V

