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Roll No .....

CS-223

B.E., III Semester

Examination, December 2016

Choice Based Credit System (CBCS)

Data Structure - II

Time : Three Hours

Maximum Marks : 60

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Discuss briefly the various asymptotic notations used in algorithm analysis.

   b) Explain Hashing procedure. State the properties of good hashing functions.

2. a) Explain AVL tree. Insert the following elements in AVL search tree

   50 25 10 5 7 3 30 20 8 15

   b) What are Red Black trees? Discuss the properties of Red Black trees in detail.

3. a) Sort the following number using selection sort and give the required steps.

   96 31 27 42 34 76 61 10 4

   b) What is min heap? Create the min heap for the given data set.

   6 15 50 3 33 45 40 80 10

4. a) Write the algorithm of insertion sort and find its time complexity.

   b) Write in detail about Data Structure Maintenance.

5. a) Discuss and explain how to augment a Data Structure.

   b) Discuss in detail about Interval Trees.

6. a) Discuss in detail about Augmenting a red black trees.

   b) Explain Determining the rank of element in detail.

7. a) Discuss the basic file operations in short.

   b) Discuss the External merge short in detail.

8. Attempt any two of the following :

   a) Common operations on data structures

   b) Tournament tree

   c) Direct file organization

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