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Roll No ....

CS-3004 (CBGS)

B.E., III Semester

Examination, May 2018

Choice Based Grading System (CBGS)

Data Structures - II

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What do you mean by Data Structure? Discuss the types of Data Structure in short.

   b) Discuss Asymptotic Notation in detail.

2. a) How memory allocation done in C Language? Discuss dynamic memory allocation.

   b) What is Recursion. Discuss in detail with example.

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

   48 25 10 5 7 3 28 20 8 16

   b) Explain Hash function and symbol table in detail.

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

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

   6, 15, 50, 3, 33, 45, 40, 80, 10

5. a) Explain Red Black Trees also discuss the properties of Red Black tree.

   b) What do you mean by Sorting? Discuss the need for sorting.

6. a) Discuss the insertion operation in Red Black tree.

   b) Write the algorithm of Selection sort and find its time complexity.

7. a) What do you mean by Augmenting a Red black trees? Discuss in short.

   b) Discuss in detail about Interval Tress.

8. a) Explain sequential file organization. Differentiate between Sequential file and index sequential file.

   b) Write short notes of any two

   i) Direct file organization

   ii) Tournament Tree

   iii) Basic File Operations

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