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CS-62

04368

BACHELOR OF COMPUTER APPLICATIONS (PRE-REVISED)

Term-End Examination

June, 2014

CS-62 : 'C' PROGRAMMING AND DATA STRUCTURES

Time : 2 hours *Maximum Marks : 60*

Note : *Question number **1** is **compulsory**. Answer **any three** questions from the rest. All algorithms should be written nearer to **'C' language**.*

1. (a) Write an algorithm for the addition of two matrices. **10**

(b) What is a stack ? What operations are associated with a stack ? **10**

(c) Write any five advantages/disadvantages of Pointers over Arrays. **10**

2. (a) Define "Binary Tree". How does a Binary Tree differ from a Tree ? **5**

(b) Define "Graph". When can it be said that two vertices of a Graph are connected ? **5**

3. (a) Sort the following list of numbers using Quick Sort in descending order : **5**

1, 3, 2, 5, 4, 6, 12, 10

Show all the passes.

(b) Explain Sequential File Organisation. **5**

4. (a) Define AVL tree. Is the statement "Every Binary Tree is an AVL tree" correct ? Justify your answer. 5

(b) What is a Deque ? What operations are associated with a Deque ? 5

5. (a) Write an algorithm to convert an infix expression to a prefix expression. 5

(b) Write Dijkstra's algorithm for finding the Minimum Cost Spanning Tree. 5