Code: 9A05302

R09

B. Tech II Year I Semester (R09) Supplementary Examinations, May 2013
**ADVANCED DATA STRUCTURES**
(Common to ECC, CSS, IT & CSE)

Time: 3 hours                                                                                          Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1      Write a C++ program to perform 2D matrix operations as follows:
   (a)   Define class MATRIX, use appropriate constructor(s).
   (b)   Define methods for the following two matrix operations: determinant and transpose.
   (c)   Write a main program to demonstrate the use of the MATRIX class and its methods.

2   (a)   What is reusability? How do you achieve this in C++?
   (b)   What are the different ambiguities involved in multiple inheritance and how they are resolved?

3      Write a C++ program for array implementation of stack using ADT.

4   (a)   Explain how a hashing table can be represented.
   (b)   Describe any two hashing functions with example.

5   (a)   Write a C++ program to implement heap sort algorithm.
   (b)   Describe any one external sorting method.

6      What is a binary search tree? What is the average depth of a binary search tree? How is it different from binary tree? Justify your answer.

7      Compare indexed balanced tree with balanced binary tree. Give suitable example.

8      What is meant by prefix matching? Explain with example how prefix matching is done.

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