

**R09****Code: 9A05302**

B.Tech II Year I Semester (R09) Supplementary Examinations December 2015

**ADVANCED DATA STRUCTURES**

(Common to ECC, CSS, IT &amp; CSE)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

\*\*\*\*\*

- 1 (a) How C++ manages dynamic memory?  
(b) What are different ways of declaring a function in C++? How will you declare a function outside the class?
- 2 (a) What are manipulators? List out the various manipulators supported by C++.  
(b) What is generic programming? What are its advantages and state some of its applications?
- 3 Explain the following:  
(a) Dequeue.  
(b) Applications of queues.  
(c) Evaluation of postfix expression.
- 4 (a) Write notes on open addressing.  
(b) Compare linear probing with quadratic probing.
- 5 (a) Define a heap. How can it be used to represent a priority queue?  
(b) Explain about Polyphase merge sort method.
- 6 Explain the following with example:  
(a) Insertion, Deletion and Searching in a Binary Search Tree.  
(b) Insertion, Deletion and Searching in a AVL Tree.
- 7 (a) Explain in detail about zig-zig rotation and zig-zag rotation in splay trees with example.  
(b) Write algorithms for zig-zig rotation and zig-zag rotation in splay trees.
- 8 Explain about Patricia Trie in detail with suitable example.

\*\*\*\*\*