LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – COMPUTER SCI. & COMPUTER APP.

THIRD SEMESTER – **NOVEMBER 2013**

CS 3504/CA 3504 – DATA STRUCTURES USING C++

Date : 06/11/2013   Dept. No.   Max. : 100 Marks
Time : 9:00 - 12:00

PART – A

Answer ALL the Questions: **(10 x 2 = 20)**

1. Define Friend Function.

2. Define Class and Object.

3. Define Destructor.

4. Define Polymorphism.

5. Give the C++ stream classes.

6. Give the uses of this pointer.

7. Define Queue.

8. Define Graph.

9. Define Priority Queues.

10. Differentiate B and B+ trees.

PART – B

Answer ALL the Questions: **(5 x 8 = 40)**

11. a) C++ is an Object Oriented Programming Language. Justify.

                         (or)
    b) Explain Inline functions with examples.

12. a) Define Constructors. Explain its types.

                         (or)
    b) What is Operator Overloading? Write a C++ program to overload + operator to add two numbers.

13. a) Write short notes on formatted I/O Operation.

                         (or)
    b) Define Exceptions. How it is handled in C++.

14. a) State the difference between Linked List and Doubly Linked List. Write the algorithm for deleting
       an element from a Linked List and Doubly Linked List.
                         (or)
    b) Explain Depth First Search Algorithm.

15. a) Explain the ways of traversing a Binary Tree.
                         (or)
     b) Discuss in detail about Hashing tables & any three Hashing Functions.

PART – C

Answer Any TWO Questions: **(2 x 20 = 40)**

16. (a) Explain how Default arguments can be used as an alternative to function overloading.

    (b) Define Inheritance. Explain all its types with suitable examples.

17. (a) Discuss about the various modes a file can be opened in C++. Also write a program to open a file and read data from the file.

    (b) Define Stack. Explain its various operations.

18. (a) Write the Algorithm for Insertion Sort

    (b) Write a Program to sort an array of int, float and double using templates.

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