**Reg. No. \_\_\_\_\_\_\_\_**

**Karunya University**

**(Karunya Institute of Technology and Sciences)**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examination - June 2011**

**Subject Title: C++ AND DATA STRUCTURES Time: 3 hours**

**Subject Code: EE261 Maximum Marks: 100**

#### **Answer ALL questions**

**PART – A (10 x 1 = 10 MARKS)**

1. What are the two field of node in a singly-linked list?

2. What advantage does the doubly linked list have?

3. How to achieve the best case in Bubble Sort of an array?

4. What is the main idea of Quick Sort Method?

5. What is the reason for making Data as Private Member of a Class?

6. What function is used to read text containing Blanks?

7. Which member of a class can be accessed by member function in its own class or in any class derived from its own class?

a. public b. private c. protected d. none

8. What operator is used to allocate memory dynamically?

9. The member functions of every object have access to a sort of magic pointer named \_\_\_\_\_\_ which points to the object itself.

10. State the names of two different ways of using template concept.

**PART – B (5 x 3 = 15 MARKS)**

11. Write a note on Tree.

12. Define Insertion Sort.

13. Briefly describe Private and Public data.

14. Define Operator Overloading.

15. Write a note on file pointer.

**PART – C (5 x 15 = 75 MARKS)**

16. a. Explain the basic stack operations in detail. (5)

b. Write a C++ program to implement the Stack. (10)

(OR)

17. a. Explain the Basic Queue operations and implementation in detail. (6)

b. Write a C++ program to implement insert and delete operation in Queue. (9)

18. a. Write and explain the algorithm (code) of Bubble Sort. (5)

b. Write and explain the algorithm (code) of Heap Sort. (10)

(OR)

19. a. Write and explain the algorithm (codes) of Merge Sort. (9)

b. Write and explain the algorithm (codes) of Linear and Binary Search. (6)

20. What is Constructor? Explain all types of Constructor and Destructor with example.

(OR)

21. Explain Multi-Dimensional Array and Passing arrays to functions with a program.

[P.T.O]

22. Elaborate the following overloading of Binary Operator topics with suitable program.

a. Arithmetic Operator (8)

b. String Concatenation (7)

(OR)

23. a. Write a C++ program to implement levels of Inheritance (Multilevel). (12)

b. Explain the concept of Multiple Inheritance. (3)

24. Elaborate the following Disk file I/O with Streams in detail.

a. Formatted File I/O. (8)

b. Character I/O (7)

(OR)

25. Explain the full concept of Exception in C++ with suitable program.