

ANNA UNIVERSITY OF TECHNOLOGY, COIMBATORE
B.E. / B.TECH. DEGREE EXAMINATIONS : NOV / DEC 2011
REGULATIONS : 2008
THIRD SEMESTER : ECE

080290009 - DATA STRUCTURES AND OBJECT ORIENTED PROGRAMMING IN C++

Time : 3 Hours

Max.Marks : 100

PART - A

(10 x 2 = 20 MARKS)

ANSWER ALL QUESTIONS

1. Define destructor.
2. What is the use of scope resolution operator?
3. What is inheritance?
4. Define Template.
5. List out the performance measures of an algorithm.
6. List out the various techniques of hashing.
7. Define complete binary tree.
8. Define an NP complete problem.
9. What is the worst case complexity and best case complexity of Insertion sort?
10. State the algorithmic technique used in merge sort.

PART - B

(5 x 16 = 80 MARKS)

ANSWER ALL QUESTIONS

- 11 a. Explain some tools or strategies used in Object Oriented Design.

(OR)

- b. What are constructors? Explain different types of constructors with example.

- 12 a. What is polymorphism and how it can be implemented in C++.

(OR)

- b. Write a C++ program to read a text file and copy it to another text file.

- 13 a. Describe in detail Stack operations with pseudo code.

(OR)

- b. What do you mean by priority queues and how it can be implemented? Explain in detail.

- 14 a. Write the steps (in order) to insert a data into a binary tree. Explain your answer with an example.

(OR)

- b. What is single source shortest path problem? Discuss Dijkstra's single source shortest path algorithm with an example.

- 15 a. Explain quick sort to sort the following array of numbers and find its complexity.

90, 43, 63, 94, 55, 88, 67, 83, 77, 23

(OR)

- b. Explain Dynamic Programming Technique with an example.

*****THE END*****