

Roll No.

Total Pages : 03

BT-7/M-20

37182

ADVANCE PROGRAMMING

EEN-405N

Time : Three Hours]

[Maximum Marks : 75

Note Attempt Five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

Unit I

1. (a) Explain the concept of array of pointers. How are arrays related to pointers ? **7½**
(b) Explain the difference between a circular linked list and a singly linked list. Why is a doubly linked list more useful than a singly linked list **7½**
2. (a) Explain the concept of a circular queue ? How is it better than a linear queue ? **7½**
(b) What is a priority queue ? Give its applications. Why do we use multiple queues ? **7½**

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Unit II

3. (a) How the performance of the linear search can be improved? What is the complexity of linear search? **7½**
- (b) Which technique of searching an element in an array would you prefer to use and in which situation? **7½**
4. (a) What is the importance of searching. What are the different types of searching? **7½**
- (b) Compare the running time complexity of different searching algorithms. **7½**

Unit III

5. (a) Write an algorithm to sort an array of names using bubble sort. **7½**
- (b) Write an algorithm to sort the numbers based on individual digits. **7½**
6. (a) What is radix sort? Illustrate with a suitable example. **7½**
- (b) Compare the running time complexity of different sorting algorithms. **7½**

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Unit IV

7. (a) What is the concept of object oriented programming? Write any simple program using C++.
- (b) What are the abstract data types in C++ programming language? Explain.
8. (a) What do you mean by inheritance? Explain various types of inheritance in object oriented programming.
- (b) What is Polymorphism? What is the use of polymorphism in object oriented programming?