

Roll No.

Total Pages : 2

BT-6/M-20

36027

ADVANCED PROGRAMMING

Paper-EE-312E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

UNIT-I

1. (a) Write a c program to find the factorial of a number using recursive function. 10
- (b) Discuss various operations on queues? List the applications of Stack and Queue. 10
2. Explain array implementation of Priority queues and list implementation of Priority queues. 20

UNIT-II

3. Write the algorithm for insertion sort and merge sort with examples and discuss their complexities. 20
4. (a) Write ths binary search algorithm. Calculate the time complexity of the algorithm. 15
- (b) Compare insertion sort and bubble sort with respect to efficiency. 5

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UNIT-III

5. (a) Discuss the namespace. Write a program to perform arithmetic operation between the variable declared under two namespaces. 10
- (b) Write a program to implement multilevel and multiple inheritance in C++. 10
6. (a) Write a program to illustrate the concept of encapsulation in C++ 10
- (b) State the important features of object oriented programming. Compare object oriented programming with procedure oriented programming. 10

UNIT-IV

7. (a) Explain the visibility of class members for access specifiers :
(i) Public
(ii) Private.
(iii) Protected. Illustrate the same with a program. 10
- (b) List the characteristics of a constructor. Write a C++ program with suitable example. 10
8. (a) With an example, explain how virtual functions are hierarchical ? 8
- (b) List the types of inheritances. Write a C++ program to implement single inheritance with public access specific. 12