Exam. Code : 206602

Subject Code : 8477

M.Sc. (Bioinformatics) Semester—II

ADVANCE PROGRAMMING IN C & C++ &
VISUAL BASIC

Paper—BT-522

Time Allowed—3 Hours]　　　　[Maximum Marks—75

Note :— Section A is compulsory. Each part is of **1.5** marks.

　　　　Attempt *one* question from each unit of
　　　　Section B. Each question is of **12** marks.

SECTION—A

1.　Discuss various types of ActiveX controls.

2.　Explain Ado.

3.　Define Friend Function. Give an example.

4.　State the characteristics of Constructor. Is it mandatory
　　to use constructors in a class ?

5.　What is a virtual base class ?

6.　What is operator overloading ? List operators which
　　cannot be overloaded.

7.　Explain pure virtual functions with suitable example.

8. Explain various stream classes needed for file manipulators in C++.

9. What is a queue ? What are the applications of queues ?

10. Differentiate between arrays and linked list.

SECTION—B

UNIT—I

1. What is Common Dialog Box ? How many types of Common Dialog Box are there in VB 6.0 ? Describe each with suitable example.   12

2. Describe most important features of visual basic language. Explain different types of controls in VB.
                                                                                                12

UNIT—II

3. (a) Differentiate between object oriented programming and procedure oriented programming.   7

   (b) Write a C++ program to sort a list of numbers in ascending order.   5

4. Write short notes on the following and give example for each :

   (a) Inline Functions   3

   (b) Friend Class   3

   (c) Encapsulation   3

   (d) Destructors.   3

UNIT—III

5. What is Inheritance ? Explain different types of inheritance with example. Discuss ambiguity in multiple inheritance.   12

6. (a) Write a C++ program to illustrate the effect of Function Overloading.   6

   (b) Describe the concept of virtual base class giving an example.   6

UNIT—IV

7. What are virtual functions ? Write a program to declare a virtual function. What are the rules associated with virtual function ? What are the uses of virtual function ?   12

8. (a) What is polymorphism ? Differentiate between compile time and run time polymorphism.   7

   (b) How file handling is achieved in C++ ? Illustrate with suitable examples.   5

UNIT—V

9. What are data structures ? Explain Linear and Non-linear data structures.   12

10. (a) Five items A, B, C, D and E are pushed in stack one after the other starting from A. The stack is popped four times and each element is inserted in a queue. Then two elements are deleted from the queue and pushed back on the stack. Now one item is popped from stack. What is the popped item ?   3

(b) Perform following operations on stack of size 5 :

Push(1), Pop(), Push(2), Push(3), Pop(), Push(4), Pop(), Pop(), Push(5)

at the end of last operation. What are the total numbers of elements present in stack ?   3

(c) What are queues ? What are the operations associated with queue ? How is it different from stack ?   6