

1128

**B.Sc. (Hons.) Bio-Informatics
Third Semester**

BIN-3005: Object Oriented Programming in C++

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What are public and private access specifiers?
- b) What is the role of friend function?
- c) Define explicit type conversion.
- d) What is a doubly linked list?
- e) What are the nested classes? Specify the syntax.
- f) Explain ios::ate and ios::trunc methods.
- g) Which operations are possible on stacks?
- h) Explain the recursive functions.

(8x1½)

UNIT – I

- II. Explain the role of protected keyword. Write a program to implement the concept of multilevel inheritance? (12)
- III. a) What are the properties of friend functions?
b) What are the virtual functions? Justify with one example. (6,6)
- IV. Explain polymorphism? Write a program to overload binary operator by adding two complex numbers. (12)

UNIT – II

- V. How template functions are different from overloaded functions. Create a template function to return maximum of two integers and floating point nos. (12)
- VI. Explain any one sorting and searching algorithm with their time complexity. (12)
- VII. a) Binary v/s text file
b) eof() and fail() functions
c) getchar() and putchar() functions (3x4)

x-x-x