

**Class-M.Sc. Bioinformatics Sem-II**  
**Subject – Advance Programming in C++**  
**and Visual Basic**

**Paper- BI-522**

Time Allowed : 3 Hrs

Maximum Marks : 75

**Section – A**

**Attempt all questions. Each question carries 1.5 marks.**

1. Which functions are used for basic input and output in C++?
2. Is void return type is valid for a constructor?
3. Define Inline functions.
4. What do you mean by encapsulation?
5. How we can achieve information hiding in C++?
6. Name any three operators that cannot be overloaded.
7. Explain the use of cast operator.
8. What do you mean by containership?
9. What are pure virtual functions?
10. Define trees data structure in C++. 1.5×10=15

**Section – B**

**Attempt five questions. Each question carries 12 marks.**

11. What is Object Oriented Programming? Discuss its features, characteristics and advantages.

OR

What are constructors? Explain different types of constructors with programming examples. 12

12.(a) What are friend functions? Discuss their characteristics with an example. 6

(b) What is operator overloading? Explain the overloading of unary operators. 6

OR

What are dynamic objects? Explain methods to create dynamic objects giving examples. 12

13. What is inheritance? Discuss its types and applications.

OR

What is polymorphism? How run time polymorphism can be achieved in C++? 12

14. Discuss various streams for file handling in C++. 12

OR

Write a note on :-

(a) Templates 6

(b) Exception handling 6

15. Discuss the working of linked lists and stacks in C++ giving example of each.

OR

What are strings? Explain various string handling functions in C++ giving example of each. What purpose these string handling functions can serve for a Bioinformatician? 12

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