Exam. Code : 103204

Subject Code : 1366

B.A./B.Sc. Semester--IV

BIOINFORMATICS

(Computer Programming in C++ and PERL)

Time Allowed-3 Hours]   [Maximum Marks-75

Note :— Section A is compulsory and consists of **10** short answer questions. Each question in Section A carries **1%** marks. Sections B, C, **D** and E will consist of **TWO** questions each. Students are required to attempt any **ONE** question from each respective Section. Each question in Section B, C, **D** and E carries 15 marks.

SECTION—A

(Attempt all questions)

1. (i) What is multilevel inheritance in C++ ?

   (ii) List data types in C++ language.

   (iii) What is a constructor in C++ ?

   (iv) Name logical operators of C++ language.

   (v) Name different versions of PERL language.

   (vi) What is a translator operator in PERL ?

   (vii) Name any three string handling functions in C++.

(viii) List various operators of PERL.

(ix) What is a pure virtual function in C++ ?

(x) Write the precedence of arithmetic operators in C++.   1.5x10=15

SECTION—B

(Attempt any ONE question)

2. (i) Write a C++ program to input a string and print its reverse without using library functions.   8

(ii) Define class and object. With an example explain the concept of data encapsulation and accessing of member functions.   7

3. Write a program to multiply two 2-dimensional 3 x 3 arrays.   15

SECTION—C

(Attempt any ONE question)

4. What is operator overloading in C++ ? Give examples to explain the operator overloading of subscript `[ ]' and parenthesis `( )' operator.   15

5. (a) Explain Inline function and Function overloading with the help of an example.   8

(b) Distinguish between virtual and pure virtual functions in C++.   7

SECTION---D

(Attempt any ONE question)

6. Discuss the use of different operators 'used in PERL. Explain hashes and lists with the help of suitable example codes.   15

7. (a) Write a PERL program to find out the number of lines and characters in a file.   8

   (b) Discuss the scalar functions with the help of an example in PERL.   7

SECTION—E

(Attempt any ONE question)

8. Write a PERL program to verify that an input line only contains alpha-numeric characters. Also show the first non alpha-numeric character found.   15

9. (a) What are PERL subroutines and functions ? Explain with the help of an example.   8

   (b) Write a program that reads all the input from the standard input file, converts **all** the vowels (except y) to uppercase, and prints the result on the standard output file.   7