

Exam. Code : 103204

Subject Code : 1312

B.A./B.Sc. 4th Semester

BIOINFORMATICS

(Computer Programming in C++ & 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 **1½** 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 Sections B, C, D and E carries **15** marks.

SECTION—A

(Attempt all questions)

1. (i) What is the difference between local and global variables ?
- (ii) Write the precedence of different operators of C++.
- (iii) Define copy constructor in C++.
- (iv) What is the difference between pointer and reference variables ?
- (v) What is the difference between break and continue keywords in C++ ?
- (vi) How run-time polymorphism is achieved ?

- (vii) What are logical statements in PERL ?
(viii) What do you mean by abstraction ?
(ix) What are the different Meta symbols in PERL ?
(x) What is the difference between open and close function in PERL ? 1½×10=15

SECTION—B

(Attempt any one question)

2. (a) Write a program in C++ to multiply two 3×3 arrays. 8
(b) What is the use of flowcharts in solving any problem ? Write a flowchart to add first 100 numbers. 7
3. (a) Discuss the difference between procedure oriented and object oriented programming languages with the help of small code examples. 8
(b) Write a program in C++ to count the occurrences of similar characters in a string. 7

SECTION—C

(Attempt any one question)

4. (a) What is the role of constructors and destructors ? What restrictions apply to constructors and destructors ? Is there any influence of inheritance on the working of constructor and destructor ? 8
(b) Write a program to explain the use of inline functions in C++. 7

5. (a) What is the function of inheritance in object oriented programming ? How inheritance differs from polymorphism ? Write a C++ program to show the working of various types of inheritance. 10
- (b) How variables are passed as argument to function ? 5

SECTION—D

(Attempt any one question)

6. (a) Write a PERL program to concatenate the contents of two files. 8
- (b) How PERL is installed in Linux and windows environment ? 7
7. (a) What is the use of PERL in bio-informatics ? Explain in detail by citing applications. 10
- (b) What are different operators and their functions in PERL language ? 5

SECTION—E

(Attempt any one question)

8. What is the difference between while, do while, do until, for and for each statements ? Explain with the help of small example codes in PERL. 15
9. (a) What is the difference between match, substitute and translate operators ? Discuss the use of these operators with the help of PERL program. 10
- (b) Briefly explain the use of subroutines and functions in PERL. 5