AT–420

B.Sc. (Part–III) Semester—VI Examination

6S : BIOINFORMATICS

(Advanced Bio-Computing)

Time : Three Hours] [Maximum Marks : 80

Note :— (1) **All** questions are compulsory.
(2) Draw diagrams wherever necessary.

1. (a) Fill in the blanks :
   (i) _____ keyword is used to declare the friend function.
   (ii) Class function which is called automatically as soon as the object is created is called as _____.
   (iii) One can display all columns of data in a table by using SELECT Command with _____.
   (iv) Scalar is denoted by _____ in Perl. 2

   (b) Choose the correct alternative :
   (i) IDE is :
      (a) Independent Development Enterprise
      (b) A development environment for machine language
      (c) A software project management tool
      (d) Integrated Development Environment
   (ii) SQL query and modification commands make up a :
      (a) DDL (b) DML
      (c) HTML (d) XML
   (iii) Which of the following concepts means determining at runtime what method to invoke ?
      (a) Data hiding (b) Dynamic tying
      (c) Dynamic binding (d) Dynamic loading
   (iv) Command line arguments in Perl are stored in :
      (a) Scalar (b) Resource
      (c) Array (d) Hash 2

(c) Define the following :

(i) Inheritance

(ii) Class

(iii) Abstraction

(iv) Data definition language. 4

2. (a) Describe function overloading with example. 4

(b) What are the characteristics of OOP'S ? Explain. 4

(c) Explain various types of operators used in C++ with example. 4

OR

(a) Explain how to create and write function in C++. 4

(b) What are the advantages of Inline Function ? Explain. 4

(c) What are the features of OOP'S ? Explain. 4

3. (a) What is Data hiding ? Explain. 4

(b) Explain Member Function with example. 4

(c) What is Operator overloading ? Explain. 4

OR

(a) Explain how pointers are used with objects. 4

(b) Define polymorphism with example. 4

(c) Explain Destructor with example. 4

4. (a) What is Normalization ? Explain Second Normal Form. 4

(b) Explain :

(i) ALTER

(ii) DROP. 4

(c) Describe hierarchical database system with example. 4

OR

(a) Differentiate between First Normal Form and Third Normal Form. 4

(b) Explain :

(i) UPDATE

(ii) INSERT. 4

(c) Explain Physical Data Independence and Logical Data Independence. 4

5. (a) State and explain datatypes available in PL/SQL. 4

(b) What is Cursor ? Why it is required ? Explain with example. 4

(c) Differentiate between function and procedure in PL/SQL. 4

OR

(a) Explain basic structure of PL/SQL. 4

(b) Which cursor attributes are used in PL/SQL ? Explain. 4

(c) Explain Commit and Rollback with example. 4

6. What is SQL ? Describe in detail the features of SQL with respect to Users, Roles and Privileges. 12

OR

Describe in detail SQL report and explain the commands used for passing on privileges. 12

7. What is PERL ? Describe in detail error handling and applications of PERL programming. 12

OR

What are operators ? Explain in detail different operators used in PERL. 12