

B.Sc. (Part—III) Semester—VI Examination
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) The row of a relation is called a _____.
 - (ii) BCNF stands for _____.
 - (iii) When a function calls itself again and again, it is called _____.
 - (iv) To modify the structure of an existing table _____ statement is used. 2
- (b) Choose the correct alternative :
- (i) Which datatype is not allowed in the definition of PL/SQL record ?
 - (a) X collection (b) X scalar
 - (c) Both (a) and (b) (d) None of the above
 - (ii) Which operator performs pattern matching ?
 - (a) BETWEEN (b) LIKE
 - (c) EXISTS (d) None of the above
 - (iii) Which member can never be accessed by inherited classes ?
 - (a) Private (b) Public
 - (c) Protected (d) All can be accessed
 - (iv) Which function is used by PERL for displaying the length of a string ?
 - (a) String (b) Len
 - (c) Split (d) Length 2
- (c) Define the following :
- (i) Class
 - (ii) Constructor
 - (iii) Encapsulation
 - (iv) Joins. 4
2. (a) What is OOPS ? Explain its features. 6
- (b) Explain the structure of C++ with example. 6
- OR**
3. (a) Explain inline function with suitable example. 6
- (b) Explain the various datatypes in C++. 6
4. (a) Explain the following terms :
- (i) Data abstraction
 - (ii) Encapsulation. 6
- (b) Explain the concept of constructor with suitable example. 6

OR

5. (a) What is operator overloading ? Explain. 6
(b) Define inheritance and explain its types with example. 6
6. (a) What is normalisation ? Explain 1NF and 2NF with example. 6
(b) Explain hierarchical model of database with suitable example. 6

OR

7. (a) Explain the following DML commands :
(i) SELECT
(ii) INSERT. 6
(b) Explain BCNF with example. 6
8. (a) What is PL/SQL ? Explain its features in detail. 6
(b) Explain the various types of Joins with example. 6

OR

9. (a) Explain the block structure of PL/SQL. 6
(b) What is transaction ? Explain Rollback and Commit with respect to transaction. 6
10. (a) Explain the following privileges :
(i) GRANT
(ii) REVOKE. 6
(b) Explain the role of object privilege with example. 6

OR

11. (a) Explain the concept of system and object privilege with example. 6
(b) Explain role and needs of system privilege on SQL reports. 6
12. (a) Explain the procedure for installing PERL on system. 6
(b) Discuss the benefits of PERL programming in web-based applications. 6

OR

13. (a) Discuss the various individual approaches related to programming in PERL. 6
(b) Explain the working environment of PERL with example. 6