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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

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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 ransaction. 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

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