M.Sc. Semester–II (CBCS Scheme) Examination

BIOINFORMATICS (New)

Paper–VII

(Biological Database Management System)

Time : Three Hours] [Maximum Marks : 80

N.B. : (1) Illustrate your answers with the help of suitable diagrams wherever necessary.

(2) Assume suitable data wherever necessary.

1. (a) What is data abstraction ? Explain the various levels of data abstraction. 6

(b) What is DBMS ? Describe the applications of DBMS. 5

(c) Explain the types of database users. 5

OR

(p) Explain the architecture of a database management system. 6

(q) Describe the characteristics of a database management system. How does it differ from the file system ? 5

(r) What is data independence ? Explain. 5

2. (a) Explain the structure of relational model. Give examples. 8

(b) Explain the object oriented model for representing data. Give example. 8

OR

(p) Describe the relational data model with the help of suitable example. 8

(q) Explain the database schemes. 8

3. (a) Explain the client-server architecture for database system. 6

(b) Describe the set operations in SQL. 5

(c) What is data integration ? Explain. 5

OR

(p) Describe the basic structure of an SQL expression. 6

(q) Explain how NULL values are handled in SQL. 5

(r) What is Dynamic SQL ? Explain. 5

4. (a) Explain the ordered indices technique for data storage. Give suitable example. 8

(b) Describe ACID properties of transaction. Also explain the dynamic hashing. 8

OR

(p) Explain the following normal forms :

(i) 1NF

(ii) 2NF 8

(q) Explain security in transaction management. 8

5. (a) Explain the architecture of MySQL server. 6

(b) Describe the basic data types supported by MySQL. 5

(c) What is MySQL ? Describe the features of MySQL. 5

OR

(p) Explain various wildcards used in SQL. 6

(q) Describe the various database users in MySQL. 5

(r) Describe the connection function in MySQL. 5