BCA 3rd Semester

DATABASE MANAGEMENT SYSTEM

Paper—II

Time Allowed—3 Hours]   [Maximum Marks—75

Note :— Attempt any **FIVE** questions. All questions carry equal marks.

1. (a) Compare the features of Network, Hierarchical and Relational model.

    (b) What do you mean by recovery of database ? Discuss the various mechanisms used for recovery of database.

                                                                8,7

2. (a) What are triggers ? Also explain the use of triggers in database.

    (b) Discuss the anomalies of un-normalized database.

                                                                8,7

3. (a) Discuss the three level architecture of Database Management System.

    (b) What are the various methods of concurrency control ? Explain in detail the two-phase locking protocol.   8,7

4. (a) What is Normalization ? Explain the various types of normal forms with example.

    (b) What are the different threats to data security ? Explain.   8,7

5. (a) Discuss the concept of entity relationship model. How it helps in designing relational databases ?

   (b) Differentiate between functions and procedures in PL/SQL. 8,7

6. (a) Explain the role of keys in relational database. Elaborate the various types of keys.

   (b) Discuss the use of selection and join operators on SQL based queries. 8,7

7. (a) What is meant by physical and logical data independence ? How are they implemented ? Explain.

   (b) Differentiate between transitive dependency and multivalued dependency. 8,7

8. Write short notes on :

   (a) Big Data

   (b) NoSQL

   (c) Cursors. 5,5,5