Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

**Note:** All questions carry equal marks. Ques. No. 1 is Compulsory and attempt two questions from each section.

1. a) Discuss the various responsibilities of DBA. [5x4]

   b) Define the following terms
      i. Entity
      ii. Attributes
      iii. Entity Set
      iv. Relationship
      v. Relationship Set

c) Differentiate between DBMS Vs RDBMS.

d) Explain the basics of SQL query

**SECTION A**

2. a) What is DBMS? What are the advantages and disadvantages of database system. [10]

   b) Discuss the Structure of DBMS. [10]

3. a) Explain the meaning of following with suitable examples

   (1) Primary key
   (2) candidate key
   (3) alternate key
   (4) super key
   (5) foreign key [10]

   b) Differentiate b/w hierarchical & network & database model with their relative merits & demerits in details [10]

4. a) Write the Dr. codd’ 12 rules for a relational database model. [10]

   b) Discuss foreign key Constraints with example. [10]

**SECTION B**

5. Explain 1 NF, 2NF, 3NF, 4NF & BCNF with the help of suitable example. [20]

6. How will you design a database? Explain it with the help of example. Also discuss the various objects of database system. [20]

7. a) Write the syntax and also give example for given terms in SQL [10]

   i. Creating a table
   ii. Inserting values in a table
   iii. Selecting fields
   iv. Creating Views
   v. Union & intersection

   b) Comment upon the following: [10]

   i. DDL and DML
   ii. Data Dictionary