

Roll No.....

Total Pages: 3  
**1919**

**BCA/M-18**  
**RELATIONAL DATA BASE MANAGEMENT SYSTEM**  
Paper: BCA-244

Time: Three Hours

Maximum Marks: 80

Note: Attempt five questions in all. Q. No. 1 is compulsory. In addition to compulsory question, attempt four more questions selecting one question from each Unit. All questions carry equal marks.

**Compulsory Question**

1. (a) Define the basic term of Relational Model.  
(b) Differentiate between Relation algebra and Relational Calculus.  
(c) What are Anomalies? Write insertion and deletion anomaly.  
(d) What do you mean by de-normalization?  
(e) What are aggregate functions in SQL?  
(f) What do you mean by Indexes in SQL? How is it created?  
(g) Differentiate between SQL and SQL \* Plus.  
(h) What do you mean by % type in PL/SQL?

**UNIT-I**

2. What do you mean by relational algebra? Discuss the different operations performed in relational algebra with suitable example.
3. (a) What do you mean by Domain relational calculus? Discuss.  
(b) Write and explain 14 rules being provided by Dr. E.F. Codd for relational model.

**UNIT-II**

4. What do you mean by Normalization? Why we normalize our database? Discuss normal forms based on primary key with illustration.
5. Write notes on the following with supportive examples :
  - (a) Trivial and non-trivial functional dependencies
  - (b) Transitive and multivalued dependencies
  - (c) Closure of functional dependencies.

**UNIT-III**

6. (a) What are the data types we use in SQL? Discuss different clauses.  
(b) How views are created and destroyed in SQL? Explain.

7. Write the meaning, syntax and example of the following SQL statements :
- (a) Create Statement with Primary Key and Null Constraint
  - (b) To Update a specific tuple in the table
  - (c) To Truncate table in the database
  - (d) To select distinct tuples from table.

#### UNIT-IV

8. What are the advantages of PL/SQL? How control statements are used in PL/SQL? Give an example in support to your answer.
9. What do you mean by Cursors in PL/SQL? Why we need cursors? How cursors are created and replaced? Write specimen syntax for cursor.