

PD-593  
(563) M.Sc. INFORMATION TECHNOLOGY (FIRST SEMESTER)  
Examination DEC. 2020  
Compulsory/Optional  
Paper-II

Name/Title of Paper- RDBMS & SQL

Time: Three hours

Maximum Marks-80

Note: Answer from both the section as directed.

**SECTION-A**

1. Answer the following very short-answer type questions : 1X10
- (a) Define data independence. List its type.
  - (b) List any four DDL commands.
  - (c) What do you mean by cross product?
  - (d) Give suitable example for (i) Entity (ii) Entity set
  - (e) Define candidate key.
  - (f) Describe 2NF.
  - (g) Write syntax for while and if.
  - (h) Write command for row in PL/SQL table?
  - (i) What are the components of query processing?
  - (j) Define Referential integrity.

**SECTION-B**

2. Answer the following questions: 2X5
- (a) What do you mean by data dictionary?
  - (b) Define key and its concept.
  - (c) Differentiate group by and order by clause in SQL.
  - (d) Define goto command in PL/SQL.
  - (e) What is optimization?

**SECTION-C**

Answer all questions: 12X5

Unit-I

3. (a) Write notes on.
- I. Client/Server database
  - II. Architecture of database
  - III. Object relational database

OR

- (a) What do you mean by data model? Explain their types in brief.
- (b) Differentiate file oriented and database oriented approach.

Unit-II

4. (a) Explain four different types of SET operators with suitable example.
- (b) Draw an E-R Diagram for College Management System.

OR

- (a) Draw E-R diagram for library management system. The library should maintain the data about the staff, student and books.
- (b) Explain join concept of SQL. Also describe their types with suitable example

### Unit-III

5. (a) Consider Following Schema Employee  
(ENO, ENAME, Department, Designation, DOJ, Salary, Dept\_Location)

Solve the following query:

- (i) List the employees having Designation as "Manager" and .Dept\_Location as "Mumbai"
  - (ii) Set the salary as Rs.50,000/- having Designation as "Project Leader"
  - (iii) List ENO, ENAME, Salary of employees having Salary between Rs. 20,000/- to Rs.30,000/-
  - (iv) List Ename of employees having 2nd alphabet in the name as "A".
- (b) Define languages of SQL and describe the use of Grant and REVOKE privilege with the help of example.

OR

- (a) What do mean by normalization? Differentiate 3<sup>rd</sup> normal form and Boyce code normal form with suitable example
- (b) Define and state the use of Primary key, unique key, reference and Trigger.

### Unit-IV

6. (a) Give block-structure of PL/SQL and explain main components.
- (b) Write PL/SQL program to explain packages.

OR

- (a) Write PL/SQL program to display the Factorial of any number.
- (b) Write PL/SQL program to explain Exception handling.

### Unit-V

7. (a) What are the steps to involve in query processing. Explain how you would estimate the cost of query processing.
- (b) Explain the concept of security and authorization in SQL.

OR

Write notes on.

- (i) Indexing
- (ii) Database Integrity
- (iii) Fixed and variable length record