

PD-593
(563) M.Sc. INFORMATION TECHNOLGY (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 3rd 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