

2022

M.Sc. (Bio-Informatics) First Semester  
MBIN-8006: Introduction to Database System

Time allowed: 3 Hours

Max. Marks: 60

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting atleast one question from each Unit.

X-X-X

## 1. Attempt the following:-

- Differentiate between schema, subschema and instances.
- Explain different types of attributes.
- What is difference between table and a view? Give the syntax of creating both in SQL.
- Create a table named EMPLOYEE with the following structure:

E_Name	20 Characters
DOJ	Date
SAL	NUMBER

- Display the name of the employee, which has the highest salary.
  - Update the salary of all employee by 2000 whose name start with letter 'R'.
- Where is PL/SQL compiled and stored?
  - List some uses of database triggers?
  - What is event driven programming? Explain it.
  - Explain mouse press event and double click event.

(8x1.5)

UNIT-I

- Draw and explain the three level architecture of the database system.
  - What is data independence? Describe its different types with example?
  - What do you mean by a data model? Explain Network database model with its advantages and disadvantages.

(04+02+06)

- Design an ER diagram for an IT training group database that will meet the information needs for its training program. Clearly indicate the entities, relationships and the key constraints. The description of the environment is as follows:  
The Company has 12 instructors and can handle upto 100 trainees for each training session. The company offers 5 Advanced technology courses, each of which is taught by a team of 2 or more instructors. Each instructor is assigned to a maximum of two teaching teams or may be assigned to do research. Each trainee undertakes one Advanced technology course per training session.
  - What do you understand by a relationship? What is the difference between relationship and relationship occurrence?
  - What are the problems with E-R model?

(06+04+02)

P.T.O.

(2)

UNIT-II

4. Consider the following relations:  
EMPLOYEE (EMPLOYEE\_NAME, STREET, CITY)  
WORKS (EMPLOYEE\_NAME, COMPANYNAME, SALARY)  
COMPANY (COMPANY\_NAME, CITY)  
Write the SQL Queries -
- a) Find the names of all employees who work for first Bank Corporation.
  - b) Find the names and company names of all employees sorted in ascending order of company name and descending order of employee names of that company.
  - c) Change the city of First Bank Corporation to 'New Delhi'.
- (04+04+04)
5. a) Explain various data types in SQL with suitable example?  
b) What are joins? Explain equi join with example.  
c) Explain GRANT and REVOKE statements with syntax and example.
- (04+04+04)

UNIT-III

6. a) What is cursor? How to use explicit cursor in PL/SQL? Describe with an example.  
b) What syntax is used to create procedures in PL/SQL? What is the difference between IS and AS?  
c) How does a database trigger differ from a stored procedure?
- (06+03+03)
7. a) Explain the following
- 1) Label Control
  - 2) Command button
  - 3) Form Layout Window.
- b) Explain the private and public procedure with an example.
- (06+06)

X-X-X