GL BAJAJ
Institute of Management & Research, PGDM Institute
Greater Noida

FIND YOUR SPARK

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2023-24)
END TERM EXAMINATION (TERM -IV)

Subject Name: **Database Concepts and Applications**	Time: **02.00 hrs**
Sub. Code: **PGIT41**	Max Marks: **40**

Note:

All questions are compulsory. Section A carries 5 marks: 5 questions of 1 mark each, Section B carries 21 marks having 3 questions (with internal choice question in each) of 7 marks each and Section C carries 14 marks one Case Study having 2 questions of 7 marks each.

The course outcomes as per TLEP are given below:

CO1- Apply the skills of creating and modifying the database and relation structures; demonstrate the ability to perform insertion, modification, deletion of data from relations; analyze the data using simple and complex queries
CO2- Understand how to access large amounts of data directly where it's stored in the database
CO3- Evaluate the data in databases using SQL, which allows them to prepare reports and make business decisions
CO4- Synthesize the data using SQL along with analytical tools like Python or Power BI for performing business analytics functions

SECTION - A

Attempt all questions. All questions are compulsory.   **1×5 = 5 Marks**

Questions	CO	Bloom's Level
Q. 1: (A). Explain the Benefits of using SQL for data analytics. **Q. 1: (B). Define tuple in a relation? Give an example.** **Q. 1: (C). Define Data definition language (DDL)?** **Q. 1: (D). Explain data redundancy with an example** **Q. 1: (E). Explain goals of data warehouse.**	CO1	L1

SECTION – B

All questions are compulsory (Each question have an internal choice. Attempt any one (either A or B) from the internal choice)   **7 x 3 = 21 Marks**

Questions	CO	Bloom's Level
Q. 2: (A). Explain normalization in DBMS. Explain different types of normal forms.	CO2	L3
Or		
Q. 2: (B). Explain Equi-join in DBMS with an example. How equi-join is different from natural join.	CO3	L2
Q. 3: (A). Explain the ACID properties of a transaction.		
Or		
Q. 3: (B). Explain shadow-based recovery.		
Q. 4: (A). Explain Data Warehouse architecture.	CO3	L2
Or		
Q. 4: (B). Explain 3-tier architecture of client server system with diagram.		

Read the case and answer the questions   **7×02 = 14 Marks**

Questions	CO	Bloom's Level
Q. 5: **Case Study:** HRConnect Inc. is a company specializing in human resources management. The company relies on a sophisticated database system to manage employee records, payroll, performance appraisals, and more. The database includes tables for applicants, employees, departments, performance reviews, payroll, and job openings: You have to write sql statements for below requirements. **Q. 5: (A).** i. HRConnect Inc. needs to store information about job applicants for open positions. Create a new table named "**Applicants**" to store details about applicants. The table should include the following columns: **[ApplicantID (Auto-incrementing integer, primary key), FirstName (Text), LastName (Text), Email (Text) ,Resume (Text), PositionAppliedFor (Text), ApplicationDate (Date)]** ii. The company wants to track the status of job applicants, whether they are shortlisted, interviewed, or rejected. Add a new column named ApplicationStatus to the **Applicants** table. The ApplicationStatus column should be of data type VARCHAR(20) iii. HRConnect Inc. has received a new job application with the following details: First Name: Akash Last Name: Jain Email: akash.jain@email.com Resume: "Attached in PDF format" Position Applied For: HR Manager Application Date: 2023-10-15. Write an SQL query to insert this information into the Applicants table.	CO4	L3

Q. 5: (B). Employee table is given below

EmpId	FirstName	LastName	Email	Department	Position	Salary	HireDate
101	John	Smith	john.smith@email.com	Sales	Sales Manager	75000	2020-03-15
102	Jane	Doe	jane.doe@email.com	Sales	Sales Manager	80000	2019-07-10
103	Robert	Johnson	robert@email.com	Marketing	Marketing Lead	72000	2021-01-22
104	Mary	Brown	mary@email.com	Sales	Sales Manager	55000	2022-05-03
105	Alice	Wilson	alice@email.com	Marketing	Accountant	60000	2018-11-18

i. The company has decided to increase the salaries of all employees in the "Marketing" department by 7%. Write an SQL query to update the salaries of all employees in the "Marketing" department accordingly.

ii. HRConnect Inc. wants to remove a job applicant with an **EmpId** of 103 from the **Employee** table. Write an SQL query to delete this applicant's record.

iii. The HR manager needs to retrieve the names and positions of employees in the "Sales" department who earn a salary greater than $60,000. Write an SQL query to retrieve this information from the **Employees** table.

Kindly fill the total marks allocated to each CO's in the table below:

COs	Marks Allocated
CO1	5 Marks
CO2	7 Marks
CO3	14 Marks
CO4	14 Marks

(Please ensure the conformity of the CO wise marks allocation as per your TLEP.)

Blooms Taxonomy Levels given below for your ready reference:

L1= Remembering
L2= Understanding
L3= Apply
L4= Analyze
L5= Evaluate
L6= Create