

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.Sc.Computer Science - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - V

22UCSCT5008 - Database Management Systems

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain 1st Normal Form (1NF) and 2nd Normal Form (2NF) with examples.
2. Examine the DDL commands in SQL with examples.
3. Differentiate between JOIN and SET operations with examples.
4. Write a PL/SQL program to demonstrate Cursors.
5. Classify the different types of NoSQL databases. Explain with examples.
6. Illustrate the various types of relationships in a relational database with suitable ER diagrams.
7. Demonstrate table operations (Altering, Renaming, Dropping, and Truncating) with SQL commands.
8. Write SQL queries to demonstrate the use of String Functions (UPPER(), LOWER(), SUBSTRING(), LENGTH()) and Numeric Functions (ROUND(), CEIL())

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Classify the different types of database relationships (One-to-One, One-to-Many, Many-to-Many) with suitable examples.
10. Write SQL queries to perform the following tasks:
 - a) Create a table Employees with appropriate constraints.
 - b) Alter the table to add a new column Salary.
 - c) Rename the table to Staff.
11. Create an Emp table with the following fields:
 - EmpNo, EmpName, Job,Basic, DA, HRA,PF, GrossPay, NetPay
 - Calculate DA as 30% of Basic and HRA as 40% of Basic
 - a) Insert Five Records and calculate GrossPay and NetPay.
 - b) Display the employees whose Basic is lowest in each department.

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- c) If NetPay is less than $<$ Rs. 10,000 add Rs. 1,200 as special allowances.
 - d) Display the employees whose GrossPay lies between 10,000 & 20,000
 - e) Display all the employees who earn maximum salary.
12. Write a PL/SQL program using IF...ELSE control structure to check whether a number is even or odd.
13. Write a PL/SQL program to demonstrate Packages.
- a) Create package as emppackage and procedure as emp_proc2.
 - b) Creating package definition or body.
 - c) Calling function / procedure of a package in a program.
