

Reg. No..... Name.....

B A, B SC, B COM DEGREE END SEMESTER EXAMINATION – OCTOBER 2025**UGP (HONS.) SEMESTER - 3: DISCIPLINE SPECIFIC COURSE****COURSE: 24UCAPDSC202 / 24UBCADCC201- DBMS***(For Regular 2024 Admission)*

Time: 1.5 Hours

Max. Marks: 50

PART - A**Answer any 5 Questions. Marks: 2**

1. Explain the advantages of DBMS over traditional file systems. (U, CO1)
2. Define attributes and relationships in ER model with examples. (E, CO2)
3. What is the role of DBMS in modern applications? (U, CO1)
4. Write an SQL query to display all employees with salary > 40,000. (A, CO3)
5. Define transitive dependency with a suitable example. (A, CO4)
6. Explain generalization and specialization in ER diagrams. (E, CO2)
7. Differentiate between DCL and TCL commands with examples. (A, CO3)

(2 x 5 = 10)**PART - B****Answer any 4 Questions. Marks: 5**

8. Explain database users and their roles. (U, CO1)
9. Design an ER diagram for a course registration system and justify the entities. (E, CO2)
10. Write SQL commands to create a table "Employee" with constraints and insert sample records. (A, CO3)
11. Explain the steps of normalization with an example up to 3NF. (An, CO4)
12. Write SQL queries to:
 - (a) Find maximum salary of each department. (A, CO3)
 - (b) Display employees who joined after 2020.
13. Convert the ER diagram of a banking system into relational schema. (E, CO2)

(5 x 4 = 20)

PART - C**Answer any 2 Questions. Marks: 10**

14. Write SQL queries for the following: (A, CO3)
- (a) Display names of students enrolled in “Computer Science” course.
 - (b) Find total number of students in each course.
 - (c) Display students who scored the highest marks in each subject.
15. Construct an ER diagram for an Online Shopping Database and normalize the schema up to 3NF. (E, CO2)
16. Explain the structure and advantages of column-oriented NoSQL databases. How do they differ (U CO5) from row-oriented databases in terms of data storage and query performance?
- Give a real-life example where column-oriented databases are more suitable.

(10 x 2 = 20)**OBE: Questions to Course Outcome Mapping**

CO	Course Outcome Description	CL	Questions	Total Marks
CO1	Introduction to Database	U	Q1,Q3 ,Q8	9
CO2	Concepts of Relational Data Model	E	Q2,Q6,Q9,Q13,Q15	24
CO3	DML and DDL Commands	A	Q4,Q7,Q10,Q12,Q14	24
CO4	Data Normalization and Indexing	An	Q4,Q11	7
CO5	Introduction about Advanced Topics	U	Q16	10

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;