



DCCA203

Reg. No.

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II Semester B.C.A. (NEP) Degree Examination, October - 2022

COMPUTER SCIENCE

Database Management System

Time : 2½ Hours

Maximum Marks : 60

*Instructions to Candidates:*

Answer any four questions from each section.

**SECTION - A**

Answer any 4 questions. Each question carries 2 marks.

(4×2=8)

1. Define Database and Database Management system.
2. What is data model? Name three categories of data model.
3. What is key attribute? Give an example.
4. List data types allowed in SQL.
5. What is transaction control language? List any two transaction control commands.
6. What is concurrency control?

**SECTION - B**

Answer any 4 questions. Each question carries 5 marks.

(4×5=20)

7. Explain the main characteristics of Database approach.
8. What is data independence? Explain briefly about the types of data independence.
9. What is an ER diagram? Explain different notations used in drawing ER diagram.
10. Create an employee table using the following fields.

Field name	Data type
EMPNO	NUMBER
ENAME	CHAR
DOB	Date

[P.T.O.]



(2)

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Dept	String
Salary	Real

- a) Create the Table.
  - b) Insert 5 tuples.
  - c) Find the sum of salaries.
  - d) Find department wise count of Employees.
  - e) Display the tuples in the order of average salaries of Employees.
11. What is a transaction? Explain ACID properties of a transaction.
  12. Write a short note on database backup and database recovery.

### SECTION - C

Answer any 4 questions. Each question carries 8 marks.

(4×8=32)

13. Explain three schema architecture with a neat diagram.
  14. Discuss the different types of indexes.
  15. Draw an ER diagram for Bank Database with 5 entities and 5 attributes for each entity. Specify the cardinality ratio on each of the relationships existing between entities.
  16. Explain different relational algebra operations.
  17. What is Normalization? Differentiate between 3NF and BCNF.
  18. Explain different states of a transaction with a neat diagram.
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