



K26U 1176

Reg. No. :

Name :

IV Semester B.Sc. Degree (CBCSS – OBE – Supplementary/Improvement)
Examination, April 2026
(2023 Admission)

CORE COURSE IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
4B07 AIML : Database Management System

Time : 3 Hours

Max. Marks : 40

PART – A

(Short Answer)

Answer **all** questions. **Each** question carries **1** mark.

1. What is data independence in databases ?
2. Define schema and instance in a database system.
3. What is the role of a DBA (Database Administrator) ?
4. What are weak and strong entity sets ?
5. Name two types of integrity constraints in relational databases.
6. What do you mean by functional dependency ?

(6×1=6)

PART – B

(Short Essay)

Answer **any six** questions. **Each** question carries **2** marks.

7. Differentiate between structured data and unstructured data.
8. What is the significance of keys in a relational database ?
9. Explain the concept of foreign key constraints with an example.

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- 10. How do CHECK and DEFAULT constraints work in SQL ?
- 11. Describe the different types of anomalies in database normalization.
- 12. What is the difference between Tuple Relational Calculus and Relational Algebra ?
- 13. Explain the concept of cascading operations in SQL (CASCADE DELETE and CASCADE UPDATE).
- 14. How do triggers improve database security and automation ? (6×2=12)

PART – C
(Essay)

Answer **any four** questions. **Each** question carries **3** marks.

- 15. Explain the role of ACID properties in database transactions.
- 16. What are the different types of data models in database design ?
- 17. Compare 1NF, 2NF and 3NF with suitable examples.
- 18. Write an SQL query demonstrating the use of subqueries.
- 19. Explain different types of views in SQL and their advantages.
- 20. How does relational calculus differ from relational algebra ? (4×3=12)

PART – D
(Long Essay)

Answer **any two** questions. **Each** question carries **5** marks.

- 21. Explain various types of database users and their role in detail.
 - 22. Explain the different types of SQL commands (DDL, DML, DCL, TCL) with examples.
 - 23. Explain various types of joins in SQL.
 - 24. Explain in detail triggers in SQL. (2×5=10)
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