K25U 0977

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (C.B.C.S.S. – OBE-Regular)
Examination, April 2025
(2023 Admissions)
CORE COURSE IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
4B07 AIML : Data Base Management Systems

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

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

1. What is the purpose of a database system ?
2. Define a foreign key with an example.
3. What is the difference between DDL and DML in SQL ?
4. Explain the concept of weak entity set in the E-R model.
5. What is a functional dependency in database normalization ?
6. Name two fundamental operations in Relational Algebra. (6×1=6)

PART – B
(Short Essay)

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

7. Differentiate between primary key and candidate key.
8. What are the different types of database users ?
9. Explain the BCNF normalization with an example.
10. What are the different types of SQL functions ?
11. What is the role of integrity constraints in databases ?
12. Explain the concept of tuple and domain relational calculus.
13. What are triggers and how are they used in databases ?
14. Discuss the significance of views in dbms. (6×2=12)

P.T.O.

PART – C
(Essay)

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

15. Describe the major components of a database system.
16. Explain the different types of data models with examples.
17. What are mapping constraints in the E-R model ? Give an example.
18. Write an SQL query to demonstrate join operations with an example.
19. Discuss the different set operations in SQL with examples.
20. Explain relational algebra with suitable examples. **(4×3=12)**

PART – D
(Long Essay)

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

21. Explain the different normal forms (1NF, 2NF, 3NF, and BCNF) with examples.
22. Discuss the different types of database languages and their functionalities in SQL.
23. Explain in detail the structure of a relational database with an example.
24. Describe transaction management in databases and its significance. **(2×5=10)**