(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY) 23UAI412

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY 2025

B.Sc.Computer Science with AI & ML(SF) **MAXIMUM MARKS: 75**

SEMESTER : IV **TIME : 3 HOURS**

PART - III

23UAI412– DATABASE CONCEPTS

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. Which of the following is NOT a purpose of a database system?

a) Data Storage

b) Data Retrieval

c) Data Redundancy

d) Data Integrity

2. SQL clause used to combine the results of two SELECT query is _____

a) INTERSECT

b) UNION

c) JOIN

d) SUBQUERY

3. What of the following is a primary goal of database design?

a) Minimize redundancy and ensure data integrity

b) Maximize storage usage

c) Increase database performance by using complex queries

d) Store only textual data

4.In SQL, which constraint ensures that a column cannot have NULL values?

a) UNIQUE

b) CHECK

c) PRIMARY KEY

d) FOREIGN KEY

5. Which of the following is NOT a feature of PL/SQL?

a) Exception Handling

b) Cursors

c) Static Web Pages

d) Triggers

(CONTD …. 2)

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Write the concept of a "view of data" in database.
7. What is the purpose of using aggregate functions in SQL?
8. Brief the Entity-Relationship (E-R) model used in database design.
9. List any two DML (Data Manipulation Language) commands with examples.
10. Give short notes on the advantages of PL/SQL.

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Discuss the purpose of database systems and the advantages .

(OR)

b) Explain the structure of a relational database.

12. a) Detail about the basic structure of an SQL query and the purpose of each clause.

(OR)

b) Write about the use of NULL values in SQL and how they are handled in queries.

13. a) What is normalization in database design, and why is it important?

(OR)

b) Write in detail about the database design process and its key stages.

14. a) Summarize the benefits of SQL in detail.

(OR)

b) Detail the CODD'S Rules and their importance in relational databases.

15. a) Elaborate PL/SQL block and its structure.

(OR)

b) Illustrate the architecture of PL/SQL with a neat diagram.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16. a) Describe the fundamental relational-algebra operations in relational databases.

(OR)

b) How can a database can be modified and what operations are involved in this process?

17. a) Write in detail about nested subqueries in SQL? Explain with an example.

(OR)

b) What are the use of data types and schemas in SQL.

18. a) Interpretthe concept of functional dependencies and their role in relational database design.

(OR)

b) Compare Relational and NoSQL Databases with example.

19. a) Differentiate between DDL, DML, DCL. and TCL with examples.

. **(OR)**

b) Discuss the different types of SQL operators with examples.

20. a) Illustrate the different types of triggers in PL/SQL.

(OR)

b) Describe the error-handling mechanism in PL/SQL.

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Ethical paper