

18. Define Join expression in SQL. Explain about the Outer Joins with a example.
 19. Illustrate and explain in detail about the Entity Relationship model.
 20. Write in detail about the Database-Design Process.
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S.No. 3292

16 SCCCS 4

(For candidates admitted from 2016–2021 Batch)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Part III — Computer Science — Major

DATABASE SYSTEMS

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL Questions

1. Define the term Database Management System.
2. Explain Transaction Management.
3. Define Relational model, tuple and attribute.
4. What is a foreign key?
5. List the two forms of user defined data types in SQL.
6. Write about the Authorization on parts of the database.
7. Define about the Weak and strong Entity Sets.

8. Explain the Activity diagram in UML.
9. Write down the types of Dependencies.
10. Define domain-key normal form.

SECTION B — ($5 \times 5 = 25$)

Answer ALL Questions, Choosing either (a) or (b)

11. (a) Explain about the various types of Database-System Applications.

Or

- (b) Define data models. Explain different categories of data models.

12. (a) Explain briefly about the Database schema.

Or

- (b) Write a short notes on relational algebra operations.

13. (a) State and explain about the overview of the SQL query.

Or

- (b) What is an integrity constraint explain with example?

14. (a) Discuss the basic concepts of Reduction to Relational Schemas.

Or

- (b) Explain in detail about the Unified Modeling Language UML.

15. (a) What is Lossless Decomposition? Explain in detail.

Or

- (b) Define the following terms:
 - (i) Multi-valued Dependencies
 - (ii) Fourth Normal Form

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions

16. Describe the terms Data Storage and Querying in database system.
17. Explain the following operations available in relational algebra.
 - (a) Selection and projection operation.
 - (b) Join operation.