



QP CODE: 25050811



25050811

Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION DECEMBER 2025

First Semester

MSC Data Analytics

Core Courses - ST050104 - DATA BASE TECHNOLOGY

2020 Admission Onwards

D1CD2E2C

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. a) what is data abstraction and its level? b) Explain instances and schemas.
2. Write short note on Embedded SQL.
3. What are attributes?
4. Explain the properties of transaction?
5. Explain Two-Phase Locking protocol.
6. Explain the concept of Homogeneous distributed database.
7. Write a short note on the Structure of XML documents.
8. What do you mean by granularity in Data Warehouse?
9. Explain Data Track in Data warehouse life cycle.
10. What do you mean by categorization of OLAP tools.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. What are the advantages and disadvantages of Databases?
12. What are Constraints?
13. Compare EQUIJOIN and NATURAL JOIN.
14. Explain Functional Dependency. What is a closure set?
15. How can the difficulty in deleting records in a Fixed-Length Record be overcome?





16. How is deadlock recovery performed?
17. How and why did NOSQL systems emerge? What is its need?
18. Differentiate Metadata and Metadata Repository.

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight 5 each.

19. Given the table 'Worker', write the output of the following operations.

- i) Select distinct DEPARTMENT from Worker;
- ii) Select * from Worker order by FIRST_NAME asc;
- iii) Select * from Worker where FIRST_NAME in ('Vipul','Satish');
- iv) Select * from Worker where DEPARTMENT like 'Admin%';
- v) SELECT * FROM Worker ORDER BY Salary DESC;

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
1	Monika	Arora	100000	20/02/2014	HR
2	Niharika	Verma	80000	11/06/2014	Admin
3	Vishal	Singhal	300000	20/02/2014	HR
4	Amitabh	Singh	500000	11/06/2014	Admin
5	Vivek	Bhati	500000	11/06/2014	Admin
6	Vipul	Diwan	200000	11/06/2014	Account
7	Satish	Kumar	75000	20/01/2014	Account
8	Geetika	Chauhan	90000	11/04/2014	Admin

20. Elaborate the database lifecycle.
21. Write an essay on the key concepts in object-oriented systems.
22. Write an essay on data warehouse models.

(2×5=10 weightage)

