

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 44205

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fourth Semester

Computer Science and Engineering

14UCS405 - DATABASE MANAGEMENT SYSTEMS

(Regulation 2014)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Define normalization.
2. Mention the various types of data models.
3. Explain embedded SQL with an example query
4. Define Query Optimization.
5. How does the recovery manager ensure atomicity of transactions? How does it ensure durability?
6. Justify the need for Concurrency control.
7. Differentiate static hashing and dynamic hashing.
8. What benefit does strict two-phase locking provide? What are the disadvantages of it?
9. Define data marts.
10. List out the components of data warehouse.

11. A relation NADDR is defined as follows.

NADDR = (name, street, city, state, postal_code)

where name is unique, and for any given postal code, there is just one city and state.

Identify whether the above relation is in 2NF or in 3NF

12. The employee information in a company is stored in the relation

Employee (name, sex, salary, deptName)

Write the SQL query for the average salary of male employees in the computer science Department.

13. Why transactions are executed concurrently?

14. List the benefits and limitations of a data warehouse.

15. Define clustering.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Draw the system architecture of DBMS and write the purpose of each block. (10)
17. What is meant by heuristic optimization? Discuss the main heuristics that are applied during query optimization. (10)
18. Explain about the concurrency control in distributed databases. (10)
19. List the different levels in RAID and explain its features. (10)
20. Draw the Information Retrieval framework and explain its process. (10)