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Question Paper Code: 34205

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Fourth Semester

Computer Science and Engineering

01UCS405 – DATABASE MANAGEMENT SYSTEMS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

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.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Discuss the main characteristics of the database approach and how it differs from traditional file systems. (6)

(ii) Explain briefly about the architecture of Database Management System with neat sketch. (10)

Or

(b) Describe the architecture of Database system with a neat sketch. (16)

12. (a) (i) With relevant examples discuss the following in SQL.

(1) DDL (2) DML (3) DCL (4) Views (8)

(ii) Infer the detailed explanation about embedded and dynamic SQL. (8)

Or

(b) Explain in detail about query optimization. (16)

13. (a) During its execution, a transaction passes through several states, until it finally commits or aborts. List all possible sequences of states through which a transaction may pass. Explain why each state transition may occur. (16)

Or

(b) How atomicity and durability is achieved in transaction management. What is serializability? Explain its types? (16)

14. (a) Describe the concepts upon which RAID is built. Define and compare different RAID levels. (16)

Or

(b) Write detailed notes on mobile and web databases. (16)

15. (a) (i) Write short notes on association rules of data mining. (8)

(ii) Explain about XML databases. (8)

Or

(b) Explain about distributed database concepts. (16)