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Question Paper Code : 96353

M.C.A. DEGREE EXAMINATION, FEBRUARY/MARCH 2014.

First Semester

DMC 7103 — DATABASE MANAGEMENT SYSTEM

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Write Advanced SQL features.
2. What are embedded SQL?
3. What is 2NF? Give example.
4. Give an example on lossy and lossless decomposition.
5. State the ACID properties.
6. State the need for concurrency.
7. What are the types of indexing available?
8. State the steps in query processing.
9. What are data fragmentations? State the types of fragmentations.
10. State the usage of CLOB and BLOB.

PART B — ($5 \times 16 = 80$ marks)

11. (a) (i) State the main functions of database administrator. (8)
(ii) Explain the difference between weak and strong entity set with suitable example. (8)

Or

- (b) (i) Explain the overall architecture of the data base system in detail. (8)
(ii) Distinguish between relational algebra and relation calculus with example. (8)

12. (a) Define the following with suitable example.

(i) Functional dependency. (4)

(ii) Entity integrity. (6)

(iii) Referential integrity. (6)

Or

(b) Explain the normalization process using multi valued dependencies and using join dependencies. (16)

13. (a) (i) Explain the two phase commit process with example. (8)

(ii) What are the SQL facilities for concurrency? Explain it. (8)

Or

(b) (i) Distinguish between media recovery and system recovery. (8)

(ii) Describe lock based protocol with suitable example. (8)

14. (a) What is RAID? State and explain the different level of RAID and its features.

Or

(b) (i) State and explain the dynamic hashing with example. (8)

(ii) What is the need for indexing and hashing for database? Explain the ordered indices with suitable example. (8)

15. (a) (i) Explain the process of crawling and indexing in the web. (8)

(ii) Explain the transaction processing in distributed database. (8)

Or

(b) (i) What are the various OLAP operations? Explain them with suitable example. (8)

(ii) Write about XML Databases with example. (8)