

F 3627

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Reg. No.....

Name.....

B.Tech. DEGREE EXAMINATION, NOVEMBER 2005

Fifth Semester

Branches : Computer Science and Engineering/Information Technology

DATABASE MANAGEMENT SYSTEMS (R,T)

(New Scheme—2002 Admission onwards)

Time : Three Hours

Maximum : 100 Marks

Part A

*Answer all questions.
Each question carries 4 marks.*

1. Define what is Database and Spanned and Unspanned records.
2. What is Relational Model of Database ?
3. How to handle "NULL" in relational Database ?
4. Draw an E-R diagram showing relationship of Teachers-Courses and Text books.
5. What is meant by read-write in transactions ?
6. Define serializability of Database transactions ?
7. Define Third Normal form of a relation Schema.
8. Prove that any relation schema with two attributes is in BCNF.
9. What is Data Fragmentation ?
10. What is Semantic Heterogeneity of related data ?

(10 × 4 = 40 marks)

Part B

*Answer all questions.
Each question carries 12 marks.*

11. (a) Describe the High-Level conceptual Data Models for Database Design.

Or

- (b) Draw and explain a typical DBMS Architecture and explain DBMS Language features.

12. (a) Explain any five of the Relational Algebra Operations with appropriate examples. ✓

Or

- (b) What is meant by Union Compatibility ? Why THETA JOIN is different from NATURAL JOIN. Explain with suitable examples.

Turn over

13. (a) Explain how serializability is achieved in Transaction Processing.

Or

(b) What are the Desirable properties of Transaction and explain the schedules and Recoverability in brief ?

14. (a) Define Minimal sets of Functional Dependencies and explain an Algorithm to find a minimal cover for the set of functional dependences 'F'.

Or

(b) "The formal definition of BCNF differs slightly from the definition of 3NF". Explain with example how ?

15. (a) Explain Distributed Query Processing using Semijoin.

Or

(b) Describe in detail the structure of a distributed database system.

(5 × 12 = 60 marks)

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