

Reg. No. :

V 4547

B.E./B. Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Fifth Semester

(Regulation 2004)

Computer Science and Engineering

CS 1301 — DATABASE MANAGEMENT SYSTEMS

(Common to Information Technology)

(Common to BE – (Part Time) Fourth Semester Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Data independence.
2. Distinguish between primary key and candidate key.
3. With an example explain a weak entity in an ER diagram.
4. With an example explain referential integrity.
5. What is domain integrity? Give example.
6. Distinguish between dense and sparse indices.
7. List the properties that must be satisfied by a transaction.
8. Define deadlock.
9. State the advantages of distributed systems.
10. What is data ware housing?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Construct an ER diagram for a car insurance company that has a set of customers, each of whom owns one/ more cars. Each car has associated with it zero to any number of recorded accidents. (8)
- (ii) Construct appropriate tables for the above ER diagram. (8)

Or

- (b) (i) Define data model. Explain the different types of data models with relevant examples. (10)
- (ii) Explain the role and functions of the database administrator. (6)
12. (a) With relevant examples discuss the following in SQL.
- (i) Data Definition Language. (4)
- (ii) Data Manipulation Language. (4)
- (iii) Data control Language. (4)
- (iv) Views. (4)

Or

- (b) What is normalization? Explain normalization techniques using functional dependencies with relevant examples. (16)
13. (a) Explain the following with relevant examples :
- (i) B Tree. (5)
- (ii) B⁺ Tree (5)
- (iii) Static and dynamic hashing. (6)

Or

- (b) With a relevant example discuss the steps involved in processing a query. (16)
14. (a) Explain testing for serializability with respect to concurrency control schemes. How will you determine, whether a schedule is serializable or not. (16)

Or

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- (b) Explain the following protocols for concurrency control :
- (i) Lock based protocols. (8)
 - (ii) Time stamp based protocols. (8)
15. (a) State and explain the features of object oriented data model. Use banking application as an example. (16)

Or

- (b) Write detailed note on the following:
- (i) Distributed Data bases. (8)
 - (ii) Data Mining. (8)
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