

FACULTY OF INFORMATICS

B.E. 3/4 (I.T.) I-Semester (Main) Examination,
November/December, 2009

Subject : DATABASE SYSTEMS

Time : 3 Hours]

[Max. Marks : 75

Note : Answer *all* questions from Part-A. Answer *five* questions from Part-B.

PART - A

(25 Marks)

1. What are the responsibilities of Database administrator ? 2
2. Write about Mapping Constraints ? 2½
3. With an example of E - R model write relationship between weak and strong entity set. 2½
4. How to translate a SQL query into a Relational algebra ? Explain with an example. 3
5. What is a view ? What are the conditions needed for a view to become updatable view ? 2
6. What is the difference between 3NF and BCNF. 3
7. Give at least three differences between structure of B+ tree and B - tree. 3
8. What are the properties of transaction ? 3
9. Define two phase locking and strict two phase locking. 2
10. Define check point ? Where it is used ? 2

PART - B

(50 Marks)

11. What are the main differences between a file processing system and DBMS ? Explain their advantages and disadvantages with examples. 10
12. (a) Write about attribute types used in the E - R model. 4
- (b) Explain E - R diagram with their extended E - R features. 6

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13. Explain the concept of Functional dependencies and its implementation in normal form with an example. 10
14. Define Hashing ? Explain the differences between closed and open hashing. Discuss the relative merits of each technique in database applications. 10
15. Write short notes on :
 - (a) DDL, DML operation in SQL. 4
 - (b) Nested subqueries and complex queries with examples. 6
16. Write short notes on :
 - (a) Deadlock Prevention 4
 - (b) Deadlock Detection 3
 - (c) Deadlock Recovery 3
17. Compare and contrast the deffered and immediate - modification versions of log - based recovery scheme. 10

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