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06CS54

Fifth Semester B.E. Degree Examination, June/July 2013
Database Management Systems

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. Define the terms:
 - i) Data (08 Marks)
 - ii) Database
 - iii) Metadata
 - iv) Data model. (08 Marks)
- b. Explain with neat diagram the operation of a two-tier client server architecture for RDBMS. (08 Marks)
- c. What are data base utilities? List the few functions that utilities perform. (04 Marks)
- 2 a. List out the notations for E-R diagram and their meaning. (10 Marks)
- b. Design an E-R diagram for hospital information system by taking into account with at least four entities. (10 Marks)
- 3 a. Discuss the characteristics of relations with examples. (06 Marks)
- b. Define referential integrity constraint. Explain the importance of referential integrity constraint in SQL. (06 Marks)
- c. Consider the two tables, show the results of the following operations:

| R | |
|-------|-------|
| Col A | Col B |
| A | 1 |
| B | 2 |
| D | 3 |
| F | 4 |
| E | 5 |

| S | |
|-------|-------|
| Col A | Col B |
| A | 1 |
| C | 2 |
| D | 3 |
| E | 4 |

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(08 Marks)

- 4 a. Explain with syntax the join clauses in SQL including EXISTS and ORDER BY clause. (12 Marks)
- b. Explain with examples in SQL: i) Drop command; ii) Delete command. (08 Marks)

PART – B

- 5 a. Define virtual table. Explain how to create the view and how view can be dropped. (07 Marks)
- b. Write a note on aggregate functions with examples. (13 Marks)

- 6 a. Explain the informal guidelines for relational schema. (08 Marks)
b. With examples discuss. First normal form 1NF, 2NF, 3NF and 4NF. (12 Marks)
- 7 a. Explain the phases involved in an ARIES algorithm with examples. (10 Marks)
b. Discuss the properties of a transaction with state transition diagram. (10 Marks)
- 8 Write short notes on:
a. Two phase locking
b. Embedded SQL
c. Recursive relationship type
d. Time stamp ordering algorithm. (20 Marks)

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