

III B. Tech II Semester Regular/Supplementary Examinations, April -2018
DATABASE MANAGEMENT SYSTEMS

(Electronics and Computer Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is compulsory
 3. Answer any **THREE** Questions from **Part-B**

PART -A

- | | | | |
|---|----|---|------|
| 1 | a) | Describe actors on scene with respect to data base users. | [3M] |
| | b) | Distinguish between Key constraints and Integrity constraints. | [4M] |
| | c) | Write about nested queries. | [4M] |
| | d) | Write the rules involved for Multi Valued Dependencies. | [4M] |
| | e) | How to design active databases using triggers? | [4M] |
| | f) | Write about the transaction management with SQL using save point. | [3M] |

PART -B

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|---|----|---|-------|
| 2 | a) | Why data modeling is important? Explain different types of data modeling. | [8M] |
| | b) | What are the functional differences between centralized and client server architecture for the database? | [8M] |
| 3 | a) | Illustrate the usage of insert, delete, and update operations on student's database. | [8M] |
| | b) | What is the importance of integrity key constraints? Express various key constraints in SQL with example. | [8M] |
| 4 | a) | Give an example scenario motivating key constraints, weak entities, class hierarchy and aggregation of ER model design constructs. | [8M] |
| | b) | What operations can be used to manipulate the data in a single relation? Give Examples. | [8M] |
| 5 | a) | How to test decomposition is lossless-join and dependency preserving? Give examples. | [8M] |
| | b) | Consider the attribute set $R=ABCDEFGH$ and the FD set $F=\{AB \rightarrow C, AC \rightarrow B, AD \rightarrow D, BC \rightarrow A, E \rightarrow G\}$ for attribute sets ABC, ABCEG compute the set of dependencies that hold over set and name the strongest normal form. | [8M] |
| 6 | a) | What is Phantom problem? Where it occurs? Explain in detail. | [4M] |
| | b) | Write the following | [12M] |
| | | i) Implementation of typical lock manager | |
| | | ii) Deadlock detection schemes. | |
| | | iii) Relate precedence graph with conflict Serializability | |
| 7 | | Give the structure of B+ tree. And perform insertion, deletion and search operations on it | [16M] |
