

B.E. Computer Science & Engineering (Model Curriculum) Semester - V  
**TEE102CS - Database Management System**

P. Pages : 2

Time : Three Hours



**GUG/S/23/13812**

Max. Marks : 80

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- Notes :
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Due credit will be given to neatness and adequate dimensions.
  4. Assume suitable data wherever necessary.

1. a) Explain different types of attributes with example. 8  
b) Explain structure of Database Management system. 8

**OR**

2. a) Explain Mapping cardinalities with suitable diagram. 8  
b) Explain data models and various types of data models. 8
3. a) Explain basic structure of SQL queries with example. 8  
b) Explain the concept of views and triggers. 4  
c) Explain DDL and DML. 4

**OR**

4. a) Draw E-R diagram for hospital where there is a set of patients and set of doctors. Associate with each patient, a log of various tests and examinations conducted. 8  
b) Differentiate between:- 8
  - i) Weak entity set and strong entity set.
  - ii) Generalization and Aggregation.
5. a) Explain 3N form with example. 8  
b) Why certain functional dependencies are called Trivial functional dependencies. 8

**OR**

6. a) Explain Multivalued dependencies and join dependencies. 8  
b) List design goals for relational databases and explain why each is desirable. 8
7. a) List and Explain various properties of transactions with examples. 8  
b) List and explain various transaction state using diagram. 8

**OR**

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|-----------|----|---|----------|
| <b>8.</b> | a) | Explain two-phase locking protocol with example.              | <b>8</b> |
|           | b) | Explain in detail the concept of Multiple granularities.      | <b>8</b> |
| <b>9.</b> | a) | i) Explain general structure of client server system.         | <b>4</b> |
|           |    | ii) Explain server system Architecture.                       | <b>4</b> |
|           | b) | List and explain parallel database architecture with diagram. | <b>8</b> |

**OR**

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|------------|----|---|----------|
| <b>10.</b> | a) | Explain Data Warehouse architecture. Also explain issues in building data warehouses. | <b>8</b> |
|            | b) | Explain OLAP in detail.   | <b>8</b> |

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