

B.E. / B.Tech. Computer Science & Engineering (Model Curriculum) Semester-V  
**TEE102CS / DATABASE1 - - Database Management System**

P. Pages : 2



Time : Three Hours

GUG/S/25/13812

Max. Marks : 80

Notes : 1. All questions carry equal marks.  
2. Illustrate your answers wherever necessary with the help of neat sketches.  
3. All questions are compulsory.

1. a) Give difference between file-based system and DBMS. 8

b) Explain types of cardinalities with an example along with their relations. 8

OR

- 2.** a) Write steps to convert ER to relational schema with an example. 8

b) What is EER diagram? Draw an EER diagram and explain for following A university maintain records of its students and the programs in which they have enrolled. It stores student id, name, address and phone number of a student and program code, name, duration of program. A student is either full time or part time (only one of the types). A student can register for many programs and a program can have many students. 8

**3.** a) Explain relational algebra and its basic types in detail. 8

b) Explain views in detail. 8

OR



OR

6. a) Explain minimal cover and find the minimal cover of the set of FD:  
 $\{AB \rightarrow C, C \rightarrow AB, B \rightarrow C, ABC \rightarrow AC, A \rightarrow C, AC \rightarrow B\}$

b) R (A, B, C, D, E)  
FD :  $\{A \rightarrow BCD, B \rightarrow AE, BC \rightarrow AED, D \rightarrow E, C \rightarrow DE\}$   
R1(A,B), R2(B,C) and R3(C,D,E).  
Check whether the relation is Dependency preserving decomposition or not.

- 7.** a) Explain time stamp-based schemes of concurrency control. **8**  
b) Explain transaction and describe ACID properties in detail. **8**

**OR**

- 8.** a) Explain need of checkpoints in transaction. **8**  
b) Explain shadow paging in detail. **8**  
**9.** a) Explain the following- **8**  
1) Interconnection network in parallel database  
2) Types of parallel database architectures  
b) Explain in brief decision-based support systems. **8**

**OR**

- 10.** a) Explain OLAP. **8**  
b) Write short notes on: **8**  
1) Centralized systems  
2) Client Server systems

\*\*\*\*\*