

Database Systems

(REVISED COURSE)

(3 Hours)

[Total Marks : 100

N.B. (1) Question no. 1 is **compulsory**.

(2) Attempt any **four** from the **remaining** questions.

(3) Assume **suitable data** if **necessary**.

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|--------|---|-------------------------|
| 1. (a) | Explain advantages of DBMS over file processing. | 10 |
| (b) | What is normalization ? Why it is required ? Explain its different forms. | 10 |
| 2. (a) | Explain E.R. diagram and its advantages. | 10 |
| (b) | Explain features of SQL with respect to (i) DDL (ii) DML (iii) Embedded SQL for any RDBMS. What do you understand by 'Triggers' and 'stored procedure'. | 10 |
| 3. (a) | Explain deadlock management technique in database. | 10 |
| (b) | Different various concurrency control schemes with example. | 10 |
| 4. (a) | Explain relational algebra operators. | 10 |
| (b) | Explain serializability with its type. | 10 |
| 5. (a) | Explain security for database. | 10 |
| (b) | Explain ACID properties with example. | 10 |
| 6. (a) | What is importance of recovery ? Explain log based recovery system. | 10 |
| (b) | Explain view in detail with its benefit and limitations. | 10 |
| 7. | Write short notes on : (solve any four) :— | 20 |
| (a) | Denormalization | (d) ORDBMS |
| (b) | Database Administrator | (e) Aggregate function. |
| (c) | Indexing | |