

QP Code :14345

(OLD COURSE)

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Question No.1 is **compulsory**.
 (2) Solve any **four** questions from **remaining**.
 (3) Assume **appropriate** data where **necessary**.
 (4) **All** questions carry **equal** marks.

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|--------|---|----|
| 1. (a) | Define the following terms with the help of example | 10 |
| | (i) Single valued and multi valued attribute | |
| | (ii) Entity set and weak entity | |
| | (iii) Simple and composite attribute | |
| | (iv) Relationship | |
| | (b) Describe the overall architecture of DBMS. | 10 |
| 2. (a) | Explain in detail log based recovery. | 10 |
| (b) | What is Transaction? Explain ACID properties of a transaction. | 10 |
| 3. (a) | Define Normalization? What is the importance of Normalization in database design?
Explain 1NF, 3NF and BCNF with example. | 10 |
| (b) | Explain Timestamp ordering protocol. | 10 |
| 4. (a) | Explain the 2 phase locking protocol. | 10 |
| (b) | Explain the concept of Shadow paging. | 10 |
| 5. (a) | Explain the deferred and Immediate database modification method with example. | 10 |
| (b) | Explain any five Relational algebra operations. | 10 |
| 6. (a) | What is Recoverable Schedule? Why recoverability of schedule is desirable? Are there any circumstances under which it would be desirable to allow non-recoverable schedule? | 10 |
| (b) | What are the functions of Database Administrator. | 10 |
| 7. | Write short notes on (any two):- | 20 |
| | (a) Shadow paging | |
| | (b) Buffer management | |
| | (c) Generalization and Aggregation | |