

(3 Hours)

[Total Marks: 80]

- N.B. : (1) Question No. 1 is **compulsory**
 (2) Solve any **three** questions out of remaining **five**
1. (a) Explain View and Give Difference between View and Base Table **5**
 (b) What is Write –Ahead Logging and when it is used? **5**
 (c) Write a short note on SQL Injection. **5**
 (d) Define a lock and describe the types of locks used in concurrency control. **5**
 2. (a) Design a schema in SQL for a Library System. Show one example each for PRIMARY KEY and FOREIGN KEY constraint. Create one assertion for the following Constraint: “No member can borrow more than three books at a time”. **10**
 (b) Explain use of SQLJ with two types of iterators available in SQLJ. **10**
 3. (a) Describe ARIES recovery algorithm with example. **10**
 (b) Explain Query Processing and Optimization in Distributed database. **10**
 4. (a) Explain multilevel indexing with suitable example? **10**
 (b) Explain with suitable example object identity, object structure and type constructors in OODB. **10**
 5. (a) Explain data warehouse architecture in detail. **10**
 (b) Compare MAC and DAC and RBAC for multi level security. **10**
 6. Consider a Datawarehouse for a hospital where there are three dimensions: **20**
 - 1) Doctor
 - 2) Patients.
 - 3) Time and two measures count and charge.
 Using above example perform following
 - a. Star schema
 - b. Snakeflake schema
 - c. Rollup & drilldown operations
 - d. Pivot operation
 - e. Slice and Dice operations
