

SECTION-B

2. Draw ER diagram for railway reservation consisting of fares, reservation, staff, passengers, etc? Clearly highlight entities, relationship, primary key, and foreign key.
3. Discuss with the help of a diagram the three tier architecture of DBMS.
4. How to deal with constraint violation?
5. Differentiate between logical data independence and physical data independence also take appropriate example.
6. Explain with example multiple granularity locking technique and define partial key.

SECTION-C

7. Consider the following table :

Part(Partno, Supplierno, contract, partcost)

Supplier(Supplierno, snam, partno. detail)

Customer(c_id, c_city, partno)

Write down queries in relational algebra for getting :

- a. Name of the city with maximum number of customer.
 - b. List the city of the customer who has been supplied with maximum number of parts.
 - c. List the name of supplier who has been supplied part with maximum cost.
8.
 - a. What is the need for concurrency control?
 - b. Explain with example serializability of a transaction?
 9. Write in detail with example :
 - a. Discretionary access control based.
 - b. Domain relational calculus