

(Open book test)

1. Design a database for an airline. The database must keep track of customers and their reservations, flights and their status, seat assignments on individual flights, and the schedule and routing of future flights. Your design should include an E-R diagram, a set of relational schemas, and a list of constraints, including primary-key and foreign-key constraints.
2. In database , we should avoid the usage of cross product. Justify the statement with a solution supported with an operator and its types in relational algebra.
3. Discuss two scenarios where a view can be helpful in a database management system
4. What are the considerations while implementing the Triggers? Can you explain the order of execution in Triggers?
5. Indicate for each of the following expressions whether it is a valid SQL statement or not. A valid statement should be accepted by a standard SQL interpreter, whereas an invalid statement should result in an error message.
 1. `SELECT * FROM Articles WHERE endpage-startpage>10;`
 2. `SELECT * FROM Articles WHERE endpage-startpage<0;`
 3. `SELECT SUM(title) FROM Articles;`