

Question Paper Consists of **Part – A** and **Part – B**
Answer all questions

Part – A

Q.No.	QUESTIONS	MARKS
1. a.	Define the two levels of data independence.	2M
b.	Illustrate the implementation of Natural-join in relational algebra	2M
c.	Write an SQL query to find names and ages of all sailors from sailors table	2M

Part – B

Q.No.	QUESTIONS	MARKS
2. a.	Describe in detail about two-tier and three-tier client-server architectures	5M
b.	Discuss in detail about the concepts of E-R model with suitable examples	5M
3. a.	Differentiate between Procedural and Declarative Query languages with suitable examples	5M
b.	Consider the following schema for company database Employee (Name, ESSN, Salary, DNo, SuperSSN); Department(DName, DNos, MGRSSN); Project(PName, PNo, DNum); Works_ON(ESSN, PNo, Hours); Dependent(ESSN, DName, Sex); Write the queries in Relational Algebra	5M
i)	List the name of employees with their dependants	
ii)	Find the name of employees who work in department cse	
iii)	Retrieve the name of managers, dept names with salaries.	
iv)	Display the names of employees with their project name	
v)	Display the name of the employees with number of hours working	
4. a.	Explain about union, intersect and Except with an example	4M
