Q.No	Part A (5 x 2 = 10 marks) (Answer all the questions)	
1	Analyze about relational algebra.	
2	Explore the significance of the AVG() and MAX() function in SQL.	
3	Define the steps involved in creating a stored procedure in a database. How is the CREATE PROCEDURE statement utilized?	
4	What is the objective of first normal form?	
5	Differentiate between Lossy and Non-lossy Decomposition	

Q.No	Part B - (2 x 16 = 32 marks), (1 x 8 = 8 marks) (Answer all the questions)	
11 A	Define and explain the purpose of joins in a relational database. Discuss how joins facilitate the retrieval of data from multiple tables and provide examples illustrating different join scenarios.	
	OR	
11 B	Define and explain the concept of subqueries in SQL. How do subqueries enhance the capabilities of SQL queries? Provide examples to illustrate their use in retrieving and manipulating data.	
12 A	i) Explain multi-valued dependency and the fourth normal form with illustrations. ii) Discuss the various types of functional dependency with illustrations.	
	OR	

12 B	Design a database schema for a university course registration system. The system has information about students, courses, instructors, and registrations. Students (StudentID, FirstName, LastName, Birthdate, Address) Courses (CourseID, CourseName, Credits, InstructorID) Instructors (InstructorID, FirstName, LastName, Department) Registrations (RegistrationID, StudentID, CourseID, RegistrationDate) Normalize this schema up to Boyce-Codd Normal Form (BCNF) and discuss the advantages of reaching higher normal forms. Identify functional dependencies, candidate keys, and foreign keys as part of the normalization process
13 A	Explain the tuple relational calculus with example,