RAMAIAH Institute of Technology

Department of Computer Science & Engineering

QUESTION BANK FOR 5th SEM (Term: OCT 2024 to JAN 2025)
Database Laboratory (CSL56)

I.A. Marks: 50 **Exam Hours: 03**
Credits: 0:0:1 **Exam Marks: 50**

Develop the following programs using SQL and MongoDB

SL No.	Questions	CO
1.	a. Consider the Sailor database given below. The primary keys are underlined. Assume relevant data types for attributes. SAILORS (Sid, Sname, Rating, Age) BOATS (Bid, Bname, Colour) RESERVES (Sid, Bid, day) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. Find the names of sailors who have reserved at least one boat. ii. Find the Sid's of sailors who have reserved a red or a green boat. iii. Find the Sid's of sailors who have not reserved a boat.	CO2,CO3
	b. Consider the following restaurant database with the attributes -Name, address – (building, street, area, pin code), id, cuisine, nearbylandmarks, online delivery- yes/no, famous for (name of the dish) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: i. List the name and address of all restaurants in Bangalore with Italian cuisine ii. List the name, address and nearby landmarks of all restaurants in Bangalore where north Indian thali(cuisine) is available.	CO1
2.	a. Consider the Employee database given below. The primary keys are underlined. Assume relevant data types for attributes. EMPLOYEE (Fname, Lname, SSN, Addrs, Sex, Salary, SuperSSN,Dno) DEPARTMENT (Dname, Dnumber, MgrSSN, MgrStartDate) PROJECT (Pno, Pname, Dnum) WORKS_ON (ESSN, Pno, Hours) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. Retrieve the name of all employees whose salary is greater than thesalary of all employees in dept 5. ii. Retrieve the ssn of all employees who work on project numbers 1,2or 3	CO2,CO3

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SL No.	Questions	CO
	iii. Display the total Number of hours put in by all employees on every project.	
	b. Consider the following restaurant table with the following attributes - Name, address – (building, street, area, pin code), id, cuisine, nearby landmarks, online delivery- (yes/no), famous for (name of the dish) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: i. List the name, address and nearby landmarks of all restaurants in Bangalore where north Indian thali(cuisine) is available ii. List the name and address of restaurants and also the dish therestaurant is famous for, in Bangalore.	CO1
3.	a. Consider the Aircraft database given below. The primary keys are underlined. Assume relevant data types for attributes. AIRCRAFT (Aircraft ID, Aircraft_name, Cruising_range) CERTIFIED (Emp ID, Aircraft ID) EMPLOYEE (Emp ID, Ename, Salary) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. Find the employee ID's of employee who make the highestsalary. ii. Find the name of aircrafts such that all pilots certified to operatethem earn more than 50000 iii. Find the employees who are not certified for operating anyaircraft.	CO2,CO3
	b. Consider the following restaurant table with the following attributes - Name, address – (building, street, area, pin code), id, cuisine, nearby landmarks, online delivery- (yes/no), famous for (name of the dish) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: 1.List the name, address and nearby landmarks of all restaurants in Bangalore where north Indian thali(cuisine) is available. 2. List the name and address of restaurants and also the dish the restaurant is famous for, in Bangalore where online delivery isavailable.	CO1
4.	a. Consider the Supply-Parts database given below. The primary keys are underlined. Assume relevant data types for attributes. SUPPLIER (Sid, Sname, Address) PART (PID, Pname, Color) SHIPMENT (Sid, PID, Cost) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries.	CO2,CO3

SL No.	Questions	CO
	i. Find the Sid's of suppliers who supply a green part ii. For every supplier print the name of the supplier and the total number of parts that he/she supplies iii. Update the part color supplied by supplier s3 to yellow	
	b. Consider the following Tourist places table with the followingattributes -Place, address – (state), id, tourist attractions, best time of the year to visit, modes of transport (include nearest airport, railway station etc), accommodation, food - what not to miss for sure Create 10 documents with data relevant to the following questions.Write and execute MongoDB queries: i. List all the tourist places of Karnataka ii. List the tourist attractions of Kerala. Exclude accommodation andfood	CO1
5.	a. Consider the Aircraft database given below. The primary keys are underlined. Assume relevant data types for attributes. AIRCRAFT (Aircraft ID, Aircraft_name, Cruising_range) CERTIFIED (Emp ID, Aircraft ID) EMPLOYEE (Emp ID, Ename, Salary) Create the above tables in SQL. Specify primary and foreign keys properly.Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. Find the names of pilots certified for Boeing aircraft ii. Arrange the Aircrafts with respect to the ascending order of distance. iii. Find the name of pilots who can operate flights with a range greater than 3000 miles but are not certified on any Boeing aircraft.	CO2,CO3
	b. Consider the following Tourist places table with the following attributes - Place, address – (state, id), tourist attractions, best time of the year to visit, modes of transport (include nearest airport, railway station etc), accommodation, food - what not to miss for sure Create 10 documents with data relevant to the following questions.Write and execute MongoDB queries: i. List the tourist attractions of Kerala. Exclude accommodation and food. ii. List the places sorted state wise.	CO1
6.	a. Consider the Employee database given below. The primary keys are underlined. Assume relevant data types for attributes.	CO2,CO3

SL No.	Questions	CO
	EMPLOYEE (Fname, Lname, SSN, Addrs, Sex, Salary, SuperSSN, Dno) DEPARTMENT (Dname, Dnumber, MgrSSN, MgrStartDate) DEPENDENT (Dname, ESSN) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. For each department, retrieve the department name and the averagesalary of all employees working in that department ii. List the names of managers who have at least one dependent iii. Display the details of all departments having 'tech' as theirsubstring	
	b. Consider the following Tourist places table with the following attributes - Place, address – (state, id), tourist attractions, best time of the year to visit, modes of transport (include nearest airport, railway station etc), accommodation, food - what not to miss for sure Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: i. List all the tourist places of Karnataka ii. List the places sorted state wise	CO1
7.	a. Consider the following Accident Tracker Schema. The primary keys are underlined. PERSON (driver – id #, name, address) CAR (Regno, model, year) ACCIDENT (report-number, acc_date, location) OWNS (driver-id #, Regno) PARTICIPATED (driver-id, Regno, report-number, damage amount) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. Display the unique Regno's of the cars involved in accidents. ii. Display the car Regno and model of the car which has the maximum damage amount. iii. Display the number of cars owned by each driver.	CO2,CO3
	b. Consider the following Movie table with the following attributes - Actor_name, Actor_id, Actor_birthdate, Director_name, Director_id, Director_birthdate, film_title, year of production, type (thriller, comedy, etc.) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: 1. List all the movies acted by John in the year 2018 2. List only the actors names and type of the movie directed by Ram	CO1

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SL No.	Questions	CO
8	a. Consider the Cricket database given below. The primary keys are underlined. Assume relevant data types for attributes. PLAYER (PId, Lname, Fname, Country, Yborn, Bplace) MATCH (MatchId, Team1, Team2, Ground, Date, Winner) BATTING (MatchId, Pid, Nruns, Fours, Sixes) BOWLING (MatchId, Pid, Novers, Maidens, Nruns, Nwickets) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. Display the sorted list of ground names where Australia has played as team1 ii. Find the match information of all matches in which Dhoni did batting. iii. Find the names of players who did batting in match 2689	CO2,CO3
	b. Consider the following Movie table with the following attributes - Actor_name, Actor_id, Actor_birthdate, Director_name, Director_id, Director_birthdate, film_title, year of production, type (thriller, comedy, etc.) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: i. List all the movies acted by John and Elly in the year 2012. ii. List only the name and type of the movie where Ram has acted sorted by movie names	CO1
9	a. Consider the following shipment schema. The primary keys are underlined. Assume relevant data types for attributes. CUSTOMER (cust#, cname, city) ORDER (order#, odate, cust #, ord-Amt) ORDER – ITEM (order #, Item #, qty) ITEM (item #, unit price) SHIPMENT (order #, ship-date Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. List the customer names who have placed more than 2orders. ii. Find the total order amount for each day iii. List the customer details who has the largest order amount	CO2,CO3

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SL No.	Questions	CO
	b. Consider the following Movie table with the following attributes - Actor_name, Actor_id, Actor_birthdate, Director_name, Director_id, Director_birthdate, film_title, year of production, type (thriller, comedy, etc.) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: i. List all the movies acted by John in the year 2018 ii. List only the actors names and type of the movie directed by Ram	CO1
10	a. Consider the following shipment schema. The primary keys are underlined. Assume relevant data types for attributes. CUSTOMER (cust#, cname, city) ORDER (order#, odate, cust #, ord-Amt) ORDER – ITEM (order #, Item #, qty) ITEM (item #, unit price) SHIPMENT (order #, ship-date) Create the above tables in SQL. Specify primary and foreign keys properly. Enter at least 5 tuples in each table with relevant data. Solve the following queries. i. List name of the customer, no. of orders placed by each customer residing in Bangalore city. ii. List the names of the customers who have ordered at least 3 items iii. List the customer names who have not ordered for item no. 10.	CO2,CO3
	b. Consider the following Movie table with the following attributes - Actor_name, Actor_id, Actor_birthdate, Director_name, Director_id, Director_birthdate, film_title, year of production, type (thriller, comedy, etc.) Create 10 documents with data relevant to the following questions. Write and execute MongoDB queries: 1. List all the movies acted by John and Elly in the year 2012. 2. List only the name and type of the movie where Ram has acted, sorted by movie names.	CO1

Note:

- **Student is required to answer one full question which contains PART-(a) and PART-(b). The questions are allotted based on lots.**

Conduction and Result	Write-Up	Execution	Viva/Demo	Change of Question	Total
PART-(a)	05	25	07	-5 Marks	50 Marks
PART-(b)	03	10		-5 Marks	

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