

**Q 1. Consider Employee table :**

EMPNO	EMP_NAME	DEPT	SALARY	DOJ	BRANCH
E101	Amit	Production	45000	12-Mar-00	Bangalore
E102	Amit	HR	70000	03-Jul-02	Bangalore
E103	sunita	Management	120000	11-Jan-01	mysore
E104	sunita	IT	67000	01-Aug-01	mysore
E105	mahesh	Civil	145000	20-Sep-03	Mumbai

**Perform the following :**

1. Display all the fields of employee table
2. Retrieve employee number and their salary
3. Retrieve average salary of all employee
4. Retrieve number of employee
5. Retrieve distinct number of employee
6. Retrieve total salary of employee group by employee name and count similar names
7. Retrieve total salary of employee which is greater than >120000
8. Display name of employee in descending order
9. Display details of employee whose name is AMIT and salary greater than 50000;

**Q 2. Consider the Company database with following tables :**

**Employee( Name,SSN,Address,Salary,Department)**

**Department(dname,DID)**

Perform the following:

1. Create company database
2. Viewing all databases
3. Viewing all Tables in a Database,
4. Creating Tables (With and Without Constraints)
5. Inserting/Updating/Deleting Records in a Table
6. Retrieve the name of employees and their dept name (using JOIN)
7. Draw ER diagram for above given scenario.

**Q 3. Consider the company database with following tables :**

**Employee( Name,SSN,Address,Salary,Department)**

**Department(dname,DID,MGRSSN,MGRstartdate)**

**Create tables and perform the following :**

1. How the resulting salaries of every employee working on the 'Research' Departments is given a 10 percent raise.
2. Find the sum of the salaries of all employees of the 'Accounts' department, as well as the maximum salary, the minimum salary, and the average salary in this department
3. Retrieve the name of each employee Controlled by department number 5 (use EXISTS operator).
4. Retrieve the name of each dept and number of employees working in each department which has at least 2 employees
5. Retrieve the name of employees who were born in the year 1990's
6. Retrieve the name of employees and their dept name (using JOIN)

**Q 4. For a given EMPLOYEE table (EID, Name, SSN, Dept, Salary, Address)**

EMPLOYEE	FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
	John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000	333445555	5
	Franklin	T	Wong	333445555	1955-12-08	608 Voss, Houston, TX	M	40000	888665555	5
	Alida	J	Zelaya	999887777	1968-07-19	3321 Castle, Spring, TX	F	25000	987654321	4
	Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000	888665555	4
	Ramesh	K	Narsayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
	Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000	333445555	5
	Ahmad	V	Jabbar	987987987	1959-03-29	960 Dallas, Houston, TX	M	25000	987654321	4
	James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000	null	1

Perform the Following :

1. Creating Views (With and Without Check Option),
2. Selecting from a View
3. Dropping Views

**Q 5. Consider the table SHOPPE and ACCESSORIES, write the query for (i) to (v) and output for (vi) to (x)**

**Table : SHOPPE**

<b>Id</b>	<b>SName</b>	<b>Area</b>
S01	ABC Computronics	CP
S02	All Infotech Media	GK II
S03	Tech Shoppe	CP
S04	Geeks Tecno Soft	Nehru Place
S05	Hitech Tech Store	Nehru Place

**Table : ACCESSORIES**

<b>No</b>	<b>Name</b>	<b>Price</b>	<b>Id</b>
A01	Mother Board	12000	S01
A02	Hard Disk	5000	S01
A03	Keyboard	500	S02
A04	Mouse	300	S01
A05	Mother Board	13000	S02
A06	Keyboard	400	S03
A07	LCD	6000	S04
T08	LCD	5500	S05
T09	Mouse	350	S05
T10	Hard Disk	4500	S03

- i) To display Name and Price of all the Accessories in descending order of their Price
- (ii) To display Id and Sname of all the Shoppe location in „Nehru Place“
- (iii) To display Name, Minimum and Maximum Price of each Name from ACCESSORIES table
- (iv) To display Name, Price of all Accessories and their respective SName from table SHOPPE and ACCESSORIES where Price is 5000 or more.
- (v) To display all details of accessories where name contains word „Board“;
- (vi) SELECT DISTINCT NAME FROM ACCESSORIES WHERE PRICE>5000;
- (vii) SELECT AREA,COUNT(\*) FROM SHOPPE GROUP BY AREA;
- (viii) SELECT AVG(PRICE), MAX(PRICE) FROM ACCESSORIES WHERE PRICE>=10000;
- (ix) SELECT NAME, PRICE\*.05 DISCOUNT FROM ACCESSORIES WHERE ID IN („S02“,“S03“)
- (x) SELECT \* FROM SHOPPE S, ACCESSORIES A WHERE S.ID = A.ID AND PRICE>=10000;

Q.6

Write SQL queries for (i) to (iv) and write outputs for SQL queries (v) to (viii), which are based on the table given below:

Table: TRAINS

TNO	TNAME	START	END
11096	Ahimsa Express	Pune Junction	Ahmedabad Junction
12015	Ajmer Shatabdi	New Delhi	Ajmer Junction
1651	Pune Hbj Special	Pune Junction	Habibganj
13005	Amritsar Mail	Howrah Junction	Amritsar Junction
12002	Bhopal Shatabdi	New Delhi	Habibganj
12417	Prayag Raj Express	Allahabad Junction	New Delhi
14673	Shaheed Express	Jaynagar	Amritsar Junction
12314	Sealdah Rajdhani	New Delhi	Sealdah
12498	Shane Punjab	Amritsar Junction	New Delhi
12451	Shram Shakti Express	Kanpur Central	New Delhi
12030	Swarna Shatabdi	Amritsar Junction	New Delhi

**Table: PASSENGERS**

PNR	TNO	PNAME	GENDER	AGE	TRAVELDATE
P001	13005	R N AGRAWAL	MALE	45	2018-12-25
P002	12015	P TIWARY	MALE	28	2018-11-10
P003	12015	S TIWARY	FEMALE	22	2018-11-10
P004	12030	S K SAXENA	MALE	42	2018-10-12
P005	12030	S SAXENA	FEMALE	35	2018-10-12
P006	12030	P SAXENA	FEMALE	12	2018-10-12
P007	13005	N S SINGH	MALE	52	2018-05-09
P008	12030	J K SHARMA	MALE	65	2018-05-09
P009	12030	R SHARMA	FEMALE	58	2018-05-09

**Q 6 . Using above given tables,write SQL query for following :**

- (i) To display details of all Trains which starts from New Delhi
- (ii) To display PNR, PNAME, GENDER and AGE of all passengers whose AGE is below 50
- (iii) To display total numbers of MALE and FEMALE passengers
- (iv) To display records of all passengers travelling in trains whose TNO is 12015
- (v) SELECT MAX(TRAVELDATE),MIN(TRAVELDATE) FROM PASSENGERS WHERE GENDER="FEMALE";
- (vi) SELECT END, COUNT(\*) FROM TRAINS GROUP BY END HAVING COUNT(\*)>1;
- (vii) SELECT DISTINCT TRAVELDATE FROM PASSENGERS;
- (viii) SELECT TNAME, PNAME FROM TRAINS T, PASSENGERS P WHERE T.TNO=P.TNO AND AGE BETWEEN 50 AND 60

**Q 7.Consider the following tables EMP and SALGRADE, write the query for (i) to (vi) and output for (vii) to (x)**

**TABLE: EMPLOYEE**

ECODE	NAME	DESIG	SGRADE	DOJ	DOB
101	Vikrant	Executive	S03	2003-03-23	1980-01-13
102	Ravi	Head-IT	S02	2010-02-12	1987-07-22
103	Sachin	Receptionist	S03	2009-06-24	1983-02-24
105	Sourav	GM	S02	2009-08-11	1984-03-03
108	Priyam Sen	CEO	S01	2004-12-29	1982-01-19

**TABLE: SALGRADE**

SGRADE	SALARY	HRA
S01	56000	18000
S02	32000	12000

S03	24000	8000
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- (i) To display details of all employee in descending order of their DOJ
- (ii) To display NAME AND DESIG of those employees whose sgrade is either „S02“ or „S03“
- (iii) To display NAME, DESIG, SGRADE of those employee who joined in the year 2009
- (iv) To display all SGRADE, ANNUAL\_SALARY from table SALGRADE [where ANNUAL\_SALARY = SALARY\*12]
- (v) To display number of employee working in each SALGRADE from table EMPLOYEE
- (vi) To display NAME, DESIG, SALARY, HRA from tables EMPLOYEE and SALGRADE where SALARY is less than 50000
- (vii) Select MIN(DOJ), MAX(DOB) from employee;
- (viii) Select SGrade,Salary+HRA from SalGrade where Sgrade=“S02“
- (ix) Select count(distinct sgrade) from employee
- (x) Select sum(salary), avg(salary) from salgrade

**Q 8. Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii) which are based on tables**

**TABLE : ACCOUNT**

ANO	ANAME	ADDRESS
101	Nirja Singh	Bangalore
102	Rohan Gupta	Chennai
103	Ali Reza	Hyderabad
104	Rishabh Jain	Chennai
105	Simran Kaur	Chandigarh

**TABLE: TRANSACT**

TRNO	ANO	AMOUNT	TYPE	DOT
T001	101	2500	Withdraw	2017-12-21
T002	103	3000	Deposit	2017-06-01
T003	102	2000	Withdraw	2017-05-12
T004	103	1000	Deposit	2017-10-22
T005	102	12000	Deposit	2017-11-06

- i) To display details of all transactions of TYPE Withdraw from TRANSACT table
- (ii) To display ANO and AMOUNT of all Deposit and Withdrawals done in month of „May“ 2017 from table TRANSACT
- (iii) To display first date of transaction (DOT) from table TRANSACT for Account having ANO as 102

- (iv) To display ANO, ANAME, AMOUNT and DOT of those persons from ACCOUNT and TRANSACT table who have done transaction less than or equal to 3000
- (v) SELECT ANO, ANAME FROM ACCOUNT  
WHERE ADDRESS NOT IN ('CHENNAI', 'BANGALORE');
- (vi) SELECT DISTINCT ANO FROM TRANSACT
- (vii) SELECT ANO, COUNT(\*), MIN(AMOUNT) FROM TRANSACT  
GROUP BY ANO HAVING COUNT(\*) > 1
- (viii) SELECT COUNT(\*), SUM(AMOUNT) FROM TRANSACT  
WHERE DOT <= '2017-10-01'

**Q 9. Consider the following EMPLOYEE table write MYSQL command for (i) to (iv) and Outputs for (v) to (viii)**

EMPNO	ENAME	DEPT	SALARY	COMM
1	ANKIT	HR	20000	1200
2	SUJEET	ACCOUNTS	24000	
3	VIJAY	HR	28000	2000
4	NITIN	SALES	18000	3000
5	VIKRAM	SALES	22000	1700

- 1) To display the name of employees starting from „V“ in ascending order of their salary
- 2) To display the details of all SALES dept employee who are earning salary more than 20000
- 3) To count distinct department from the table
- 4) Change the salary of NITIN from 18000 to 20000
- 5) insert a new row in the table Employee  
“6“, “SUMIT“, “HR“, 40000, 2000
- 6) Select AVG(COMM) from Employee
- 7) Select ENAME, DEPT from Employee where Dept in („HR“, “ACCOUNTS“)
- 8) Select ENAME, SALARY+100 NEWSAL from Employee

**Q. 10. Create a Database Library. The Dataset contains four tables: author, book, adaptation, and book\_review. The first table shows the author data in the following columns:**

- id – The author’s unique ID within the database.
- name – The author’s name.

- birth\_year – The year when that author was born.
- death\_year – The year when that author died (the field is empty if they are still alive).
- The second table, book, shows details about books. The columns are:
  - id – The ID of a given book.
  - author\_id – The ID of the author who wrote that book.
  - title – The book's title.
  - publish\_year – The year when the book was published.
  - publishing\_house – The name of the publishing house that printed the book.
  - rating – The average rating for the book.

The adaptation table has the following columns:

- book\_id – The ID of the adapted book.
- type – The type of adaptation (e.g. movie, game, play, musical).
- title – The name of this adaptation.
- release\_year – The year when the adaptation was created.
- rating – The average rating for the adaptation.

The final table is book\_review. It consists of the following columns:

- book\_id - The ID of a reviewed book.
- review - The summary of the review.
- author - The name of the review's author.

1. Show the name of each author together with the title of the book they wrote and the year in which that book was published.
2. Show the name of each author together with the title of the book they wrote and the year in which that book was published. Show only books published after 2005.
3. For each book, show its title, adaptation title, adaptation year, and publication year.
4. Show the title of each book together with the title of its adaptation and the date of the release. Show all books, regardless of whether they had adaptations.

**Q 11. Create a table called Employee that contain attributes EMPNO, ENAME, JOB, MGR, SAL) execute the following.**

1. Add a column commission with domain to the Employee table.
2. Insert any five records into the table.
3. Update the column details of job
4. Rename the column of Employee table using alter command.
5. Delete the employee whose Empno is 105.

**Q 12. Consider the following schema :Employee(E\_id, E\_name, Age, Salary)**

1. Create Employee table containing all Records E\_id, E\_name, Age, Salary.
2. Count number of employee names from employee table
3. Find the Maximum age from employee table.
4. Find the Minimum age from employee table.
5. Find salaries of employee in Ascending Order.



6. Find grouped salaries of employees.

**13. Create a table called EMP with the following structure.**

Name Type

EMPNO NUMBER (6)

ENAME VARCHAR2 (20)

JOB VARCHAR2 (10)

DEPTNO NUMBER (3)

SAL NUMBER (7,2)

Allow NULL for all columns except ename and job.

2. Add constraints to check, while entering the empno value (i.e) empno > 100.

3. Define the field DEPTNO as unique.

4. Create a primary key constraint for the table (EMPNO).

5. Write queries to implement and practice constraints.

**14. Consider the following schema:**

**Sailors (sid, sname, rating, age)**

**Boats (bid, bname, color)**

**Reserves (sid, bid, day(date))**

1. Find all information of sailors who have reserved boat number 101.

2. Find the name of boat reserved by Bob.

3. Find the names of sailors who have reserved a red boat, and list in the order of age.

4. Find the names of sailors who have reserved at least one boat.

5. Find the ids and names of sailors who have reserved two different boats on the same day.

6. Find the ids of sailors who have reserved a red boat or a green boat.

7. Find the name and the age of the youngest sailor.

8. Count the number of different sailor names.

9. Find the average age of sailors for each rating level.

10. Find the average age of sailors for each rating level that has at least two sailors.

**15. Create a table EMPLOYEE with following schema:**

**(Emp\_no, E\_name, E\_address, E\_ph\_no, Dept\_no, Dept\_name, Job\_id, Designation, Salary)**

**Write SQL statements for the following query.**

1. List the E\_no, E\_name, Salary of all employees working for MANAGER.

2.

Display all the details of the employee whose salary is more than the Sal of any IT PROFF..

3. List the employees in the ascending order of Designations of those joined after 1981.

4. List the employees along with their Experience and Daily Salary.

5. List the employees who are either 'CLERK' or 'ANALYST'.

6. List the employees who joined on 1-MAY-81, 3-DEC-81, 17-DEC-81, 19-JAN-80.

7. List the employees who are working for the Deptno 10 or 20.

8. List the Enames those are starting with 'S'.

9. Display the name as well as the first five characters of name(s) starting with 'H'.

10. List all the emps except 'PRESIDENT' & 'MGR' in asc order of Salaries.

**16. Create a table EMPLOYEE with following schema:**

**(Emp\_no, E\_name, E\_address, E\_ph\_no, Dept\_no, Dept\_name, Job\_id , Salary)**

**Write SQL queries for following question:**

1. Insert atleast 5 rows in the table.
2. Display all the information of EMP table.
3. Display the record of each employee who works in department D10.
4. Update the city of Emp\_no-12 with current city as Nagpur.
5. Display the details of Employee who works in department MECH.
6. Delete the email\_id of employee James.
7. Display the complete record of employees working in SALES Department.

**17. Create a table EMPLOYEE with following schema:**

**(Emp\_no, E\_name, E\_address, E\_ph\_no, Dept\_no, Dept\_name, Job\_id , Salary)**

2. Add a new column; HIREDATE to the existing relation.
3. Change the datatype of JOB\_ID from char to varchar2.
4. Change the name of column/field Emp\_no to E\_no.
5. Modify the column width of the job field of emp table