**Q1: Create a department table with the following columns: dept\_id (PK), dept\_name**

**(not null), dept\_location.**

SQL> create table dept72(dept\_id int primary key,dept\_name varchar(20) not null,dept\_location varchar(20));

Table created.

**Q2: Write a SQL query to create an employee table with the following columns: emp\_id**

**(PK), emp\_name, emp\_salary (>20k), emp\_join\_date (between June 1998- till**

**date), dept\_id (FK).**

SQL> create table emp72(emp\_id numeric primary key,emp\_name varchar(25),emp\_sal numeric(8,2) check(emp\_sal > 20000),emp\_join\_date DATE check (emp\_join\_date >= DATE '1998-06-01'),dept\_id numeric,foreign key(dept\_id) references dept72(dept\_id));

Table created.

**Q3: Create table support table with s\_id (PK), emp\_id (FK), dept\_id (FK), status**

**(Yes/No).**

SQL> create table support72(s\_id numeric primary key,emp\_id numeric,dept\_id numeric,status varchar(8) check(status IN ('Yes','No')),foreign key(emp\_id)references emp72(emp\_id),foreign key(dept\_id) references dept72(dept\_id));

Table created.

**Q4: Display the schema of the above three tables.**

SQL> desc dept72;

Name Null? Type

----------------------------------------- -------- ----------------------------

DEPT\_ID NOT NULL NUMBER(38)

DEPT\_NAME NOT NULL VARCHAR2(20)

DEPT\_LOCATION VARCHAR2(20)

SQL> desc emp72;

Name Null? Type

----------------------------------------- -------- ----------------------------

EMP\_ID NOT NULL NUMBER(38)

EMP\_NAME VARCHAR2(25)

EMP\_SAL NUMBER(8,2)

EMP\_JOIN\_DATE DATE

DEPT\_ID NUMBER(38)

SQL> desc support72;

Name Null? Type

----------------------------------------- -------- ----------------------------

S\_ID NOT NULL NUMBER(38)

EMP\_ID NUMBER(38)

DEPT\_ID NUMBER(38)

STATUS VARCHAR2(8)

**Q5: Alter the employee table to add a new column emp\_email of type VARCHAR(100).**

SQL> alter table emp72 add emp\_mail varchar(100);

Table altered.

**Q6: Drop the support table if it is no longer required.**

SQL> drop table support72;

Table dropped.

**Q7: Modify the emp\_salary column in the employee table to allow values up to**

**DECIMAL(12, 2).**

SQL> alter table emp72 modify emp\_sal decimal(12,2);

Table altered.

**Q8: Add five suitable records to department table (Let value of dept\_id starts with 101).**

SQL> insert into dept72 values(101,'HR','Tvm');

1 row created.

SQL> insert into dept72 values(102,'Sales','Rosewood');

1 row created.

SQL> insert into dept72 values(103,'Marketing','Nagarcoil');

1 row created.

SQL> insert into dept72 values(104,'Finance','Indevaram');

1 row created.

SQL> insert into dept72 values(105,'IT','Ekm');

1 row created.

SQL> select \* from dept72;

DEPT\_ID DEPT\_NAME DEPT\_LOCATION

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101 HR Tvm

102 Sales Rosewood

103 Marketing Nagarcoil

104 Finance Indevaram

105 IT Ekm

**Q9: Insert the following employee record into the employee table: emp\_id = 1, emp\_name**

**= 'John Doe', emp\_salary = 60000, emp\_join\_date = '15-05-2021', dept\_id**

**= 101.**

SQL> insert into emp72 values(1,'John Doe',60000,To\_date('15-05-2021','DD-MM-YYYY'),101,'john@gmail.com');

1 row created.

**Q10: Insert multiple records of employees into the employee table with emp\_id, emp\_name,**

**emp\_salary, and dept\_id.**

SQL> insert into emp72 values(2,'Merin',80000,To\_date('20-05-2019','DD-MM-YYYY'),102,'merin@gmail.com');

1 row created.

SQL> insert into emp72 values(3,'Sona',40000,To\_date('04-11-2024','DD-MM-YYYY'),103,'sona@gmail.com');

1 row created.

SQL> insert into emp72 values(4,'Sia',55000,To\_date('13-10-2022','DD-MM-YYYY'),104,'sia@gmail.com');

1 row created.

SQL> insert into emp72 values(5,'Derick',100000,To\_date('19-01-2015','DD-MM-YYYY'),105,'derick@gmail.com');

1 row created.

SQL> insert into emp72 values(6,'Megha',35000,To\_date('17-09-2014','DD-MM-YYYY'),101,'megha@gmail.com');

1 row created.

SQL> select \* from emp72;

EMP\_ID EMP\_NAME EMP\_SAL EMP\_JOIN\_ DEPT\_ID EMP\_MAIL

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1 John Doe 60000 15-MAY-21 101 john@gmail.com

6 Megha 35000 17-SEP-14 101 megha@gmail.com

2 Merin 80000 20-MAY-19 102 merin@gmail.com

3 Sona 40000 04-NOV-24 103 sona@gmail.com

4 Sia 55000 13-OCT-22 104 sia@gmail.com

5 Derick 100000 19-JAN-15 105 derick@gmail.com

**Q11: Update the salary of the employee with emp\_id = 1 by increasing it by 10%.**

SQL> update emp72 set emp\_sal=emp\_sal\*1.10 where emp\_id=1;

1 row updated.

**Q12: Delete the record of the employee with emp\_id = 1.**

SQL> delete from emp72 where emp\_id=1;

1 row deleted.

SQL> select \* from emp72;

EMP\_ID EMP\_NAME EMP\_SAL EMP\_JOIN\_ DEPT\_ID EMP\_MAIL

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------------------------------

6 Megha 35000 17-SEP-14 101 megha@gmail.com

2 Merin 80000 20-MAY-19 102 merin@gmail.com

3 Sona 40000 04-NOV-24 103 sona@gmail.com

4 Sia 55000 13-OCT-22 104 sia@gmail.com

5 Derick 100000 19-JAN-15 105 derick@gmail.com

**Q13: Update the emp\_salary of employees in dept\_id = 101 to 10% more if their current**

**salary is less than 50000.**

SQL> update emp72 set emp\_sal = emp\_sal \* 1.10 where   
dept\_id=101 and emp\_sal<50000;

1 row updated.

SQL> select \* from emp72;

EMP\_ID EMP\_NAME EMP\_SAL EMP\_JOIN\_ DEPT\_ID EMP\_MAIL

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 ----------------------------------------------------------------------------------------------------

6 Megha 38500 17-SEP-14 101 megha@gmail.com

2 Merin 80000 20-MAY-19 102 merin@gmail.com

3 Sona 40000 04-NOV-24 103 sona@gmail.com

4 Sia 55000 13-OCT-22 104 sia@gmail.com

5 Derick 100000 19-JAN-15 105 derick@gmail.com

**Q14: Write a SELECT query to list all employees with their emp\_id, emp\_name, and**

**emp\_salary.**

SQL> select emp\_id,emp\_name,emp\_sal from emp72;

EMP\_ID EMP\_NAME EMP\_SAL

---------- ------------------------- ----------

6 Megha 38500

2 Merin 80000

3 Sona 40000

4 Sia 55000

5 Derick 100000

**Q15:Retrieve the emp\_name, emp\_salary, and emp\_join\_date for employees whose**

**salary is greater than 50000.**

SQL> select emp\_name,emp\_sal,emp\_join\_date from emp72 where emp\_sal>50000;

EMP\_NAME EMP\_SAL EMP\_JOIN\_

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Merin 80000 20-MAY-19

Sia 55000 13-OCT-22

Derick 100000 19-JAN-15

**Q16:List employees in the employee table ordered by emp\_salary in descending order.**

SQL> select \* from emp72 order by emp\_sal desc;

EMP\_ID EMP\_NAME EMP\_SAL EMP\_JOIN\_ DEPT\_ID EMP\_MAIL

---------- ------------------------- ---------- --------- ---------- ----------------------------------------------------------------------------------------------------

5 Derick 100000 19-JAN-15 105 derick@gmail.com

2 Merin 80000 20-MAY-19 102 merin@gmail.com

4 Sia 55000 13-OCT-22 104 sia@gmail.com

3 Sona 40000 04-NOV-24 103 sona@gmail.com

6 Megha 38500 17-SEP-14 101 megha@gmail.com

**Q17:Retrieve all employees' names and salaries who joined after 01-01-2020.**

SQL> select emp\_name,emp\_sal from emp72 where emp\_join\_date>To\_date('01-01-2020','DD-MM-YYYY');

EMP\_NAME EMP\_SAL

------------------------- ----------

Sona 40000

Sia 55000

**Q18:Write a query to select all employees whose name starts with "J".**

SQL> insert into emp72 values(7,'John',62000,To\_date('15-11-2017','DD-MM-YYYY'),104,'john@gmail.com');

1 row created.

SQL> insert into emp72 values(8,'Justin',75000,To\_date('22-11-2014','DD-MM-YYYY'),103,'justin@gmail.com');

1 row created.

SQL> select \* from emp72;

EMP\_ID EMP\_NAME EMP\_SAL EMP\_JOIN\_ DEPT\_ID EMP\_MAIL

---------- ------------------------- ---------- --------- ---------- ----------------------------------------------------------------------------------------------------

7 John 62000 15-NOV-17 104 john@gmail.com

8 Justin 75000 22-NOV-14 103 justin@gmail.com

6 Megha 38500 17-SEP-14   
101 megha@gmail.com

2 Merin 80000 20-MAY-19 102 merin@gmail.com

3 Sona 40000 04-NOV-24 103 sona@gmail.com

4 Sia 55000 13-OCT-22 104 sia@gmail.com

5 Derick 100000 19-JAN-15 105 derick@gmail.com

SQL> select emp\_name from emp72 where emp\_name LIKE 'J%';

EMP\_NAME

-------------------------

John

Justin

**Q19: Select the emp\_name and emp\_salary for employees whose salary is between 40000**

**and 60000.**

SQL> select emp\_name,emp\_sal from emp72 where emp\_sal between 40000 and 60000;

EMP\_NAME EMP\_SAL

------------------------- ----------

Sona 40000

Sia 55000

**Q20: Write a query that groups employees by dept\_id and shows the total salary per**

**department.**

SQL> select dept\_id,SUM(emp\_sal) as total\_sal from emp72 group by dept\_id;

DEPT\_ID TOTAL\_SAL

---------- ----------

105 100000

104 117000

103 115000

101 38500

102 80000

**Q21: Retrieve the department-wise average salary, but on  
ly for those departments with an**

**average salary above 60000.**

SQL> select dept\_id,AVG(emp\_sal) as avg\_sal from emp72 group by dept\_id having AVG(emp\_sal)>60000;

DEPT\_ID AVG\_SAL

---------- ----------

105 100000

102 80000

**Q22: List the departments and the number of employees in each department who earn**

**above 50000.**

SQL> select dept\_id,COUNT(\*) AS no\_employees from emp72 where emp\_sal>50000 group by dept\_id;

DEPT\_ID NO\_EMPLOYEES

---------- ------------

105 1

104 2

103 1

102 1

**Q23: Use HAVING to list departments that have more than 3 employees.**

SQL> insert into emp72 values(7,'Powel',90000,To\_date('02-11-2020','DD-MM-YYYY'),103,'pow@gmail.com');

1 row created.

SQL> insert into emp72 values(8,'Eza',25000,To\_date('13-10-2022','DD-MM-YYYY'),103,'ezaa@gmail.com');

1 row created.

SQL> insert into emp72 values(9,'Sara',45000,To\_date('13-10  
-2022','DD-MM-YYYY'),103,'sara@gmail.com');

1 row created.

SQL> select \* from emp72;

EMP\_ID EMP\_NAME EMP\_SAL EMP\_JOIN\_ DEPT\_ID EMP\_MAIL

---------- ------------------------- ---------- --------- ---------- ----------------------------------------------------------------------------------------------------

6 Megha 38500 17-SEP-14 101 megha@gmail.com

2 Merin 80000 20-MAY-19 102 merin@gmail.com

3 Sona 40000 04-NOV-24 103 sona@gmail.com

4 Sia 55000 13-OCT-22 104 sia@gmail.com

5 Derick 100000 19-JAN-15 105 derick@gmail.com

7 Powel 90000 02-NOV-20 103 pow@gmail.com

9 Sara 45000 13-OCT-22 103 sara@gmail.com

8 Eza 25000 13-OCT-22 103 ezaa@gmail.com

8 rows selected.

SQL> select dept\_id,count(emp\_id) as total\_employees from emp72 group by dept\_id having count(emp\_id)>3;

DEPT\_ID TOTAL\_EMPLOYEES

---------- ---------------

103 4

**Q24: Write a query to find the names of employees who have a salary greater than the**

**average salary in their department.**

SQL> select emp\_name from emp72 where emp\_sal>(select AVG(emp\_sal) from emp72 where dept\_id=emp72.dept\_id);

EMP\_NAME

-------------------------

Merin

Derick

Powel

**Q25: Select the emp\_name and emp\_salary of employees who are in departments that are**

**located in 'Ernakulam'.**

SQL> select emp\_name,emp\_sal from emp72 where dept\_id IN(select dept\_id from dept72 where dept\_location='Ernakulam');

EMP\_NAME EMP\_SAL

------------------------- ----------

Derick 100000

**Q26: Find the emp\_name of employees who earn more than the highest salary in department**

**102.**

SQL> select emp\_name from emp72 where emp\_sal>(select MAX(emp\_sal) from emp72 where dept\_id=102);

EMP\_NAME

-------------------------

Derick

Powel

**Q27: Write a query that returns the department name of the department with the highest**

**total salary.**

SELECT dept\_name FROM dept72 WHERE dept\_id = (SELECT dept\_id FROM emp72 GROUP BY dept\_id HAVING SUM(emp\_sal) = (SELECT MAX(total\_salary) FROM (SELECT SUM(emp\_sal) AS total\_salary FROM emp72 GROUP BY dept\_id)));

**Q28: Find the emp\_id and emp\_name of employees who are working in departments with**

**less than 10 employees.**

SQL> select emp\_id,emp\_name from emp72 where dept\_id in(select dept\_id from emp72 group by dept\_id having count(emp\_id)<10);

EMP\_ID EMP\_NAME

---------- -------------------------

5 Derick

4 Sia

6 Megha

3 Sona

7 Powel

9 Sara

8 Eza

2 Merin

8 rows selected.

**Q29: Create a view high\_salary\_employees that lists the emp\_name and emp\_salary of**

**employees who earn above 70000.**

SQL> CREATE view high\_salary\_employees AS select emp\_name,emp\_sal from emp72 where emp\_sal>70000;

View created.

**Q30: Write a query to view the data from the high\_salary\_employees view.**

SQL> select \* from high\_salary\_employees;

EMP\_NAME EMP\_SAL

------------------------- ----------

Merin 80000

Derick 100000

Powel 90000

**Q31: Create a view to list employees along with the department name and their salary,**

**filtering out employees earning below 50000.**

create view empdept as select e.emp\_name,d.dept\_name,e.emp\_sal from emp72 e,dept72 d where e.emp\_sal<50000 and e.dept\_id=d.dept\_id;

**Q32: Drop the high\_salary\_employees view.**

SQL> drop view high\_salary\_employees;

View dropped.

**6. Aggregate Function Questions**

**Q33: Write a query to find the total salary paid in each department.**

SQL> select dept\_id,sum(emp\_sal) as total\_salary from emp72 group by dept\_id;

DEPT\_ID TOTAL\_SALARY

---------- ------------

105 100000

104 55000

101 38500

103 200000

102 80000

**Q34: Use AVG() to find the average salary of employees in the 'Marketing' department.**

SQL> SELECT dept\_id, AVG(emp\_sal) AS Avg\_salary FROM emp72 WHERE dept\_id = (SELECT dept\_id FROM dept72 WHERE dept\_name = 'Marketing')GROUP BY dept\_id;

DEPT\_ID AVG\_SALARY

---------- ----------

103 50000

**Q35: Find the employee with the highest salary in each department using MAX().**

SQL> SELECT dept\_id, emp\_id, emp\_sal FROM emp72 WHERE (dept\_id, emp\_sal) IN (SELECT dept\_id,MAX(emp\_sal) FROM emp72 GROUP BY dept\_id);

DEPT\_ID EMP\_ID EMP\_SAL

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105 5 100000

104 4 55000

101 6 38500

103 7 90000

102 2 80000

**Q36: Write a query that finds the total number of employees in each department.**

**Q37: Calculate the sum of the salaries of all employees whose emp\_salary is greater than**

**50000.**

SQL> select SUM(emp\_sal) as total\_Sal from emp72 where emp\_sal>50000;

TOTAL\_SAL

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325000