Interview Questions on SQL are based on following two tables, Employee Table and Employee Incentive Table.

**Table Name : Employee EMP\_ID As PRIMARY KEY**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| EMPLOYEE\_ID | FIRST\_NAME | LAST\_NAME | SALARY | JOINING\_DATE | DEPARTMENT | | |
| 1 | Venkatesh | S | 100000 | 08/28/2015 | | BANKING | | |
| 2 | Ragavi | P | 75000 | 08/28/2015 | | | BUSINESS | |
| 3 | Gopinath | C | 50000 | 03/02/2016 | | | PHARMA | |
| 4 | Dinesh | G | 50000 | 03/02/2016 | | | INSURANCE | |
| 5 | Saibabu | E | 40000 | 07/08/2017 | | | SOFTWARE | |
| 6 | Hasan | S | 29000 | 07/08/2017 | | | MANUFACTURING | |
| 7 | Divya | P | 33000 | 07/08/2017 | | | HEALTHCARE | |
| 8 | Aravindan | R | 40000 | 07/08/2017 | | | HEALTHCARE | |
| 9 | Sathish | MD | 45000 | 03/02/2016 | | | AUTOMOBILE | |
| 10 | Prasanth | PKP | 34000 | 03/02/2016 | | | INSURANCE | |
| 11 | Vijay | R | 25684 | 03/02/2016 | | | BUSINESS | |
| 12 | Sivakumar | K | 54789 | 03/02/2016 | | | SOFTWARE | |

**Table Name : Incentives**

|  |  |  |
| --- | --- | --- |
| **EMPLOYEE\_REF\_ID** | **INCENTIVE\_DATE** | **INCENTIVE\_AMOUNT** |
| 1 | 01-FEB-16 | 5000 |
| 2 | 01-FEB-16 | 3000 |
| 3 | 01-FEB-17 | 4000 |
| 1 | 01-JAN-17 | 4500 |
| 2 | 01-JAN-17 | 3500 |

**SQL Queries Interview Questions and Answers on "SQL Select" - Examples**

1. **Get all employee details from the employee table**

QUERY:

SELECT \* FROM Employee;

1. **Get First\_Name,Last\_Name from employee table**

QUERY:

SELECT FIRST\_NAME,LAST\_NAME FROM Employee;

1. **Get First\_Name from employee table using alias name “Employee Name”**

QUERY:

SELECT FIRST\_NAME AS 'Employee Name' from employee;

1. **Get First\_Name from employee table in upper case**

QUERY:

SELECT UPPER(FIRST\_NAME) FROM EMPLOYEE;

1. **Get First\_Name from employee table in lower case**

QUERY:

SELECT LOWER(FIRST\_NAME) FROM EMPLOYEE;

1. **Get unique DEPARTMENT from employee table**

QUERY:

SELECT DISTINCT DEPARTMENT FROM EMPLOYEE;

1. **Select first 3 characters of FIRST\_NAME from EMPLOYEE**

QUERY :

SELECT SUBSTRING(FIRST\_NAME,1,3) FROM EMPLOYEE;

1. **Get position of 'a' in name 'ragavi' from employee table**

QUERY:

SELECT POSITION('A' IN FIRST\_NAME) FROM EMPLOYEE WHERE FIRST\_NAME = 'RAGAVI';

1. **Get FIRST\_NAME from employee table after removing white spaces from right side**

QUERY:

SELECT RTRIM(FIRST\_NAME) FROM EMPLOYEE;

1. **Get FIRST\_NAME from employee table after removing white spaces from left side**

QUERY:

SELECT LTRIM(FIRST\_NAME) FROM EMPLOYEE;

1. **Get length of FIRST\_NAME from employee table**

QUERY:

SELECT LENGTH(FIRST\_NAME) FROM EMPLOYEE;

OR

SELECT CHAR\_LENGTH(FIRST\_NAME) FROM EMPLOYEE;

1. **Get First\_Name from employee table after replacing 'a' with '$'**

QUERY:

SELECT REPLACE(FIRST\_NAME, 'a', '$') FROM Employee;

1. **Get First\_Name and Last\_Name as single column from employee table separated by a '\_'**

QUERY:

SELECT CONCAT(FIRST\_NAME, '\_', LAST\_NAME) AS FULL\_NAME FROM EMPLOYEE;

1. **Get FIRST\_NAME ,Joining year,Joining Month and Joining Date from employee table**

QURY:

SELECT FIRST\_NAME, YEAR(JOINING\_DATE) AS 'JOINING\_YEAR', MONTH(JOINING\_DATE) AS 'JOINING\_MONTH', DAY(JOINING\_DATE) AS 'JOINING\_DATE' FROM EMPLOYEE;

**Database SQL Queries Interview Questions and answers on "SQL Order By"**

1. **Get all employee details from the employee table order by First\_Name Ascending**

QUERY:

SELECT \* FROM EMPLOYEE order by FIRST\_NAME asc

1. **Get all employee details from the employee table order by First\_Name descending**

QUERY:

SELECT \* FROM EMPLOYEE order by FIRST\_NAME desc;

1. **Get all employee details from the employee table order by First\_Name Ascending and Salary descending**

QUERY:

SELECT \* FROM EMPLOYEE ORDER BY FIRST\_NAME ASC, SALARY DESC;

**SQL Queries Interview Questions and Answers on "SQL Where Condition" - Examples**

1. **Get employee details from employee table whose employee name is “Dinesh”**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME='DINESH';

1. **Get employee details from employee table whose employee name are “Dinesh” and “Roy”**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME = 'DINESH' OR FIRST\_NAME='ROY';

OR

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME IN ('DINESH','ROY');

**20. Get employee details from employee table whose employee name are not “Dinesh” and “Roy”**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME NOT IN ('DINESH','ROY');

OR

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME != 'DINESH' AND FIRST\_NAME != 'ROY';

**SQL Queries Interview Questions and Answers on "SQL Wild Card Search" - Examples**

1. **Get employee details from employee table whose first name starts with 's'**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME LIKE 'S%';

1. **Get employee details from employee table whose first name contains 'v'**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME LIKE '%V%';

1. **Get employee details from employee table whose first name ends with 'n'**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME LIKE '%N';

**SQL Queries Interview Questions and Answers on "SQL Pattern Matching" - Examples**

1. **Get employee details from employee table whose first name ends with 'n' and name contains 4 letters**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME LIKE '\_\_\_N';

1. **Get employee details from employee table whose first name starts with 'J' and name contains 4 letters**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME LIKE 'J\_\_\_';

1. **Get employee details from employee table who’s Salary greater than 60000**

QUERY:

SELECT \* FROM EMPLOYEE WHERE SALARY > 60000;

1. **Get employee details from employee table who’s Salary less than 80000**

QUERY:

SELECT \* FROM EMPLOYEE WHERE SALARY < 80000;

1. **Get employee details from employee table who’s Salary between 50000 and 80000**

QUERY:

SELECT \* FROM EMPLOYEE WHERE SALARY BETWEEN 50000 AND 80000;

1. **Get employee details from employee table whose name is venkatesh and ragavi**

QUERY:

SELECT \* FROM EMPLOYEE WHERE FIRST\_NAME = 'VENKATESH' OR FIRST\_NAME= 'RAGAVI';

**SQL Queries Interview Questions and Answers on "SQL DATE Functions" - Examples**

1. **Get employee details from employee table whose joining year is “2015”**

QUERY:

SELECT \* FROM EMPLOYEE WHERE YEAR(JOINING\_DATE) = '2015';

1. **Get employee details from employee table whose joining month is “January”**

QUERY:

SELECT \* FROM EMPLOYEE WHERE MONTH(JOINING\_DATE) = '01';

1. **Get employee details from employee table who joined before January 1st 2017**

QUERY:

SELECT \* FROM EMPLOYEE WHERE JOINING\_DATE < '2017-01-01';

1. **Get employee details from employee table who joined after January 31st 2016**

QUERY:

SELECT \* FROM EMPLOYEE WHERE JOINING\_DATE > '2016-01-31';

**35. Get Joining Date and Time from employee table**

QUERY:

SELECT JOINING\_DATE, time\_format (JOINING\_DATE,'%H:%I:%S') FROM EMPLOYEE;

**36. Get Joining Date,Time including milliseconds from employee table**

QUERY:

SELECT JOINING\_DATE, TIME\_FORMAT(JOINING\_DATE, '%H:%i:%s.%f') FROM EMPLOYEE;

**37. Get difference between JOINING\_DATE and INCENTIVE\_DATE from employee and incentives table**

QUERY:

SELECT e.EMP\_ID, e.FIRST\_NAME, e.JOINING\_DATE, i.INCENTIVE\_DATE,

DATEDIFF(i.INCENTIVE\_DATE, e.JOINING\_DATE) AS 'DATE\_DIFFERENCE'

FROM EMPLOYEE e JOIN INCENTIVES i ON e.EMP\_ID=i.EMP\_REF\_ID;

**38. Get database date**

QUERY:

select current\_date();

**SQL Queries Interview Questions and Answers on "SQL Escape Characters" - Examples**

**39. Get names of employees from employee table who has '%' in Last\_Name. Tip : Escape character for special characters in a query.**

QUERY:

SELECT FIRST\_NAME,LAST\_NAME FROM EMPLOYEE WHERE LAST\_NAME LIKE '%\\%%' ESCAPE '\\';

**40. Get Last Name from employee table after replacing special character with white space**

QUERY:

SELECT REGEXP\_REPLACE(LAST\_NAME,'^a-zA-Z0-9','') AS 'REPLACED' FROM EMPLOYEE;

**SQL Queries Interview Questions and Answers on "SQL Group By Functions" - Examples**

**41. Get department,total salary with respect to a department from employee table.**

QUERY:

SELECT DEPARTMENT, SUM(SALARY) FROM EMPLOYEE GROUP BY DEPARTMENT;

**42. Get department,total salary with respect to a department from employee table order by total salary descending**

QUERY:

SELECT DEPARTMENT, SUM(SALARY) AS TOTAL\_SALARY FROM EMPLOYEE GROUP BY DEPARTMENT ORDER BY TOTAL\_SALARY DESC;

**SQL Queries Interview Questions and Answers on "SQL Mathematical Operations using Group By" - Examples**

**43. Get department,no of employees in a department,total salary with respect to a department from employee table order by total salary descending**

QUERY:

SELECT DEPARTMENT, COUNT(FIRST\_NAME) AS NO\_OF\_EMPLOYEES, SUM(SALARY) AS TOTAL\_SALARY FROM EMPLOYEE GROUP BY DEPARTMENT ORDER BY TOTAL\_SALARY DESC;

**44. Get department wise average salary from employee table order by salary ascending**

QUERY:

SELECT DEPARTMENT, AVG(SALARY) AS AVG\_SALARY FROM EMPLOYEE GROUP BY DEPARTMENT ORDER BY AVG\_SALARY ASC;

**45. Get department wise maximum salary from employee table order by salary ascending**

QUERY:

SELECT DEPARTMENT,MAX(SALARY) AS MAX\_SALARY FROM EMPLOYEE GROUP BY DEPARTMENT ORDER BY MAX\_SALARY ASC;

**46. Get department wise minimum salary from employee table order by salary ascending**

QUERY:

SELECT DEPARTMENT, MIN(SALARY) AS MIN\_SALARY FROM EMPLOYEE GROUP BY DEPARTMENT ORDER BY MIN\_SALARY ASC;

**47. Select no of employees joined with respect to year and month from employee table**

QUERY:

SELECT COUNT(FIRST\_NAME) AS NO\_OF\_EMPLOYEES,YEAR(JOINING\_DATE) AS JOINING\_YEAR, MONTH(JOINING\_DATE) AS JOINING\_MONTH FROM EMPLOYEE GROUP BY YEAR(JOINING\_DATE), MONTH(JOINING\_DATE) ;

**48. Select department,total salary with respect to a department from employee table where total salary greater than 800000 order by Total\_Salary descending**

QUERY:

SELECT DEPARTMENT, SUM(SALARY) AS TOTAL\_SALARY FROM EMPLOYEE GROUP BY DEPARTMENT HAVING TOTAL\_SALARY > 800000 ORDER BY TOTAL\_SALARY DESC;

**SQL Queries Interview Questions and Answers on "SQL Joins" - Examples**

**49. Select first\_name, incentive amount from employee and incentives table for those employees who have incentives**

QUERY:

SELECT e.FIRST\_NAME , i.INCENTIVE\_AMOUNT FROM EMPLOYEE e join INCENTIVES i on e.emp\_id=i.emp\_ref\_id;

**50. Select first\_name, incentive amount from employee and incentives table for those employees who have incentives and incentive amount greater than 3000**

QUERY:

select e.first\_name , i.incentive\_amount from employee e join incentives i on e.emp\_id=i.emp\_ref\_id where incentive\_amount > 3000;

**51. Select first\_name, incentive amount from employee and incentives table for all employes even if they didn't get incentives**

QUERY:

select e.first\_name, i.incentive\_amount from employee e left join incentives i on e.emp\_id=i.emp\_ref\_id;

**52. Select first\_name, incentive amount from employee and incentives table for all employees even if they didn't get incentives and set incentive amount as 0 for those employees who didn't get incentives.**

QUERY:

select e.first\_name, coalesce(i.incentive\_amount,0) from employee e left join incentives i on e.emp\_id=i.emp\_ref\_id;

**53. Select first\_name, incentive amount from employee and incentives table for all employees who got incentives using left join**

QUERY:

select e.first\_name, i.incentive\_amount from employee e left join incentives i on e.emp\_id=i.emp\_ref\_id where i.incentive\_amount is not null;

**54. Select max incentive with respect to employee from employee and incentives table using sub query**

QUERY:

select e.first\_name, (select max(i.incentive\_amount) from incentives i where e.emp\_id= i.emp\_ref\_id) from employee e;

**Advanced SQL Queries Interview Questions and Answers on "Top N Salary" - Examples**

**55. Select TOP 2 salary from employee table**

QUERY:

select salary from employee order by salary desc limit 2;

**56. Select TOP N salary from employee table**

QUERY:

select salary from employee order by salary desc limit 5;

**57. Select 2nd Highest salary from employee table**

QUERY:

select salary from employee order by salary desc limit 1 offset 1;

**58. Select Nth Highest salary from employee table**

QUERY:

select salary from employee order by salary desc limit 1 offset 5;

**SQL Queries Interview Questions and Answers on "SQL Union" - Examples**

**59. Select First\_Name,LAST\_NAME from employee table as separate rows**

QUERY:

select first\_name as name from employee union select last\_name as name from employee;

**60. What is the difference between UNION and UNION ALL ?**

**Union:**

Removes duplicate.

**Union all:**

Combines all data with duplicates.

**"Advanced SQL Queries Interview Questions and Answers"**

**61. Select employee details from employee table if data exists in incentive table ?**

QUERY:

select e.\* from employee e inner join incentives i on e.emp\_id= i.emp\_ref\_id;

**62. How to fetch data that are common in two query results ?**

QUERY:

select emp\_id from employee intersect select emp\_ref\_id from incentives;

**63. Get Employee ID's of those employees who didn't receive incentives without using sub query ?**

QUERY:

select e.emp\_id from employee e left join incentives i on e.emp\_id=i.emp\_ref\_id where i.emp\_ref\_id is null;

**64. Select 20 % of salary from venkat , 10% of Salary for gopi and for other 15 % of salary from employee table**

QUERY:

select first\_name, case when first\_name = 'venkat' then salary\*0.20 when first\_name = 'gopi' then salary\*0.10 else salary\*0.15 end as percentage\_salary from employee;

**65. Select Banking as 'Bank Dept', Insurance as 'Insurance Dept' and Services as 'Pharma Dept' from employee table**

QUERY:

when department='services' then 'pharma dept' else department end as modified\_dept from employee;

**66. Delete employee data from employee table who got incentives in incentive table**

QUERY:

delete e from employee e left join incentives i on e.emp\_id=i.emp\_ref\_id where i.emp\_ref\_id is not null;

**67. Insert into employee table Last Name with " ' " (Single Quote - Special Character)**

QUERY:

insert into employee values(13,'raji','s''g',60000,'2025-01-20','it');

**68. Select Last Name from employee table which contain only numbers**

QUERY:

select last\_name from employee where last\_name regexp'^[0-9]+$';

**69. Write a query to rank employees based on their incentives for a month**

QUERY:

WITH IncentiveRank AS (

SELECT

e.EMP\_ID,

e.FIRST\_NAME,

i.INCENTIVE\_AMOUNT,

RANK() OVER (ORDER BY i.INCENTIVE\_AMOUNT DESC) AS IncentiveRank

FROM

Employee e

LEFT JOIN

Incentives i ON e.EMP\_ID = i.EMP\_REF\_ID

WHERE

MONTH(i.INCENTIVE\_DATE) = MONTH('2025-01-01') -- Replace with the desired month

)

SELECT

EMP\_ID,

FIRST\_NAME,

INCENTIVE\_AMOUNT,

IncentiveRank

FROM

IncentiveRank

**70**. **Update incentive table where employee name is 'Dinesh'**

QUERY:

UPDATE Incentives i INNER JOIN Employee e ON i.EMP\_REF\_ID = e.EMP\_ID

SET i.INCENTIVE\_AMOUNT = 5000 WHERE e.FIRST\_NAME = 'Dinesh';