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**

Select \* from Employee;

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

Select FIRST\_NAME,LAST\_NAME from Employee;

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

Select FIRST\_NAME as “Employee Name” from Employee;

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

Select Upper(FIRST\_NAME) from Employee;

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

Select Lower(FIRST\_NAME) from Employee;

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

Select Distinct DEPARTMENT from Employee;

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

Select substr(FIRST\_NAME,1,3) from Employee;

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

Select Position(‘a’ in FIRST\_NAME) FROM Employee;

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

Select RTRIM(FIRST\_NAME) from Employee;

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

Select LTRIM(FIRST\_NAME) from Employee;

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

Select CHAR\_LENGTH(FIRST\_NAME) FROM Employee;

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

Select Replace(FIRST\_NAME,’a’,’$’) from Employee;

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

Select CONCAT(FIRST\_NAME,’\_’,LAST\_NAME) from Employee;

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

Select FIRST\_NAME,year(JOINING\_DATE) as “Joiningyear”,month(JOINING\_DATE) as “Joining Month”,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**

Select \* from employee order by FIRST\_NAME ASC;

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

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**

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”**

Select \* from employee where FIRST\_NAME=’Dinesh’;

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

1.Select \* from employee where FIRST\_NAME=’Dinesh’ or FIRST\_NAME=’Roy’;

2.Select \* from employee where FIRST\_NAME IN (‘Dinesh’,’Roy’);

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

**1.**Select \* from employee where FIRST\_NAME <>’Dinesh’ and FIRST\_NAME<>’Roy’;

2.Select \* from employee where FIRST\_NAME NOT IN(‘Dinesh’,’Roy’);

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

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

Select \* from employee where FIRST\_NAME LIKE ‘s%’;

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

Select \* from employee where FIRST\_NAME LIKE ‘%v%’;

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

Select \* from employee where FIRST\_NAME LIKE ‘%n’;

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

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

Select \* from employee where FIRST\_NAME LIKE ‘\_\_\_n’;

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

Select \* from employee where FIRST\_NAME LIKE ‘J\_\_\_’;

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

Select \* from employee where SALARY>60000;

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

Select \* from employee where SALARY<80000;

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

Select \* from employee where SALARY>50000 AND SALARY<80000;

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

Select \* from employee where FIRST\_NAME=’venkatesh’ or FIRST\_NAME=’ragavi’;

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

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

Select \* from employee where year(JOINING\_DATE)=2015;

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

1.Select \* from employee where month(JOINING\_DATE)=1;

2.Select \* from employee where monthname(JOINING\_DATE)=’January’;

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

**1.**Select \* fromemployee where year(JOINING\_DATE)<2017;

2.Select \* from employee where JOINING\_DATE<’2017-01-01’;

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

1.Select \* from employee where year(JOINING\_DATE)>=2016 and month(JOINING\_DATE)>1;

2.Select \* from employee where year>’2016-01-31’;

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

Select JOINING\_DATE,TIME(JOINING\_DATE) as ‘Timing’ from employee;(but that column must contain time values )

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

Select JOINING\_DATE,DATE\_FORMAT(JOINING\_DATE,’%Y-%m-%d %H:%i:%s) from Employee;

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

Select DateDiff(e.JOINING\_DATE,i.INCENTIVE\_DATE) as “Date\_Diff” from employee as e JOIN incentives as i on e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID;

**37. Get database date**

Select CURDATE();

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

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

Select LAST\_NAME from employee where LAST\_NAME LIKE ‘%/%%’ ESCAPE ‘/’;

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

Select REGEX\_REPLACE(LAST\_NAME,’[@,%,&,$,#,!,\*]’,’ ‘) as ‘Replaced Name’ from employee;

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

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

Select DEPARTMENT,SUM(SALARY) as “Total Salary” from employee GROUP BY DEPARTMENT;

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

Select DEPARTMENT,SUM(SALARY) as “Total Salary” from employee GROUP BY DEPARTMENT ORDER BY SUM(SALARY) DESC;

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

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

Select DEPARTMENT,COUNT(DEPARTMENT) as “No of Employees”, SUM(SALARY) as “Total Salary” from employee GROUP BY DEPARTMENT ORDER BY SUM(SALARY) DESC;

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

Select DEPARTMENT,AVG(SALARY) FROM Employee GROUP BY DEPARTMENT ORDER BY AVG(SALARY) ASC;

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

Select DEPARTMENT,MAX(SALARY) FROM Employee GROUP BY DEPARTMENT ORDER BY MAX(SALARY) ASC;

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

Select DEPARTMENT,MIN(SALARY) FROM Employee GROUP BY DEPARTMENT ORDER BY MIN(SALARY) ASC;

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

Select year(JOINING\_DATE) AS “Joining\_year”,month(JOINING\_DATE) AS “Joining month”,count(\*) as “No of Employees” FROM Employee GROUP BY year(JOINING\_DATE),month(JOINING\_DATE);

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

Select DEPARTMENT,SUM(SALARY) as “Total Salary” from employee GROUP BY DEPARTMENT HAVING SUM(SALARY)>800000 ORDER BY SUM(SALARY) DESC;

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

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

Select e.FIRST\_NAME,i.INCENTIVE\_AMOUNT,i.INCENTIVE\_DATE from employee as e JOIN Incentives as i ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID;

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

Select e.FIRST\_NAME,i.INCENTIVE\_AMOUNT,i.INCENTIVE\_DATE from employee as e JOIN Incentives as i ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID WHERE i.INCENTIVE\_AMOUNT>3000;

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

Select e.FIRST\_NAME,i.INCENTIVE\_AMOUNT,i.INCENTIVE\_DATE from employee as e LEFT JOIN Incentives as i ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID;

**51. 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.**

Select e.FIRST\_NAME.COALESCE(i.INCENTIVE\_AMOUNT,0) AS INCENTIVE\_AMOUNT,i.INCENTIVE\_DATE from employee as e LEFT JOIN ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID;

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

Select e.FIRST\_NAME,i.INCENTIVE\_AMOUNT,i.INCENTIVE\_DATE from employee as e LEFT JOIN Incentives as i ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID Where i.INCENTIVE\_AMOUNT IS NOT NULL;

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

Select MAX(INCENTIVE\_AMOUNT) FROM (SELECT I.INCENTIVE\_AMOUNT FROM EMPLOYEE AS E,INCENTIVES AS I WHERE E.EMPLOYEE\_ID=I.EMPLOYEE\_REF\_ID);

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

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

Select SALARY FROM EMPLOYEE ORDER BY SALARY DESC LIMIT 2;

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

Select SALARY FROM EMPLOYEE ORDER BY SALARY DESC LIMIT N;

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

Select SALARY FROM EMPLOYEE ORDER BY SALARY DESC LIMIT 1 OFFSET 1;

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

Select SALARY FROM EMPLOYEE ORDER BY SALARY DESC LIMIT 1 OFFSET N-1;

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

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

Select FIRST\_NAME as Name FROM Employee UNION Select LAST\_NAME as Name FROM Employee;

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

Select FIRST\_NAME as Name FROM Employee UNION Select LAST\_NAME as Name FROM Employee; (Not includes duplicates)

Select FIRST\_NAME as Name FROM Employee UNION ALL Select LAST\_NAME as Name FROM Employee; (includes duplicates)

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

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

Select e.\* from employee as e INNER JOIN incentives as i ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID;

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

To fetch data that are common in two queries INTERSECT operator is used

Example Select First\_NAME FROM Employee where Salary>50000 INTERSECT Select LAST\_NAME FROM Employee where Salary>4000;

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

Select EMPLOYEE\_ID from Employee AS e LEFT JOIN Incentives as i on e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID Where INCENTIVE\_AMOUNT IS NULL;

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

Select FIRST\_NAME,LAST\_NAME,SALARY,

CASE WHEN FIRST\_NAME=’Venkatesh’ THEN SALARY\*0.20;

WHEN FIRST\_NAME=’Gopinath’ THEN SALARY\*0.15;

ELSE SALARY\*0.15;

END AS PERCENTAGE\_SALARY

FROM EMPLOYEE;

**64. Select Banking as 'Bank Dept', Insurance as 'Insurance Dept' and Services as 'PharmaDept' from employee table**

Select FIRST\_NAME,LAST\_NAME,SALARY,

CASE WHEN DEPARTMENT=’BANKING’ THEN ’Bank Dept’;

WHEN DEPARTMENT=’INSURANCE’ THEN ’Insurance Dept’;

WHEN DEPARTMENT=’SERVICES’ THEN PharmaDept’;

ELSE DEPARTMENT

END AS DEPT\_SHORT\_NAME

FROM EMPLOYEE;

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

DELETE e FROM employee AS e JOIN incentives AS i ON e.EMPLOYEE\_ID = i.EMPLOYEE\_REF\_ID;

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

Insert into employee(FIRST\_NAME,LAST\_NAME,SALARY,JOINING\_DATE,DEPARTMENT)

VALUES(‘TOMMY’,’A’‘SHELBY’,200000,’01-01-2007’,’IT’);

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

SELECT LAST\_NAME FROM employee WHERE LAST\_NAME REGEXP '^[0-9]+$';

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

SELECT e.FIRST\_NAME, e.LAST\_NAME, i.INCENTIVE\_AMOUNT, RANK() OVER (ORDER BY i.INCENTIVE\_AMOUNT DESC) AS Rank FROM employee e JOIN incentives i ON e.EMPLOYEE\_ID = i.EMPLOYEE\_REF\_ID WHERE MONTH(i.INCENTIVE\_DATE) = 1 AND YEAR(i.INCENTIVE\_DATE) = 2024;

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

UPDATE incentives i JOIN employee e ON i.EMPLOYEE\_REF\_ID = e.EMPLOYEE\_ID SET i.INCENTIVE\_AMOUNT = 6000 WHERE e.FIRST\_NAME = 'Dinesh';