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 LEFT(FIRST\_NAME,3) FROM Employee;

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

SELECT INSTR('ragavi','a');

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

SELECT RTRIM(FIRST\_NAME) FROM Employee;

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

SELECT LTRIM(FIRST\_NAME) FROM Employee;

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

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

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

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

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

SELECT CONCAT(FIRST\_NAME,'\_',LAST\_NAME) FROM Employee;

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

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"**

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

SELECT \* FROM Employee ORDER BY FIRST\_NAME;

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

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, SALARY DESC;

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

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

SELECT \* FROM Employee WHERE FIRST\_NAME="Dinesh";

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

SELECT \* FROM Employee

WHERE (

FIRST\_NAME='Dinesh' OR

FIRST\_NAME='Roy');

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

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'

AND

CHAR\_LENGTH(FIRST\_NAME)=4);

**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%'

AND

CHAR\_LENGTH(FIRST\_NAME)=4);

**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 BETWEEN 50000 AND 80000;

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

SELECT \* FROM Employee WHERE FIRST\_NAME IN('venkatesh','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”**

SELECT \* FROM Employee WHERE MONTHNAME(JOINING\_DATE)='January';

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

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

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

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

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

SELECT JOINING\_DATE,TIME(JOINING\_DATE) TIME FROM Employee;

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

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

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

SELECT DATEDIFF( e.JOINING\_DATE, i.INCENTIVE\_DATE)

FROM Employee AS e

JOIN Incentive as i

ON e.EMPLOYEE\_ID=i.EMPLOYEE\_REF\_ID

1. **Get database date**

SELECT NOW()

**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.**

SELECT FIRST\_NAME FROM Employee WHERE LAST\_NAME LIKE '%/%%';

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

SELECT [REGEXP\_REPLACE(LAST\_NAME,'[!@#$%^&\*(){}:;<>,.?/]' , '](mailto:REGEX_REPLACE(LAST_NAME,'[!@#$%^&*(){}:;<>,.?/]',') ') 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.**

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**

SELECT

DEPARTMENT,

SUM(SALARY) AS TOTAL

FROM Employee

GROUP BY DEPARTMENT

ORDER BY TOTAL 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**

SELECT DEPARTMENT,

COUNT(EMPLOYEE\_ID) AS no\_of\_employees ,

SUM(SALARY) AS TOTAL

FROM Employee

GROUP BY DEPARTMENT

ORDER BY TOTAL DESC;

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

SELECT DEPARTMENT ,

AVG(SALARY) AS AVG\_SALARY  
 FROM Employee

GROUP BY DEPARTMENT  
 ORDER BY AVG\_SALARY;

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

SELECT DEPARTMENT ,

MAX(SALARY) AS MAX\_SALARY  
 FROM Employee

GROUP BY DEPARTMENT  
 ORDER BY MAX\_SALARY;

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

SELECT DEPARTMENT ,

MIN(SALARY) AS MIN\_SALARY  
 FROM Employee

GROUP BY DEPARTMENT  
 ORDER BY MIN\_SALARY;

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

SELECT YEAR(JOINING\_DATE) AS YEAR ,

MONTH(JOINING\_DATE) AS MONTH,

COUNT(EMPLOYEE\_ID) AS no\_of\_emplyees\_joined  
 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**

SELECT DEPARTMENT ,

SUM(SALARY) AS TOTAL\_SALARY  
 FROM Employee  
 GROUP BY DEPARTMENT  
 HAVING SUM(SALARY)>80000

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**

SELECT

e.FIRST\_NAME AS FIRST\_NAME,

ic.INCENTIVE\_AMOUNT AS INCENTIVE\_AMT

FROM Employee e

JOIN Incentives ic

ON e.EMPLOYEE\_ID=ic.EMPLOYEE\_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**

SELECT e.FIRST\_NAME AS FIRST\_NAME,

ic.INCENTIVE\_AMOUNT AS INCENTIVE\_AMT

FROM Employee e

JOIN Incentives ic

ON e.EMPLOYEE\_ID=ic.EMPLOYEE\_REF\_ID  
 WHERE ic.INCENTIVE\_AMOUNT>3000

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

SELECT e.FIRST\_NAME AS FIRST\_NAME,

ic.INCENTIVE\_AMOUNT AS INCENTIVE\_AMT

FROM Employee e

LEFT JOIN Incentives ic

ON e.EMPLOYEE\_ID=ic.EMPLOYEE\_REF\_ID;

1. **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 AS FIRST\_NAME,

COALESCE(ic.INCENTIVE\_AMOUNT,0) AS INCENTIVE\_AMT

FROM Employee e

LEFT JOIN Incentives ic

ON e.EMPLOYEE\_ID=ic.EMPLOYEE\_REF\_ID;

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

SELECT e.FIRST\_NAME AS FIRST\_NAME,

ic.INCENTIVE\_AMOUNT AS INCENTIVE\_AMT

FROM Employee e

LEFT JOIN Incentives ic

ON e.EMPLOYEE\_ID =ic.EMPLOYEE\_REF\_ID

WHERE ic.INCENTIVE\_AMOUNT IS NOT NULL;

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

SELECT

e.FIRST\_NAME,

(SELECT MAX(ic.INCENTIVE\_AMOUNT)

FROM Incentives ic

WHERE(e.EMPLOYEE\_ID=ic.EMPLOYEE\_REF\_ID)) AS MAX\_INCENTIVE

FROM Employee e

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

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

SELECT SALARY FROM Employee ORDER BY DESC LIMIT 2 ;

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

SELECT SALARY FROM Employee ORDER BY DESC LIMIT N ;

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

SELECT SALARY FROM Employee ORDER BY DESC LIMIT 1 OFFSET 1;

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

SELECT SALARY FROM Employee ORDER BY DESC LIMIT 1 OFFSET N-1;

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

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

SELECT FIRST\_NAME FROM Employee  
 UNION ALL

SELECT LAST\_NAME FROM Employee

**60. What is the difference between UNION and UNION ALL ?**Both UNION and UNION ALL will append records from table2 to table1 but the key difference is that duplicates exist when we use UNION ALL were as UNION returns distinct values alone

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

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

SELECT e.\* FROM Employee e   
JOIN Incentives ic  
ON e.EMPLOEE\_ID=ic.EMPLOYEE\_REF\_ID

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

We can use INTERSECT to retrive common in two query result.The only condition for this is to have same number of colums to be selectedd from two quries with same data type and matching column order

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

SELECT

e.EMPLOYEE\_ID

FROM Employee e

LEFT JOIN Incentives ic

ON e.EMPLOYEE\_ID =ic.EMPLOYEE\_REF\_ID

WHERE ic.EMPLOYEE\_REF\_ID IS NULL

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

SELECT

EMPLOYEE\_ID ,

FIRST\_NAME,

CASE

WHEN FIRST\_NAME='Venkatesh' THEN SALARY\*0.20

WHEN FIRST\_NAME='Gopinath' THEN SALARY\*10

ELSE SALARY\*15

END FROM Employee;

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

SELECT CASE

WHEN DEPARTMENT='BANKING' THEN 'Bank Dept'

WHEN DEPARTMENT='INSURANCE' THEN 'Insurance Dept'

WHEN DEPARTMENT='PHARMA' THEN 'Pharma Dept'

ELSE DEPARTMENT

END

FROM Employee

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

DELETE FROM Employee e

WHERE EXISTS (

SELECT 1

FROM Incentives ic

WHERE e.EMPLOYEE\_ID = ic.EMPLOYEE\_REF\_ID

);

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

INSERT INTO Employee (LAST\_NAME) VALUES ('''');

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

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**

SELECT

e.EMPLOYEE\_ID,

e.FIRST\_NAME,

e.LAST\_NAME,

ic.INCENTIVE\_DATE,

ic.INCENTIVE\_AMOUNT,

RANK() OVER (PARTITION BY MONTH(ic.INCENTIVE\_DATE), YEAR(ic.INCENTIVE\_DATE)

ORDER BY ic.INCENTIVE\_AMOUNT DESC) AS RANK

FROM Employee e

JOIN Incentives ic

ON e.EMPLOYEE\_ID = ic.EMPLOYEE\_REF\_ID

WHERE

MONTH(ic.INCENTIVE\_DATE) = 1

AND

YEAR(ic.INCENTIVE\_DATE) = 2017

ORDER BY RANK;

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

UPDATE Incentives

SET INCENTIVE\_AMOUNT =3000

WHERE EMPLOYEE\_REF\_ID = (

SELECT EMPLOYEE\_ID

FROM Employee

WHERE FIRST\_NAME = 'Dinesh');