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;

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

SELECT First\_Name,Last\_Name FROM Employee;

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

SELECT First\_Name AS Employee\_Name FROM Employee;

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

SELECT UPPER(First\_Name) FROM Employee;

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

SELECT LOWER(First\_Name) FROM Employee;

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

SELECT DISTINCT Department FROM Employee;

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

SELECT SUBSTRING(First\_Name,1,3) FROM Employee;

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

SELECT CHARINDEX(‘a’,First\_Name)

FROM Employee

WHERE First\_Name=’Ragavi’ ;

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 LEN(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, EXTRACT(YEAR FROM Joining\_Date), EXTRACT(MONTH FROM Joining\_Date), EXTRACT(DATE FROM 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 ASC;

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

SELECT \* FROM Employee ORDER BY First\_Name DESC;

**17. 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**

**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 IN (‘Dinesh’,’Roy’);

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

SELECT \* FROM EMPLOYEE WHERE NOT First\_Name 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 BETWEEN 50000 AND 80000;

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

SELECT \* FROM EMPLOYEE WHERE LOWER (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 EXTRACT(YEAR FROM Joining\_Date)=2015;

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

SELECT \*FROM Employee WHERE EXTRACT(MONTH FROM Joining\_Date)=1;

**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 CAST(Joining\_Date AS DATETIME) FROM Employee;

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

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

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

SELECT DATEDIFF(Employee.Joining\_Date,Incentive.Incentives\_Date)

FROM Employee

JOIN Incentives ON Employee.Employee\_Id=Incentives.Employee\_Ref\_Id;

**38. Get database date**

SELECT DATE(Joining\_Date) FROM Employee UNION SELECT DATE(Incentive\_Date) FROM Incentives;

**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,Last\_Name FROM employee WHERE Last\_Name LIKE '%\%%' ESCAPE '\';

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

SELECT 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) FROM Employee GROUP BY Department ORDER BY SUM(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**

SELECT Department,COUNT(Employee\_Id) AS count,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 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**

SELECT 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**

SELECT 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**

SELECT COUNT(Employee\_Id),YEAR(Joining\_Date) AS year,MONTH(Joining\_Date) AS month FROM Employee

GROUP BY year,month ORDER BY year,month;

**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

FROM Employee

GROUP BY Department HAVING SUM(Salary)>800000 ORDER BY total 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,i.Incentive\_Amount

FROM Employee e

INNER JOIN Incentives i ON e.Employee\_Id=i.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,i.Incentive\_Amount

FROM Employee e

INNER JOIN Incentives i ON e.Employee\_Id=i. Employee\_Ref\_Id

WHERE i.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,i.Incentive\_Amount

FROM Employee e

LEFT JOIN Incentives i ON e.Employee\_Id=i. Employee\_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.**

SELECT e.First\_Name,IFNULL(i.Incentive\_Amount,0)

FROM Employee e

LEFT JOIN Incentives i ON e.Employee\_Id=i. 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,i.Incentive\_Amount

FROM Employee e

LEFT JOIN Incentives i ON e.Employee\_Id=i. Employee\_Ref\_Id

WHERE i.Employee\_Ref\_Id IS NOT NULL ;

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

**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 Salary DESC LIMIT 2;

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

SELECT Salary FROM Employee ORDER BY Salary DESC LIMIT N;(N can be a number)

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

SELECT Salary FROM Employee LIMIT 1 OFFSET 1;

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

SELECT Salary FROM Employee LIMIT 1 OFFSET N;

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

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

SELECT First\_Name FROM Employee UNION SELECT Last\_Name FROM Employee; **60. What is the difference between UNION and UNION ALL ?**

UNION is used to combines two or more select statements with only distinct values from the combined result whereas, UNION ALL selects with all the values including the duplicates**.**

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

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

SELECT e.\*

FROM Employee e

INNER JOIN Incentives i

ON e.Employee\_Id=i. Employee\_Ref\_Id;

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

SELECT Employee\_Id FROM Employee

INTERSECT

SELECT Employee\_Ref\_Id FROM Incentives;

**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 i

ON e.Employee\_Id=i. Employee\_Ref\_Id

WHERE i.Employee\_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**

SELECT First\_Name, Salary

CASE

WHEN LOWER( First\_Name)= ‘venkat’ THEN Salary \* 0.20

WHEN LOWER( First\_Name) =’gopi’ THEN Salary \* 0.10

ELSE Salary \* 0.15

END

FROM Employee;

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

SELECT

CASE

WHEN LOWER(Department)= ‘Banking’ THEN ‘Bank Dept’

WHEN LOWER(Department)= ‘Insurance’ THEN ‘Insurance Dept’

WHEN LOWER(Department)= ‘Services’ THEN ‘Pharma Dept’

ELSE Department

END

FROM Employee;

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

DELETE e

FROM Employee e

JOIN Incentives i

ON e.Employee\_Id=i. Employee\_Ref\_Id;

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

INSERT INTO Employee(Last\_Name) VALUES(‘J’’’);

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

SELECT Last\_Name FROM Employee WHERE Last\_Name LIKE ‘%[0-9]%’;

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

SELECT e.\*,i.\*

RANK() OVER(ORDER BY i.Incentive\_Amount DESC) AS POSITION

FROM Employee e

JOIN Incentives i

ON e.Employee\_Id=i.Incentive\_Ref\_Id

WHERE MONTH(e.Joining\_Date)=2;

**70**. **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=7000

WHERE e.First\_Name=’Dinesh’;