**SQL Test**

**Part A – 12 marks**

Write sql statements to create Department and Employee Table

|  |  |  |  |
| --- | --- | --- | --- |
| Column Name | Data Type | Null / Not Null | Constraint |
| iDeptId | int | Not null | Primary key |
| cDeptName | Char | Not null |  |

1. Department Table – *2 marks*  
   Columns

DeptId should be identity column / sequence / serial – sample data

|  |  |
| --- | --- |
| IDeptId | cDeptName |
| 101 | IT |
| 102 | Accounts |
| 103 | Sales |
| 104 | HR |

1. Employee Table – *8 marks*  
   Columns

|  |  |  |  |
| --- | --- | --- | --- |
| Column Name | Data Type | Null / Not Null | Constraint |
| iEmpid | Int | Not null | Primary key |
| cEmpName | Char | Not null |  |
| vAddress | Varchar |  | Default default value should be Mumbai |
| vEmailId | Varchar |  | Unique |
| cDesignation | Char |  | Check it can be GM / Manager / Executive / Admin |
| iDeptId | Int | Not null | Foreign Key |
| dDOJ | Date | Not null | Check it should be <= today’s date |
| mSalary | Money | Not null | Check it should be > 5000 |

Empid should be identity / sequence / serial column – sample data

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| iEmpId | cEmpName | vAddress | vEmailId | cDesignation | iDeptId | dDOJ | mSalary |
| 1001 | Raj | India | [raj@morningstar.com](mailto:raj@octaware.com) | GM | 101 | 2/1/2015 | 90000 |
| 1002 | Sonali | Null | [sonali@morningstar.com](mailto:sonali@octaware.com) | Admin | 102 | 1/1/2018 | 35000 |
| 1003 | Arva | Mumbai | [arva@morningstar.com](mailto:arva@octaware.com) | Manager | 101 | 4/5/2019 | 70000 |
| 1004 | Tamim | Pune | [tamim@morningstar.com](mailto:tamim@octaware.com) | Executive | 104 | 1/13/2018 | 55000 |
| 1005 | Pulin | USA | [pulin@morningstar.com](mailto:pulin@morningstar.com) | Admin | 102 | 5/23/2017 | 40000 |
| 1006 | Arva | Null | [arvaa@morningstar.com](mailto:arvaa@octaware.com) | Executive | 101 | 2/3/2021 | 65000 |
| 1007 | Sejal | Null | [sejal@morningstar.com](mailto:sejal@morningstar.com) | Manager | 102 | 1/2/2021 | 58000 |

1. Write SQL statement to add a new record in Employee Table – *2 marks*

**Part B – 20 Marks**

Write sql queries for the following, refer to the above tables and sample data – *2 Marks each*

1. Display employee details of employee earning the minimum salary
2. Display Employee details of Executives or Managers earning more than 60000
3. Display all employee details where address in missing
4. Display Employee Name, Designation, Department Name and Salary of all Employees
5. Display the total no of employees and average salary of all employees (Give appropriate column headings)
6. Display a unique list of Designations
7. Display details of all departments, along with employees working in the department  
   Department details should be displayed even if there are no employees in that department)
8. Display Designation and average salary paid to employees of that desgination
9. Display departments that have no employees
10. Display Department Name and No of Employees working in that Department  
    (Only those departments should be shown that have 1 or more employees)

**Part C – 8 marks**

1. Create a function that accepts Department ID and returns the total no of employees working in that Department. – 2.5 marks
2. Write statements to create a function that returns – 3 marks  
    Employee Name, Designation, Department Name and Salary of all Employees from a particular department.   
   Arranged in ascending order of designation, showing the employees with more salary on top for each designation   
   (Function should have a parameter – for department id)
3. Create a procedure that accepts bonus amount and updates salary of all employees. – 2.5 marks

For all the above 3 also write statements to call / execute the function / procedure.

**Part D – 10 marks**

1. Difference between serial, sequence and increment. – 6 marks
2. Can a function return more than 1 value, if yes how? – 2 marks
3. By default, all insert / update / delete statements are automatically committed; to explicitly commit a transaction you need to start it with \_\_\_\_\_\_\_\_\_\_\_\_ - 1 mark
4. Column that uniquely identifies data / rows in a table. – 1 mark