**Developer screening - sample questionnaire (Total Time - 2 hours)**

**C#, OOP (20 min)**

1. What is the difference between a class and an Interface

A Class can be instantiated but an Interface can’t be instantiated You can create an instance of an Object that implements the Interface.

1. Can We Inherit Multiple Interfaces ?

YES

1. What are the fundamental OOP concepts?

The two most fundamental core concepts pointer and Dynamic Dispatch. Obviously, there are principles like Encapsulation, Polymorphism, Abstraction, and Inheritance.

1. What are the different types of classes in C#?

Sealed ,Abstract, Partial , Static

1. How is Exception Handling implemented in C#?

C# exception handling is built upon four keywords: try, catch, finally, and throw.

1. What are access modifiers and name them

Public, Private, Protected, Internal

1. Can We Prevent My Class From Being Inherited And Becoming A Base Class From The Other Classes ?

Using, Sealed class and Sealed methods.

1. How Does Method Overloading Different From Overriding

**Overloading** occurs when two or more methods in one class have the same method name but different parameters.

**Overriding** allows a child class to provide a specific implementation of a method that is already provided its parent class.

1. Can We Override Private Virtual Method ?

NO

1. What is an Array? Give the syntax for a single and multi-dimensional array?

An array is used to store a collection of data. int[]

1. We have two classes class1 and class2, class2inherit class1 . If we make the object of class2 then which class's constructor called first?

class2

1. What will be the output of the following code?

Public abstract class baseClass

{

Void Print()

{

Console.WriteLine(“BaseClass Constructor”)

}

Public abstract void print1();

}

Public class ChildClass : BaseClass

{

Public void Print1()

}

Unexpected Execution error

**SQL (15 min)**

1. **What is the difference between Primary key and Unique key?**

Primary: There can only be one primary key in a table

Unique: Can be more than one unique key in one table

1. **Does View contain Data?**

NO

1. What are Views used for?

Views can be used as security mechanisms by letting users access data through the view.

1. What is a Relationship and what are they?

One-to-one, One-to-many, Many-to-many

1. What are table valued and scalar functions?

Scalar Function can return a Table or any single data types, and Table Valued function can be used with Outer Apply key word

1. How can you insert NULL values in a column while inserting the data?

Writing NULL

1. Write a SQL query to display the current date

SQL QUERY: getdate()

1. What is subquery in SQL?

One Where clause dependent on another query data, can be used ‘=’ or ‘in’ or ‘not in’ key words

1. **What is the difference between DELETE and TRUNCATE statements?**

DELETE is a DML command and delete can be used for deleting the specific data

TRUNCATE is DDL command and Truncate can be used to delete the entire data of the table

1. Answer below questions based on the entities provided **(10min)**

**Department:**

|  |  |
| --- | --- |
| **Department\_No** | **Department\_Name** |
| 10 | ECE |
| 20 | ECE |
| 30 | CSE |
| 40 | IT |

**Employee Details:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Employee\_No** | **Emp\_Name** | **Address** | **Age** | **Department\_No** | **Salary** |
| 1 | Anil | Hyderabad | 23 | 10 | 20000 |
| 2 | Sunil | Hyderabad | 22 | 10 | 21000 |
| 3 | Ajay | Chennai | 24 | 20 | 23000 |
| 4 | Vijay | Chennai | 25 | 30 | 22000 |
| 5 | James | Hyderabad | 24 | 50 | 230000 |

1. Write a Query to display employee details who are working in ECE department?  
   select Employee\_No, Emp\_Name, Address, Age, Salary from Employee\_Details where Department\_No in (select Department\_No from Department where Department\_Name = ‘ECE’)
2. Write a Query to display employee details along with department\_name?  
   select Employee\_No, Emp\_Name, Address, Age, Salary, Department.Department\_Name  
   from Employee\_Details   
   inner join Department on Employee\_Details.Department\_No = Department.Department\_No
3. Write a Query to display employee details whose sal>20000 and who is working in ECE department?  
   select Employee\_No, Emp\_Name, Address, Age, Salary from Employee\_Details where   
   Salary > 20000 and  
   Department\_No in (select Department\_No fromDepartment where Department\_Name = ‘ECE’)
4. Write a Query to display employee details along with department\_name and who is working in ECE department, whose name starts with a?  
   select Employee\_No, Emp\_Name, Address, Age, Salary, Department.Department\_Name  
   from Employee\_Details   
   inner join Department on Employee\_Details.Department\_No = Department.Department\_No  
   where Department.Department\_Name = ‘ECE’ and Employee\_Details.Emp\_Name like ‘a%’
5. Write a Query to display employee details along with department\_name and whose age between 20 and 24?  
   select Employee\_No, Emp\_Name, Address, Age, Salary, Department.Department\_Name  
   from Employee\_Details   
   inner join Department on Employee\_Details.Department\_No = Department.Department\_No  
   where Employee\_Details.Age between 20 and 24
6. Write a Query to display employee detail with 2nd highest salary   
   select Employee\_No, Emp\_Name, Address, Age, Salary, Department.Department\_Name  
   from Employee\_Details   
   inner join Department on Employee\_Details.Department\_No = Department.Department\_No  
   where Salary = (select max(Salary) from Employee\_Details where Salary < select max(Salary) from Employee\_Details)

**Programming – (Upload GITHUB links for below 2 assignments)**

1. **Programming Task 1 (15 min)**

* Create a MVC web application to display a text pass as a parameter to the controller method and display it in the web form.

UPLOADED IN GITHUB: <https://github.com/PremNath51/Wipro.NET>

1. **Programming Task 2 (1 hour)**

Build a .NET/C# REST API application with Angular 2+ and Bootstrap front-end framework. Specific requirements are below.

* The application should provide a UI form with input fields as training name, start date, end date, and a Confirm button to submit the form.
* If the end date is before the start date, the application should display an error message and the message text should be defined externally.
* On Confirmation of saving the training name, start date and end date REST API should save details to DB and respond with Success message. Along with message, application should display number of days between the two date inputs.
* Unit/Integration test cases are mandatory:

UPLOADED IN GITHUB:<https://github.com/PremNath51/Wipro.NET>