**MS. NET Framework Basics**

What is the .NET Framework?

Explain the role of the Common Language Runtime (CLR) in .NET.

What is the Common Type System (CTS)?

Differentiate between managed code and unmanaged code.

What is the significance of the Common Intermediate Language (CIL)?

How does .NET support multiple languages?

Explain the concept of Just-In-Time (JIT) compilation.

What is an Assembly in .NET?

Describe the process of garbage collection in .NET.

How does .NET handle memory management?

Define value types and reference types in .NET.

How are exceptions handled in the .NET Framework?

Explain the concept of boxing and unboxing.

What is the role of the program.cs file in .NET applications?

Describe the components of the .NET Framework class library.

What is the purpose of the 'using' statement in C#?

What is the purpose of the 'async' and 'await' keywords in C#?

Describe the features of the Common Language Specification (CLS).

Explain the benefits of using managed code in .NET.

Differentiate between early binding and late binding.

What is the significance of the sealed keyword in .NET?

**C# Programming Language**

Explain the key features of C#.

Describe the role of the Common Language Runtime (CLR) in C#.

What is the significance of the Main method in C#?

Explain the importance of namespaces in C#.

Differentiate between value types and reference types in C#.

What is the purpose of the 'using' statement in C#?

Describe the syntax for single-line and multi-line comments in C#.

How is memory managed in C#?

Explain the difference between 'const' and 'readonly' in C#.

What is the purpose of the 'var' keyword in C#?

How do you handle exceptions in C#?

Describe the concept of Nullable Types in C#.

What is a delegate in C#?

Explain the role of properties in C#.

Differentiate between 'out' and 'ref' parameters in C#.

How does C# support method overloading?

What is the purpose of the 'abstract' keyword in C#?

How are events used in C#?

What is the significance of the 'static' keyword in C#?

Explain the concept of Indexers in C#.

Describe the difference between 'StringBuilder' and 'String' in C#.

What is the purpose of the 'async' and 'await' keywords in C#?

How is polymorphism achieved in C#?

Explain the difference between 'foreach' and 'for' loops in C#.

How does C# support multithreading?

What is the purpose of the 'lock' statement in C#?

How is boxing and unboxing handled in C#?

How do you implement a generic class in C#?

Explain the difference between 'ref' and 'out' parameters.

What are lambda expressions in C#?

How do you implement operator overloading in C#?

How is polymorphism achieved in C# through interfaces?

**Entity Framework**

What is Entity Framework (EF)?

Explain the purpose of an Object-Relational Mapper (ORM) like Entity Framework.

What are the key components of Entity Framework?

Describe the Code-First approach in Entity Framework.

Explain the Database-First approach in Entity Framework.

How does Entity Framework map entities to database tables?

What is DbContext in Entity Framework?

How are relationships between entities defined in Entity Framework?

Differentiate between IQueryable and IEnumerable in Entity Framework.

Explain the purpose of the Include method in Entity Framework.

How do you handle transactions in Entity Framework(crud)?

**ASP .NET MVC**

What is ASP.NET MVC?

Differentiate between ASP.NET Web Forms and ASP.NET MVC.

Explain the Model-View-Controller (MVC) architectural pattern.

What are the main components of an MVC application in ASP.NET?

Describe the life cycle of an ASP.NET MVC application.

How does routing work in ASP.NET MVC?

Explain the role of controllers in ASP.NET MVC.

What is a view in ASP.NET MVC?

Describe the purpose of models in ASP.NET MVC.

Differentiate between TempData, ViewBag, and ViewData in ASP.NET MVC.

What is the purpose of the AntiForgeryToken in ASP.NET MVC?

Describe the differences between the ViewBag and ViewData.

Explain the use of the @Html.Partial and @Html.RenderPartial methods.

How do you implement validation in ASP.NET MVC?

How does model binding work in ASP.NET MVC?

What is the TempData dictionary used for in ASP.NET MVC?

How can you implement dependency injection in ASP.NET MVC?

How do you implement custom error handling in ASP.NET MVC?

How can you create and use custom HTML helpers in ASP.NET MVC?

What are the advantages of using PartialViewResult in ASP.NET MVC?

**LINQ**

What is LINQ (Language Integrated Query)?

Explain the main purpose of LINQ in .NET.

What are the key components of LINQ?

Describe the role of IQueryable and IEnumerable in LINQ.

What is deferred execution in LINQ?

Explain the difference between method syntax and query syntax in LINQ.

How do you perform filtering in LINQ?

Describe the concept of projection in LINQ.

What is the significance of the 'let' keyword in LINQ?

How do you use the 'orderby' clause in LINQ?

Explain the purpose of the 'group by' clause in LINQ.

Differentiate between First(), FirstOrDefault(), Single(), and SingleOrDefault() in LINQ.

What is the use of the 'join' clause in LINQ?

How does the 'into' keyword work in LINQ?

Describe the concept of anonymous types in LINQ.

What is the role of the 'Any' and 'All' operators in LINQ?

Explain the concept of LINQ to Entities in Entity Framework.