**.NET, C#**

**DURATION – 7-8 MONTHS**

**1. Fundamentals**

Before jumping into .NET, you should know:

* **Basic Programming Concepts**
  + Variables, loops, conditionals, functions
* **Object-Oriented Programming (OOP)**
  + Classes, inheritance, polymorphism, interfaces
* **Basic SQL & Database Concepts**
* **Git & GitHub**

**2. Learn C# (Core .NET Language)**

C# is the primary language for .NET development.

* Data Types, Variables, Operators
* Control Flow (if/else, switch)
* Methods and Parameters
* Classes and Objects
* Exception Handling
* LINQ (Language Integrated Query)
* Collections & Generics
* Asynchronous Programming (async/await)
* File I/O
* Delegates, Events, and Lambdas

**3. .NET Platform & Tools**

* ✔️ **.NET SDK / .NET Core / .NET 8 (latest)**
* ✔️ **Visual Studio / Visual Studio Code**

**4. Backend Development with ASP.NET Core**

* MVC Pattern (Model-View-Controller)
* Routing and Middleware
* Dependency Injection
* RESTful APIs with ASP.NET Core Web API
* Model Binding and Validation
* Authentication & Authorization (JWT, Identity)
* Entity Framework Core (EF Core)
  + Code First vs DB First
  + Migrations

**5. Frontend Integration (Optional for Full-Stack)**

* Razor Pages / Blazor (for C# frontend)
* OR integrate with:
  + Angular
  + React

**6. Databases**

* Relational: SQL Server,
* PostgreSQL,
* MySQL
* LEARN FROM BIIT INSTITUE WITH CERTIFICATE AND DIPLOMA