17CS32E1 - C # AND .NET FRAMEWORK

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| **Course Category:** | Professional Elective | **Credits:** | 3 |
| **Course Type:** | Theory | **Lecture – Tutorial – Practical:** | 3-0-0 |
| **Prerequisite:** | Need to have the knowledge of any one programming language. | **Sessional Evaluation:**  **Univ.Exam Evaluation:**  **Total Marks:** | 40  60  100 |
| **Course Objectives** | * To introduce various principles of application development for the Microsoft .NET Framework. * To learn the architecture of .NET Framework, CLR managed execution environment, and C# language basics * To get exposure on Common Type System (CTS) and .NET components (assemblies), * To understand the Framework Class Library, as well as remoting and web services. * Understanding Server Object Types and building Client-Server applications | | |

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| **Course Outcomes** | Upon successful completion of the course, the students will be able to: | |
| CO1 | Learn the basics of C# |
| CO2 | Understand preliminary Object oriented Aspects of C# |
| CO3 | Build applications on Windows environment using .net framework |
| CO4 | Develop various web based applications |
| CO5 | Understand the common language runtime environmentand its applicability |
| CO6 | Build Client-Server applications using .Net Framework |
| **Course Content** | UNIT – I  **Basics Of C#**: Introducing C#, Understanding .NET, Overview of C#, Literals, Variables, Data Types, Operators, Expressions, Branching, Looping, Methods, Arrays, Strings, Structures and Enumerations.  UNIT – II  **Object Oriented Aspects Of C#**: Classes, Objects, Inheritance, Polymorphism, Interfaces, Operator overloading, Delegates, Events, Errors and Exceptions.  UNIT – III  **Application Development On .NET**: Building Windows Applications, Accessing Data With ADO.NET.  UNIT – IV  **Web Based Application Development On .NET**: Programming Web Applications With Web Forms, Programming Web Services.  UNIT – V  **The CLR And The .NET Framework**: Assemblies, Versioning, Attributes, Reflection, Viewing metadata – Type discovery, Reflecting on a Type, Marshaling, Remoting,  **UNIT-VI**  **Understanding Server Object Types:** Specifying a Server With an Interface, Building a Server, Building the client – Using Single Call, Threads. | |
| **Text Books and References:** | **TEXT BOOKS:**   1. J. Liberty, Programming C#, 2nd Edition, O’Reilly, 2002   **REFERENCES:**   1. E. Balagurusamy, Programming in C#, TMH, 2004. 2. Herbert Schildt, The Complete Reference −C#, TMH, 2004. 3. Robinson et al, Professional C#, 2nd Edition, Wrox Press, 2002. 4. Andrew Troelsen, C# and the .NET Platform, A1 Press, 2003. 5. S. Thamarai Selvi and R. Murugesan, A Textbook on C#, Pearson Education, 2003. | |
| **E-Resources** | 1. [**https://nptel.ac.in/courses**](https://nptel.ac.in/courses) 2. [**https://freevideolectures.com/university/iitm**](https://freevideolectures.com/university/iitm) | |