



# GANPAT UNIVERSITY

## FACULTY OF COMPUTER APPLICATIONS

Programme	Master of Computer Applications					Branch/Spec.	Computer Application		
Semester	II					Version	1.0.0.0		
Effective from	Academic Year		2024-25			Effective for the batch Admitted in		June 2024	
Subject Code	P12A2WTD		Subject Name			Web Technology Using .NET			
Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	1	2	0	5	Theory	40	60	100
Hours	2	1	4	0	7	Practical	20	30	50

### Objective:

- This course provides a practical hands-on to C# Language and Web applications using ASP.NET Core MVC.

### Pre-requisites:

- The student should have a basic knowledge of High-Level Programming Language concepts.

### Course Outcomes :

- 1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High); “-” = No Correlation

Name of CO	Description
CO1	Apply C# language fundamentals to develop console-based programs using control
CO2	statements, arrays, strings, and console I/O operations.
CO3	Implement object-oriented programming concepts and LINQ to build modular, reusable, and exception-handled C# applications.
CO4	Develop web applications using ASP.NET Core MVC by integrating Models, Views, and Controllers with data binding and action methods.

### Mapping of CO and PO

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	3	2	1	2	—	—	—	—
CO2	3	3	2	2	1	—	—	—
CO3	2	3	3	3	2	1	—	—
CO4	2	3	3	3	2	1	1	1

### Content:

Unit	SECTION-I	Hrs
01	C# Language:	11

	<p>Fundamental of Core C#, Installing Visual Studio, The Anatomy of a core C# Program, Declaring variables, Data types, Rules for Identifiers, Enumeration type.</p> <p><b>Console I/O:</b> Reading Console Input, Writing Console Output, Using ReadKey ().</p> <p><b>Program Control Statements:</b> Conditional Statements (if, switch), Looping Statements (for, while, do-while, foreach), Jump Statements (break, continue, goto, return).</p> <p><b>Understanding Arrays and Strings:</b> One Dimensional Arrays, Multi-Dimensional Arrays, Jagged Array, Using Strings.</p>	
02	<p><b>OOP's Concepts:</b> Define Classes and Objects, Methods, Access Modifiers, Constructor, Destructor, Inheritance, Polymorphism (Overloading and Overriding), Collections (ArrayList and Hash Table), Exception Handling.</p> <p><b>Language Integrated Query:</b> Introduction to LINQ, LINQ Query Syntax, LINQ Query Operators, LINQ Query Methods.</p>	11
SECTION-II		
03	<p><b>Introduction ASP.NET Core MVC:</b></p> <p>Introduction to ASP.NET Core MVC, Understand MVC Pattern.</p> <p><b>Introduction to View, Controller and Model:</b></p> <p><b>The View:</b> The Purpose of views, ViewData, ViewBag and TempData, Strongly typed view, Adding View, Working with HTML and Tag Helpers, Layout.</p> <p><b>Controller:</b> The Purpose of Controller, Creating New Controllers, Write Action Methods, Parameters in Controller Actions, types of Action Results &amp; Return Type.</p> <p><b>Model:</b> Understanding Model, Creating the Model, Model Binding.</p>	12
04	<p><b>The Razor View Engines:</b> Introduction Razor View Engines, Razor Syntax: Implicit Razor expressions, Explicit Razor expressions, Expression encoding, Razor code blocks, Implicit transitions, Explicit delimited transition, Explicit line transition, Control structures: Conditionals: if, else if, and switch; Looping: for, foreach, while, and do while; Comments, functions.</p> <p><b>URL Routing:</b> Introducing URL Patterns, Defining Default Values, Using Static URL Segments, Attribute Routes;</p> <p><b>Creating a web application of ASP.NET Core MVC Using Entity Framework:</b></p> <p>Introduction to Entity Framework, Create, Read, Update, and Delete operations.</p>	11
<b>Practical Content:</b>		
List of programs specified by the subject teacher based on above mentioned topics.		
<b>Text Books:</b>		
1	Professional C# 7 and .NET Core 2.0 by Christian Nagel, Wrox publication 7th Edition 2018	
2	Pro ASP.NET Core MVC Sixth Edition by Adam Freeman, Apress Publication 7th Edition 2017	
<b>Reference Books:</b>		
1	Pro C# 7: With .NET and .NET Core by Andrew Troelsen, Philip Japikse, Apress Publication	
2	The Complete Reference C# 4.0, Herbert Schildt, Tata McGraw Hill Edition 1st Edition 2017	
3	ASP.NET Core 2.0 MVC and Razor Pages for Beginners Atlantic Publishers and Distributors 2017	
4	Pro Entity Framework Core 2 for ASP.NET Core MVC, Adam Freeman, Apress 1st Edition 2018.	
5	https://docs.microsoft.com/en-us/aspnet/core/mvc/overview?view=aspnetcore-5.0	
<b>MOOC/Certification Courses:</b>		
1	<a href="https://www.udemy.com/">https://www.udemy.com/</a>	
2	<a href="https://www.coursera.org">https://www.coursera.org</a>	
3	Microsoft Course 20486-D: Developing ASP.NET Core MVC Web Applications	

4.	<a href="https://dotnet.microsoft.com/en-us/learn">https://dotnet.microsoft.com/en-us/learn</a>
<b>Question Paper Scheme:</b>	
<b>University Examination Duration: 3 Hours</b>	
Note for Examiner: -	
(I) Questions 1 and 4 are compulsory with no options.	
(II) Internal options should be given in questions 2, 3, 5 and 6.	
<b>SECTION – I</b>	
Q.1 –8 Marks	
Q.2 –11 Marks	
Q.3 –11 Marks	
<b>SECTION - II</b>	
Q.4 –8 Marks	
Q.5 –11 Marks	
Q.6 –11 Marks	