GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme	Bachelor of Technology					Branch/Spec.	Computer Science & Engineering		
Semester	VI					Version	1.0.0.0		
Effective from Academic Year				2024-25		Effective for the batch Admitted in			June 2022
Subject code	2CSE60E29			Subject Name		Advanced Web Development using .Net			
Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	0	1	0	4	Theory	40	60	100
Hours	3	0	2	0	5	Practical	30	20	50

Pre-requisites:

Database, ASP.Net, C#, ADO.Net

Learning Outcome:

After Successful completion of the course, students will be able to:

- Understand ASP.Net Core and Entity Framework
- Building web applications using the MVC model of ASP.NET Core
- Deploy web application in Microsoft Azure Cloud Environment.
- Develop Web API using ASP .Net Core

Practicals are defined based on the following topics

Sr. No.	Content	Hrs
1	**Introduction of .NET Core:** Understanding .NET Core, .NET Core Features, .NET Core Framework Architecture, .NET Core 3.0 vs .NET 4.5 Framework, .NET Core Supports, Advantages of .NET Core, .NET App Model, .NET CLI	**6**
2	**ASP.NET Core MVC** ASP.NET Core MVC Introduction, ASP.NET Core - MVC Design Pattern, Routing, Attribute Routes, Action Results, Razor Layout Views, Create a web app with ASP.NET Core MVC, Add a controller, Add a view, Add a model, Work with SQL Server LocalDB, Controller methods and views, Add search, Add a new field, Add validation, Examine the Details and Delete methods	**10**
3	**ASP.NET Core MVC with Entity Framework Core** Get started, Create, Read, Update, and Delete operations, Sorting, filtering, paging, andgrouping, Migrations, Create a complex data model, Reading related data, Updating related data	**8**
4	**Areas in ASP.NET Core** Areas for controllers with views, Area folder structure, Add Area route, Link generation with MVC areas, **Filters in ASP.NET Core** How filters work, Filter types - Authorization filters, Action filters, Result filters, Exception filters, Resource filter, Filter Attributes	**8**
5	**Entity Framework Core:** Object Relational Mapping (ORM), Entity Framework, Database Modeling, CRUD Operations, Database Migration, Repository Design Pattern, Unit of Work Design Pattern, Dependency Injection	**6**

6	**Web API with ASP.NET Core MVC** Introduction to Web API, Create a web API project, Add a model class and a database context, Scaffold a controller with CRUD methods,Configure routing, URL paths, and return values,Call the web API with Postman, Consume Web API with JavaScript	**4**
7	**Introduction to Azure Cloud:** Cloud, WebAPI using Azure Cloud, Azure services, Microsoft Azure Storage, Azure Virtual Network, Azure Virtual Machines	**3**

Suggested Practical List
Practical contents will be based on following concepts: ASP.Net Core, Entity Framework, Web API, Azure Cloud

Text Books	
1	C# 8.0 and .NET Core 3.0 – Modern Cross-Platform Development: Build applications with C#, .NET Core, Entity Framework Core, ASP.NET Core, and ML.NET using Visual Studio Code, by Mark J. Price
2	ASP.NET Core 2.0 MVC and Razor Pages for Beginners
3	Pro ASP.NET MVC 5 (Expert's Voice in ASP.Net), by Adam Freeman

Reference Books	
1	Learn ASP.NET Core 3: Develop modern web applications with ASP.NET Core 3, Visual Studio 2019, and Azure, by Kenneth Yamikani Fukizi, Jason De Oliveira, Michel Bruchet
2	Pro Entity Framework Core 2 for ASP.NET Core MVC by Adam Freeman
3	Pro ASP.NET Web API: HTTP Web Services in ASP.NET (Expert's Voice in .NET) by Tugberk Ugurlu, Alexander Zeitler, Ali Kheyrollahi

Mooc Course
https://www.dotnettricks.com/training/masters-program/aspnet-core

Course Outcomes:	
Cos	Description
CO1	Understand ASP.Net Core and Entity Framework
CO2	Building web applications using the MVC model of ASP.NET Core
CO3	Deploy web application in Microsoft Azure Cloud Environment.
CO4	Develop Web API using ASP .Net Core

Mapping of CO and PO:

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	**3**	**3**	**2**	**2**	**2**	**3**	**0**	**0**	**3**	**1**	**2**	**1**
CO2	**3**	**1**	**1**	**2**	**1**	**1**	**0**	**0**	**2**	**1**	**2**	**1**
CO3	**2**	**1**	**0**	**1**	**2**	**1**	**0**	**0**	**2**	**2**	**2**	**1**
CO4	**2**	**3**	**1**	**3**	**2**	**2**	**0**	**0**	**3**	**2**	**2**	**1**