COURSE TITLE	**PUBLIC CLOUD-II**
COURSE CODE	**05CA0501**
COURSE CREDITS	**4**

Objective:

1 Understand the fundamental concepts of cloud computing and its deployment models.
2 Demonstrate the ability to install and configure a cloud environment using Microsoft Azure.
3 Identify and explain different types of services provided by cloud platforms.
4 Apply cloud service configurations to meet various business and technical requirements.

Course Outcomes: After completion of this course, student will be able to:

1 Identify and describe core Azure services and their applications.
2 Configure Azure networking and storage solutions for efficient cloud infrastructure management.
3 Implement and manage Azure Active Directory (Azure AD) for identity and access management.
4 Perform Azure backup configurations and demonstrate recovery strategies for business continuity.

Pre-requisite of course: Basic Knowledge of cloud

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	**AZURE SERVICES** About Azure, Subscription management, support, Azure PowerShell, Azure SDK and Azure CLI, Deploying and monitoring web apps.	10
2	**AZURE NETWORKING & STORAGE** Creating and configuring virtual networks, Getting started with Azure Load Balancer, Understanding cloud storage, Create and manage Blobs.	10
3	**AZURE AD** Overview of Azure AD, Manage Azure AD authentication, Create and manage Azure Active Directory tenants, Create a new Azure AD tenant and a custom DNS domain.	13

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Contents : Unit	Topics	Contact Hours
4	**Azure Backup** Azure Backup, Azure CLI, Azure Cosmos DB, Azure security Center, Load Balancing traffics	12
Total Hours		**45**

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**Unit 1** Introduction to Azure Portal, Create and Manage Azure Subscriptions, Set up multiple subscriptions and manage access control, View usage reports and configure support options, Install and Use Azure PowerShell, Install and Use Azure CLI, Deploy resources using command-line interface, Develop and deploy a simple Azure-based application using SDK tools, Deploy a Web App using Azure Portal, Deploy a Web App using Azure CLI/PowerShell, Monitor Web Application Performance, Enable and Configure Auto-Scaling for Web Apps,Set up a virtual network with subnets and address spaces, Create NSGs and apply rules to control inbound/outbound traffic, Create a Load Balancer and configure backend pools and health probes, Attach VMs to a load balancer to distribute traffic, Explore different storage types: Blob, Table, Queue, and File storage, Create a Storage Account in Azure, Create and Manage Azure Blob Containers, Upload files, edit metadata, and set lifecycle rules, Set Shared Access Signatures (SAS) and configure access keys, Perform blob operations (create, upload, delete) using CLI	15
2	**Unit 2** Set up a new Azure AD tenant and explore initial configuration options, Integrate a custom domain name with your Azure AD tenant, Create and Manage Users in Azure AD, Add new users, reset passwords, and assign user roles, Configure Azure AD Authentication Methods, Enable and test multi-factor authentication (MFA) for users, Create and Manage Azure AD Groups, Set up backup policies and perform a backup/restore operation using Azure Backup, Create and manage Azure resources (like VMs or storage accounts) using Azure Command-Line Interface, Create and Manage Azure Cosmos DB Database, Enable and Configure Azure Security Center, Implement Load Balancing Using Azure Load Balancer	15
Total Hours		**30**

Textbook :

1 Microsoft Azure: Planning, Deploying, and Managing Your Data Center in the Cloud, Marshall Copeland, Julian Soh, Anthony Puca, Mike Manning, Apress, 2020

References:

1 Exam Ref AZ-900 Microsoft Azure Fundamentals, Exam Ref AZ-900 Microsoft Azure Fundamentals, Jim Cheshire, Microsoft Press, 2022

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking / Creative**
10.00	15.00	25.00	25.00	25.00	0.00

Instructional Method:

1 Practical & PPT , Demo

Supplementary Resources:

1 https://azure.microsoft.com/en-in

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