**Microsoft Azure Syllabus**

**Module-1: Cloud Computing & Microsoft Azure Fundamentals**

* Introduction to Azure
* Different segments SaaS, PaaS, and IaaS
* Azure Regions and Data Centers
* Understanding of Microsoft Azure portal
* Introduction to all Azure services
* Windows Azure Subscription
* Setting Up a Trial Subscription

**Lab:**

* Installation of Azure cmdlets on windows PowerShell

**Module-2: Azure Virtual Machines**

* Operating System Images Supported
* Virtual Machine instances
* Azure VM types and Pricing
* Types of Provisioning
* Disks & Images
* Virtual Machine management, automation and scripting
* Cloud Service and Resource Model Deployment
* Setting up VM in Availability set using Load Balanced Endpoint
* VM Availability using Availability Sets

**Lab:**

* Creation of VMs with portal, ARM Templates and PowerShell
* Deploying two VMs in Availability Set and load balancing it.

**Module-3: Introduction to Azure Virtual Network and Services**

* Types of Azure Virtual Network VNET to VNET, point-to-site and site-to-site, Express Route
* Creating Virtual Networks in Azure
* Azure Subnet and IP ranges
* Endpoints
* Load Balancing Endpoints
* Understanding Network ACL and Network Security Group Setting up Private and Public IP
* Introduction to Azure Traffic Manager
* Available options in Azure Traffic Manager
* Understanding of Deployment Traffic Manager

**Lab:**

* Create a VET-to-VNET virtual networks
* Create a point-to-site virtual network.
* Create a site-to-site virtual network.
* Load Balancing using Azure Traffic Manager.

**Module-4: Microsoft Azure Storage**

* Overview of Microsoft Azure Storage
* Storage Account
* Storage Account Replication Techniques
* Protocols and Consistency Model
* Type of Azure Storage Account
* Storage Services Blob, Table, queue, File
* Azure CDN Services, Managed and Unmanaged Disk

**Lab**:

* Provisioning Azure Storage services
* Create an Azure Storage Account
* Deploying Blob Storage
* Deploying Table Storage
* Deploying Queue Storage
* Deploying File Storage

**Module-5: Manage AzureActive Directory (AD)**

* Azure Active Directory Overview
* Self-Service Password Reset
* Azure AD Identity Protection
* Integrating SaaS Applications with Azure AD
* Azure Domains and Tenants
* Azure Users and Groups
* Azure Roles
* Managing Devices

**Lab:**

* Implement Azure Active Directory.
* Configure Self-Service Password Reset
* Implement Azure AD Identity Protection
* Configure integrated SaaS applications
* Configure domains and tenants, users and groups
* Manage roles and devices
* Migration of OnPrem AD Users to Azure AD
* Configure MFA

**Module 6: Manage App Service Plans**

* App Service Overview
* App Service monitoring overview
* Web Role and Worker Role

**Lab:**

* App Service Plan
* Deploy Web App
* App Service Diagnostics

**Module 7: Azure SQL Database**

* Understanding Database as a service
* Difference between SQL server and Azure SQL
* Advantage and Benefits of SQL database Scaling SQL database
* Backup and Performance Options Security in Azure
* SQL Pricing Model
* Azure SQL Data Warehouse

**Lab:**

* Migrate a database from on premise to SQL Azure

**Module-8: Azure Backup and Site Recovery**

* Azure Vaults
* Configuring backups
* Data Protection Manager
* Azure Site Recovery and Disaster Recovery
* On Premise Migration using Recovery Services

**Lab:**

* Configure a Recovery Service Vault and backup files from on premise to cloud.
* Site Recovery of a VM
* Back up of a VM

**Module-9: Azure ARM Template**

* Introduction to Azure ARM Templates and its content

**Lab:**

* Deploying ARM Template with PowerShell

**Module 10: Configure Serverless Computing**

* Serverless Computing, Functions and Logic Apps

**Lab:**

* Logic Apps
* Creating a Function App

**Module 11: Manage App Services**

* App Settings
* Deployment Slots

**Labs:**

* App Settings
* Deployment Slots

**Module 12: Data Factory**

* Introduction to Azure Data Factory
* Core Concepts – Data sets, Pipelines and activities, Scheduling and execution
* Run Samples – Customer Profiling
* Moving Data, Transformation and Analysis
* Monitoring and managing the Pipelines
* Common Use Cases and Samples

**Lab:**

* Orchestrating the On-Prem data from SQL DB to Azure DB by creating a data pipeline using Blob storage.

**Module-13: Azure Container Service**

* Introduction to Azure Container Service
* Overview of Containers
* Introduction to Azure Container Registry
* Azure Kubernetes Services
* Introduction

**Lab:**

* Deploy an Azure container registry
* Build a container image using Azure Container Registry Tasks
* Deploy the container to an Azure container instance
* Replicate the container image to multiple Azure datacenters
* Run Docker containers with Azure Container Instance
* Run Azure Container Instances
* Deploying AKS in Azure

**Module-14: Azure Cosmos DB**

* Introduction
* What is a request unit?
* What is Partition Strategy and Key?
* Query types

**Lab:**

* Create an Azure Cosmos DB account in the Azure portal
* Create a database and collection in Azure Cosmos DB
* Run queries in the Azure portal