



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Industry Led Minor/Hons.

Level: UG

Branch: Microsoft Cloud & AI Honors

Course / Subject Code: BE04IAS011

Course / Subject Name: Microsoft Azure Cloud Fundamentals & Infrastructure

w. e. f. Academic Year:	2025 - 2026
Semester:	4 th
Category of the Course:	Core Courses

Prerequisite:	Understanding of General IT Knowledge, Technology Background (Optional but Helpful), Interest in Cloud Adoption
Rationale:	This training equips learners with a solid foundation in Azure cloud concepts, core services, and cost management (AZ-900), introduces AI workloads and Azure AI services (AI-900), and builds awareness of Microsoft security, compliance, and identity solutions (SC-900). Through AZ-104, learners build practical skills to manage Azure identities, storage, networking, and virtual machines. Participants also gain hands-on skills to secure workloads using Azure networking and protect data in Azure Files and Blob Storage through encryption, access control, and threat protection—providing a well-rounded understanding of Azure infrastructure.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Understand core cloud concepts (IaaS, PaaS, SaaS, Public/Private/Hybrid cloud).	U
02	Learn basic AI concepts: ML, NLP, Computer Vision, and Conversational AI.	U
03	Understand Microsoft security & compliance concepts.	U
04	Learn Azure networking fundamentals (VNets, Subnets, NSGs, VPNs).	A
05	Understand Azure Storage account types and security features.	N
06	Learners gain hands-on skills in managing Azure subscriptions, storage, virtual machines, networking, and identities.	N, E,C

**Revised Bloom's Taxonomy (RBT)*

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	PR		C	Theory		Tutorial / Practical	
			ESE (E)		PA / CA (M)	PA/CA (I)	ESE (V)	
3	0	2	4	100	0	0	0	100

*Total Lecture Hrs. (L) =45	Total Practical Hrs. (PR) =30.	Total Hours =75 Hrs
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Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Understand core cloud concepts (IaaS, PaaS, SaaS, Public/Private/Hybrid cloud). Learn about Azure core services: compute, networking, storage, databases. Explore Azure solutions: IoT, AI, ML, serverless, DevOps. Get familiar with security, privacy, compliance, and trust in Azure. Understand Azure pricing, Service Level Agreements (SLAs), and cost management.	10	15
2.	Learn basic AI concepts: ML, NLP, Computer Vision, and Conversational AI. Explore Azure AI services: Azure Cognitive Services, Azure Machine Learning, Azure Bot Service. Understand how to build AI-enabled solutions without deep coding. Learn about responsible AI principles (fairness, security, privacy, transparency). Hands-on knowledge of AI workloads and choosing the right Azure AI service.	10	15
3.	Understand Microsoft security & compliance concepts. Explore Microsoft Entra (Identity & Access), including Azure AD basics. Learn about Microsoft Security solutions (Defender, Sentinel). Gain knowledge of compliance & governance tools in Microsoft Purview. Overview of Zero Trust and how Microsoft solutions implement it.	10	15
4.	Learn Azure networking fundamentals (VNets, Subnets, NSGs, VPNs). Configure network access control using firewalls and security groups. Secure workloads with Azure Private Link, Service Endpoints, and Bastion. Implement Zero Trust principles in networking. Ensure secure hybrid connectivity with ExpressRoute / VPN gateways.	10	15
5.	Understand Azure Storage account types and security features. Configure encryption at rest and in transit. Manage access control with Shared Access Signatures (SAS) and RBAC. Implement network-level security (firewalls, private endpoints). Use Azure Defender for Storage to detect and mitigate threats. Ensure compliance with regulatory standards for data security.	10	15
6.	Manage Azure identities and governance, Implement and manage storage, Deploy and manage Azure compute resources (VMs, App Services), Configure and manage virtual networking (VNets, VPNs, Load Balancers), Monitor and back up Azure resources	25	25
	Total	75	100

Suggested Specification Table with Marks:

Distribution of Marks (in %)



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R Level	U Level	A Level	N Level	E Level	C Level
10	25	25	15	15	10

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

Skill & Practical Activities to be carried out during Semester						
Sr. No.	Category of Engagement	Describe the activities to be carried out by students in brief	Expected Frequency & Duration	Mode of Delivery (Online /Offline/ Hybrid)	Tools / Platforms / Equipment / Machinery to be Used	Expected major Learning Outcomes
1	Master Classes / Expert Lectures by Industry Professionals	Students will get to hear from Industry Professional (Consultants) about exposure to the IT industry, they will carry out Hands on, discuss Industry Use cases etc.	6 classes	Online	Microsoft Sandbox environment, Cloud That's Exam ready platform, MS Learn etc.	Learn basic AI concepts: ML, NLP, Computer Vision, and Conversational AI. Understand Microsoft security & compliance concepts Understand Azure Storage account types and security features etc.
2	Case Studies / Boot camps / Workshops	Students will solve the case studies assigned to them during the session.	6-10 case studies	Online	Microsoft Sandbox environment, Cloud That's Exam ready platform, MS Learn etc.	
3	Quizzes / Competency-Based Evaluation	Students will attempt the Quizzes and Post course completion assessment.	6 assessments	Online	Microsoft Sandbox environment, CloudThat's Exam ready platform, MS Learn etc.	
4	Hands-on Training / Lab Exercises / Tool-Based Learning	Students will perform Hands on assigned to them during the session.	10 Labs	Online	Microsoft Sandbox environment, CloudThat's Exam ready platform, MS Learn etc.	



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