Department of Artificial Intelligence and Machine Learning

Date: 04.11.2024

Submitted,

Sub: **Report on Microsoft Azure Fundamentals Global Certified Training.**

With respect to the above subject, Department of Artificial Intelligence & Machine Learning, Sri Sairam College of Engineering, Bengaluru organized Five days Global Certified Training on Microsoft Azure Fundamentals for the 4th year students of AIML department on October 23rd to 29th October 2024. The resource person for the program is Mr. Mohammed Fazal, Trainer - Microsoft. Dr. Sivaprakash C, Associate Professor and Head of the Artificial Intelligence & Machine Learning department facilitate the resource person.

The training was with the intention of enhancing participants' knowledge and skills in Microsoft Azure Fundamentals, particularly focusing on advanced concepts and applications. The training was structured around various fields on Microsoft Azure Fundamentals, ensuring that participants could delve into both fundamental and intricate aspects of the Microsoft Azure Fundamentals. The agenda for the training included the following key topics:

Objective Domains

Day-1: Describe cloud concepts

- **Describe cloud computing**
  - Define cloud computing.
  - Describe the shared responsibility model.
  - Define cloud models, including public, private, and hybrid.
  - Identify appropriate use cases for each cloud model.
  - Compare cloud pricing models.

- **Describe the benefits of using cloud services**
  - Describe the benefits of high availability and scalability in the cloud.
  - Describe the benefits of reliability and predictability in the cloud.
  - Describe the benefits of security and governance in the cloud.
  - Describe the benefits of manageability in the cloud.

- **Describe cloud service types**
  - Describe infrastructure as a service (IaaS)
  - Describe platform as a service (PaaS)
  - Describe software as a service (SaaS)

- Identify appropriate use cases for each cloud service (IaaS, PaaS, SaaS)

Day-2: Describe Azure architecture and services

➢ Describe the core architectural components of Azure

- Describe Azure regional, regional pairs, and sovereign regions.
- Describe availability zones.
- Describe Azure datacentres.
- Describe Azure resources and resource groups.
- Describe management groups.
- Describe the hierarchy of resource groups, subscriptions, and management groups.

➢ Describe Azure compute and networking services

- Compare compute types, including container instances, virtual machines (VMs), and functions.
- Describe VM options, including Azure Virtual Machines, Azure Virtual Machine Scale Sets, availability sets, and Azure Virtual Desktop.
- Describe resources required for virtual machines.
- Describe application hosting options, including the Web Apps feature of Azure App Service, containers, and virtual machines.
- Define public and private endpoints.
- Describe Azure storage services.

➢ Compare Azure storage services

- Describe storage tiers.
- Describe redundancy options.
- Describe storage account options and storage types.
- Identify options for moving files, including AzCopy, Azure Storage Explorer, and Azure File Sync.
- Describe migration options, including Azure Migrate and Azure Data Box.

➢ Describe Azure identity, access, and security.

- Describe directory services in Azure, including Azure Active.
- Directory (Azure AD) and Azure Active Directory Domain Services (Azure AD DS).
- Describe authentication methods in Azure, including single sign-on (SSO), multifactor authentication, and password less.
- Describe external identities and guest access in Azure.
- Describe the purpose of the defence in depth model.

- Describe the purpose of Microsoft Defender for Cloud.

Day-3: Describe Azure management and governance

➢ **Describe cost management in Azure**

- Describe factors that can affect costs in Azure.
- Compare the Pricing calculator and the Total Cost of Ownership (TCO) calculator.
- Describe the Azure Cost Management and Billing tool.
- Describe the purpose of tags.

➢ **Describe features and tools in Azure for governance and compliance**

- Describe the purpose of Azure Blueprints.
- Describe the purpose of Azure Policy.
- Describe the purpose of resource locks.
- Describe the purpose of the Service Trust Portal.

➢ **Describe features and tools for managing and deploying Azure resources.**

- Describe the Azure portal.
- Describe Azure Cloud Shell, including Azure CLI and Azure PowerShell.
- Describe the purpose of Azure Arc.
- Describe Azure Resource Manager and Azure Resource.
- Manager templates (ARM templates).

➢ **Describe monitoring tools in Azure.**

- Describe the purpose of Azure Advisor.
- Describe Azure Service Health.
- Describe Azure Monitor, including Log Analytics, Azure Monitor alerts, and Application Insights.
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Day-4: Describe cloud concepts.

Cloud Computing: The delivery of computing services over the internet, allowing on-demand access to resources like storage, processing power, and applications

- **Infrastructure as a Service (IaaS)**: A cloud service model that provides virtualized computing resources over the internet. Users can rent IT infrastructure (servers, storage, networking) without having to buy hardware.
- **Platform as a Service (PaaS)**: A cloud model that provides a platform allowing developers to build, deploy, and manage applications without worrying about the underlying infrastructure.

- **Software as a Service (SaaS)**: Software distribution model where applications are hosted in the cloud and made available to users over the internet, typically via subscription.
- **Cloud Storage**: A service model that allows data to be stored and accessed via the internet, enabling scalable storage solutions.
- **Serverless Computing**: A cloud execution model where the cloud provider dynamically manages the allocation of machine resources, allowing developers to focus on code without managing servers.
- **Cloud Security**: The set of policies, technologies, and controls used to protect cloud data, applications, and infrastructure from threats.

Day-5:

- Online Proctored Exam.

The Training was attended by 35 students of AIML and all were cleared the MS Azure Certification Exam and got Eligible.

1. (S. VANARASAN) 4/11/2024
2. (M. KALIDASS) 4/11/24

Signature of Program Coordinator

Signature of HOD

Professor & Head
Dept. of Artificial Intelligence & Machine Learning
Sri Sairam College of Engineering
Sai Leo Nagar, Guddanahalli (Post)
Anekal, Bengaluru - 562 106.

12/11/2024

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Anekal, Bengaluru

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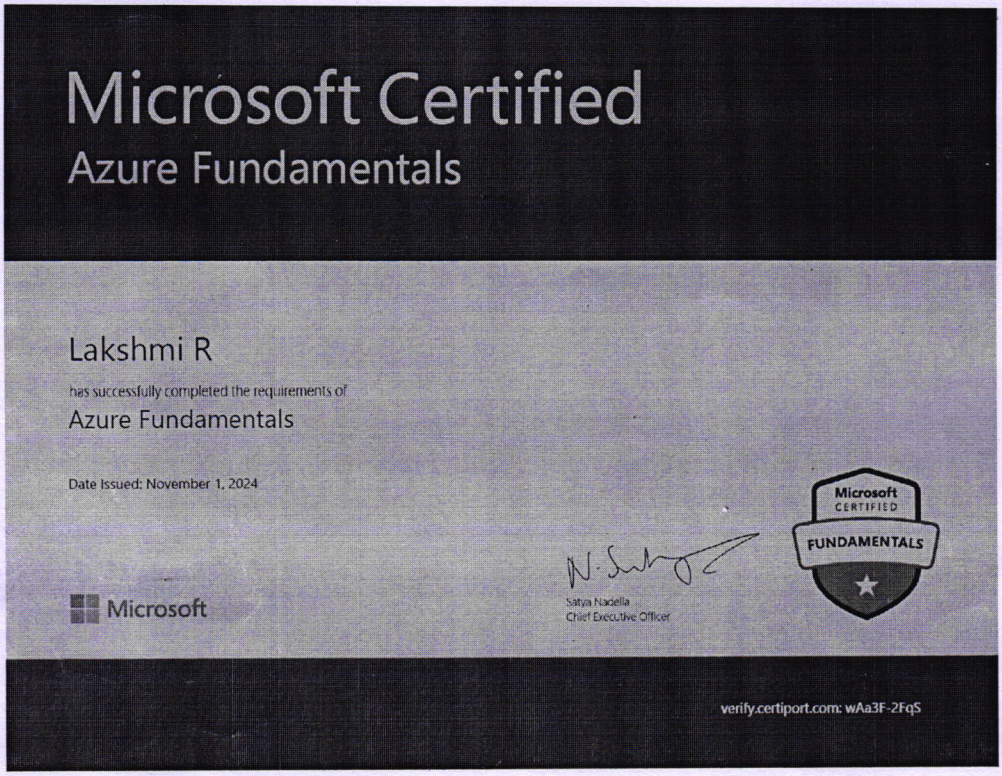
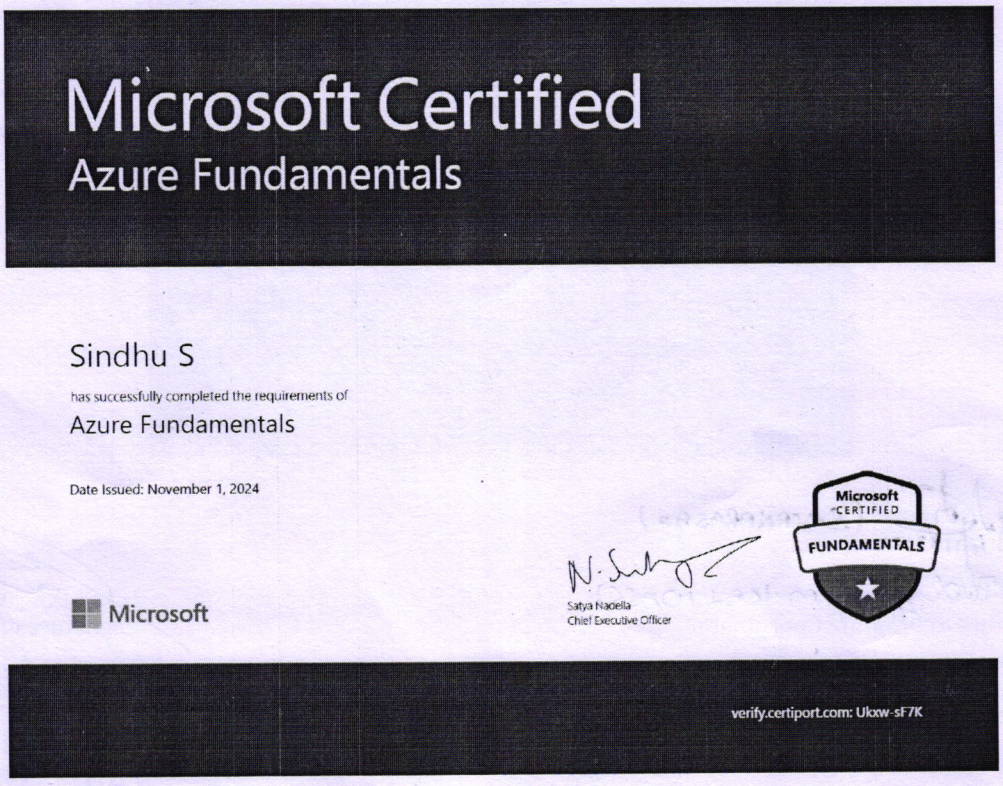
Sample Certificate





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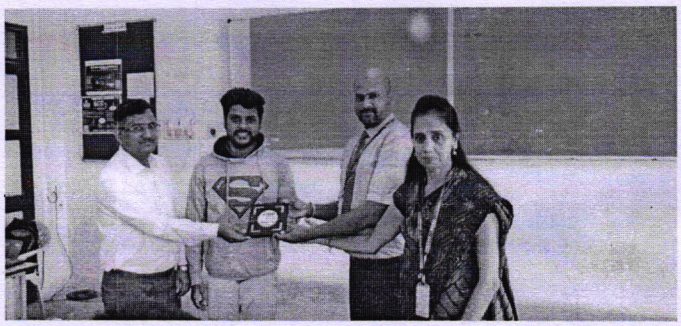
TRAINING GALLERY



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