Units and Syllabuses

Unit I - Enterprise Linux Administration

Module1: Access the command line, Manage files from the command line, Get help in Enterprise Linux, Create, view, and edit text files, Manage local users and groups, Control access to files, Monitor and manage Linux processes, Control services and daemons

Module2: Configure and secure SSH, Analyze and store logs, Manage networking, Archive and transfer files, Install and update software packages

Module3: Access Linux files systems, Analyze servers and get support, mprove command line productivity, Schedule future tasks

Module4: Tune system performance, Manage SELinux security, Manage logical volumes, Access network-attached storage

Module5: Control the boot process, Manage network security, Install Red Hat Enterprise Linux, Run Containers

Unit II - Linux Automation Using Ansible

Module1: Introduce Ansible, Implement an Ansible playbook

Module2: Manage variables and facts, Implement task control

Module3: Deploy files to managed hosts, Manage complex plays and playbooks

Module4: Simplify playbooks with roles, Troubleshoot Ansible

Module5: Automate common Linux system administration tasks with Ansible.

Unit III - OpenShift - Containers and Kubernetes

Module1: Describe how software can run in containers orchestrated by Red Hat OpenShift Container Platform.

Module2: Creating containerized services, Managing containers

Module3: Managing container images, Creating custom container images

Module4: Deploy single container applications on OpenShift Container Platform.

Module5: Deploy applications that are containerized using multiple container images, Troubleshooting containerized applications

Unit IV - Cloud - AWS / Azure

Module1: Implementation of Identity Access Management (IAM) for security and managing access to various resources in AWS. Creating IAM user, groups, roles and policies

Module2: Configure EC2 Instances and implementation of auto scaling for instances. Deploy, Manage and Scale applications using container orchestration service. Speed up hosted

websites using Content Delivery Network. Building decoupled applications using SNS, SQS. Understanding Serverless computing services.

Module3: Storing files securely using the Object Storage method using S3. Share Storage Disks among Servers via Network. Setup Database Engines and Secure Servers and Services. Implementation of Data Migrations and Data Transfer tools.

Module4: Implementation of VPC and its components. Distributing traffic using Load Balancers. Configure DNS using Route53. Configuring VPN to establish secure connections to on-premise networks.

Module5: Monitor Server Resources using CloudWatch. Creating backup of instances of other services. Auditing AWS environment with CloudTrail. Schedule Event Rules using Target based services

OR

Module1: Manage Azure Active Directory (Azure AD) objects including user, group and device. Implementation of role-based access control (RBAC). Management of subscription and configuration of governance strategies.

Module2: Implementation of Azure Storage account services. Configuring Azure Blob storage and lifecycle management. Creation of Azure file shares and file sync services. Configure network access and authentication to the storage account. Installation and configuration of Storage Explorer and AzCopy tools.

Module3: Configure Virtual machines and VMSS. Implementation of Azure App Services. Implementation of various container services in Azure. Automate deployment of virtual machines (VMs) by using Azure Resource Manager templates

Module4: Create and customize Virtual network components. Configuring secure access to

virtual networks NSGs, Azure Firewall, Bastion. Configuring load balancing. Understanding methods to Monitor and troubleshoot virtual networks. Integrate an on-premises network with an Azure virtual network with a VPN.

Module5: Monitor resources by using Azure Monitor. Implement backup and recovery.

Unit V - PYTHON PROGRAMMING

Module1: Basics of python programming

Module2: Python functions and modules

Module3: Object-oriented programming in python

Module4: Database: MySQL

Unit VI - DEVOPS TOOLS

Module1: Introduction to DevOps methodology

Module2: Git basics and how it works

Module3: Introduction to Continuous Integration(CI), Jenkins basics and how it works

Module4: Terraform basics and how it works