**Amazon Web Services Syllabus:**

1. Introduction to Cloud
2. Different segments: SaaS, PaaS, and IaaS
3. Creating AWS Free tier account
4. Understanding Regions and Availability Zones
5. EC2 (Elastic Cloud Compute)
6. Different IP addresses (Public IP, Private IP & Elastic IP)
7. Create different storage services
8. S3 (Simple Storage Service)
9. EBS (Elastic Block Storage)
10. Elastic File System (EFS)
11. Glacier Storage Service
12. IAM (Identity Access Management)
13. AMIs (Amazon Machine Images)
    * Default AMIs
    * Custom AMIs
14. Introduction to CloudWatch & Concepts
15. Configuring CloudTrail
16. Concepts of CloudTrail
17. Virtual Private Cloud (VPC)
18. Create Subnets (Public & Private)
19. Create Gateways
20. Create Auto Scaling group & assign instances to Auto Scaling group
21. Deep Learning about Security Groups & Create Different Security Groups
22. Enable Different Ports
23. AWS Backup & Backup Strategies (Daily, Weekly & Monthly Backups)
24. Simple Notification Service (SNS)
25. Simple Queue Service (SQS)
26. Load Balancing and Autoscaling Groups
27. Understanding Network ACL and Network Security Group
28. Route53, CloudFront, ACM
29. Mapping DNS to the S3 static website Hosting endpoint
30. RDS, MongoDB, Database Migration

**Linux Basics:**

1. Linux Overview
2. Architecture of Linux
3. Linux Folder Structure
4. Linux Origins
5. What is an Operating System
6. Types of Operating Systems
7. Unix and Linux Differences
8. Linux File System Structure
9. Changing File Permissions and Ownership
10. User Management
    * User Creation and Configuration
    * Update Password for the User
    * Give Permissions to the User
    * Switch User in the Console
11. Editors
    * Vi and Vim Deep Dive
12. Filter Commands
13. Basic Linux Commands
14. Advanced Commands
15. Deployment Commands
16. Simple Filter and Advanced Filter Commands
17. Start and Stop Services
18. Find and Kill Processes by ID and Name
19. Package Installation using RPM and YUM

**Introduction to DevOps:**

1. What is DevOps?
2. DevOps Principles
3. DevOps Challenges
4. Importance of DevOps
5. Continuous Integration
6. Continuous Delivery
7. Continuous Deployment
8. Faster Deployments using DevOps
9. Single-click Deployments
10. DevOps Job Market

**GIT & GITHUB: Version Control System**

1. Introduction to GIT
2. GIT Installation and Configuration
3. GIT Command Line
4. Subversion Controls/Git/GitHub
5. Working with Local Repositories
6. Working with Remote Repositories
7. Understanding Branching Strategies
8. Code Merging
9. Cloning Repositories
10. Pull Repositories
11. GIT Cherry-pick
12. GIT Rebase
13. Understanding Git Conflicts
14. Real-time Scenarios & Issues

**Jenkins:**

1. Introduction to Jenkins
2. Installation and Configuration of Jenkins
3. Jenkins Architecture
4. Continuous Integration with Jenkins
5. Creating Jenkins Jobs
6. Jenkins Dashboard
7. Jenkins Authentication
8. Jenkins Global Tool Configuration
9. Jenkins Plugins – How to Download and Use
10. Add Jenkins Node/Slave
11. Jenkins Poll SCM
12. Jenkins Integrations
13. Continuous Delivery Pipeline
14. Jenkins File/Groovy
15. Declarative Pipeline
16. Scripted Pipeline

**Maven/Build Tool:**

1. Introduction to Maven
2. Maven Folder Structure
3. Maven Phases
4. Installation of Maven
5. Integrate Maven with Jenkins
6. Maven Configuration
7. Maven Dependencies/Plugins
8. Jar/War/Ear Project Structure
9. Explain pom.xml
10. Automate Build Process

**Nexus/JFRog Artifactory Tool:**

1. Introduction to Nexus Artifactory Tool
2. Install and Configure Nexus Artifactory Tool
3. Integrate Nexus with Jenkins
4. Moving War Files to Nexus
5. Continuous Deployment
6. Automate the Process using Jenkins
7. Create Repositories in Nexus

**Ansible:**

1. Introduction to Ansible
2. Ansible Terminology
3. Ansible Architecture
4. Advantages of Ansible
5. Ansible Installation and Configuration
6. How to Add Nodes to Ansible Server
7. Ad-Hoc Commands
8. Components of Ansible
9. Ansible Inventory
10. Configuration
11. Creating Ansible Modules
12. Writing Ansible Playbooks
13. Implementing Roles
14. Implementing Tags
15. Ansible Modules
16. Ansible Galaxy
17. Download Playbooks from Galaxy
18. Real-time Playbooks

**Docker:**

1. Introduction to Docker
2. Installation and Configuration of Docker
3. Docker Components
4. Docker CLI
5. Docker GUI
6. Run Docker Containers
7. Execute Commands on Running Containers
8. Manage Docker Images & Containers
9. Manage Docker Images from Dockerfile
10. Docker Hub
11. Microservices
12. Encryption/Decryption of Docker Vaults
13. Docker Group
14. Docker Pull
15. Docker Run
16. Docker Volume/Network
17. Ecs elastic container service AWS

**Kubernetes:**

1. Getting Started with Kubernetes
2. Configure and Manage Kubernetes
3. Kubectl Command Overview
4. YAML Introduction
5. Sample YAML Parser
6. Building a Kubernetes Cluster
7. Understanding Kubernetes Pods
8. Why Pods over Containers
9. Single Container
10. Execute Commands
11. PAUSE Containers
12. POD Labels
13. Deployment Update
14. Deployment Rollback
15. Scaling Deployment
16. Role
17. Role Binding
18. Cluster Role
19. Cluster Role Binding
20. Pod Networking
21. Multi-container Pods
22. Kubernetes Troubleshooting
23. Replication Controllers
24. Replica Sets, CONFIG MAP , SECERTS, SERVICES
25. Understanding Deployment
26. Deploy 3-Tier Project in EKS

**Terraform:**

1. Introduction to Terraform
2. Getting Started with Terraform
3. Terraform Modules
4. Writing in a More Organized Way
5. Installing Terraform – Windows Users
6. Installing Terraform – Linux Users
7. Creating First EC2 Instance with Terraform
8. Terraform Code – First EC2 Instance
9. Understanding Resources & Providers
10. Terraform Code – DO Droplet
11. Destroying Infrastructure with Terraform
12. Destroying Specific Resources
13. Understanding Terraform State Files
14. Desired & Current States
15. Challenges with the Current State on Computed Values
16. Terraform Commands – State Files
17. Terraform Provider Versioning
18. Types of Terraform Providers
19. Community Provider
20. Deploying Infrastructure with Terraform
21. Understanding Attributes and Output Values in Terraform
22. Referencing Cross-Account Resource Attributes
23. Terraform Variables
24. Approaches for Variable Assignment
25. Data Types for Variables
26. Count and Count Index
27. Conditional Expressions
28. Terraform Functions
29. Tainting Resources
30. Terraform Graph