**eITEC Training Programme in Operating System Server & Mobile Application-8 Weeks**

**1. Operating System Server – 5 Weeks**

* Network Management
* Windows Operating System Administration
* Linux Operating System Administration

**2. Mobile Application – 3 Weeks**

**1. Operating System Server-5 Weeks**

**Network Management**

**Computer Network Fundamentals**

* Introduction to Network
* Types of Networks
* OSI Reference Model
* TCP/IP Model
* Application Layer Protocol
* Transport Layer Protocol
* Network Layer Protocol
* Data Link Layer Protocol
* Network Topology
* Ethernet Cabling

**IPv4 Protocol**

* IPv4 Addressing
* Subnetting
* CIDR
* VLSM

**Router Configuration**

* Router Modes
* Setting the Router’s Password
* IP Routing
* Configuring Static Routing
* Dynamic Routing

**Switch Configuration**

* Introduction to Switch
* Configuring VLAN and Inter-VLAN
* Configuring VTP

**IPv6 Protocol**

* Introduction to IPv6 Protocol
* IPv6 Addressing

**Windows Operating System Administration**

**Introducing Windows Server**

* Windows Server Editions
* New Features of Windows Server
* Server Manager, Windows Deployment Services

**Using Windows Server Roles and Features**

* Adding and Removing Roles and Features
* Remote management

**Monitoring and Maintaining Network Infrastructure Servers**

* Internet Protocol
* Dynamic Host Configuration Protocol
* Overview, Scopes, ports used by DHCP, options, DHCP management
* Domain Name System
* Names, Zones, WINS, resolving name to ip & vice versa, Transferring Zone & other features

**Monitoring and Maintaining Active Directory**

* Installing and Removing Active Directory Roles
* Active Directory Rights and Permissions
* Active Directory Users and Group Management
* Group Policy
* Active Directory Backup and Recovery

 **Internet Information Services**

* Adding Role of IIS, configuring multiple sites, configuring multiple ftp sites etc.

 **Managing Windows Registry**

* Registry hives, data type in registry, backup of registry, enabling & disabling options

**Configuring and Managing Backup**

###### Linux Operating System Administration

# Linux Essentials

* Overview

Linux ideas & History, Linux Origins & Principles

* Command Line File system Browsing

Editing Files, Getting Help, File Hierarchy Concepts, Important Directories & browsing the file system

* The bash Shell

Scripting Basics, sample shell script, Exploring Bash shell, Bash Shell Scripting

* Users, Groups, and Permissions

Concepts of user & group accounts, Linux file security, permission

Precedence, permission types, changing file ownership, changing Permission, redirecting output to a file, Combining Output & Errors

* vi and vim Editor Basics

 Modifying file in insert mode, saving & exiting file

* The Linux File system

Tools for Extracting Text, Viewing file contents, extracting text by

Keyword from files, extracting text by column from files.

# Linux System Administration

* File system Management

Device recognition, disk partitioning, managing partitions, making file

System, file system labels, Mount points, creating logical volumes, Resizing logical volumes

* RPM

Package manager, installing, removing, updating software, rpm, Queries, using yum, configuring repositories

* Troubleshooting

Order of the boot process, file system corruption, recovery run levels, rescue environment.

**Configuration and Management of Servers**

* Web Server

Apache configuration, Virtual Hosting

* Mail Server

Dovecot configuration, Postfix configuration

* File Transfer protocol(FTP)

File sharing, authentication, FTP port options

* Domain Name Server(DNS)
* Samba Server & Network File System (NFS ) for file sharing
* Proxy Server

Squid configuration, restricting IP, websites, MAC etc.

* Securing Services & IP Tables Configuration

**2. Mobile Application - 3 Weeks**

**Mobile Application Development using Android**

**Java Programming**

* Classes and Objects in Java
* Object Design and Programming with Java
* Java Interfaces
* Java Streams
* Java Exception Handling
* Java Collections API

**Android App Development**

* Introduction of android
* Activities and Tasks
* Android SDK features
* Development Environment of Android SDK
* Creating android activities
* Fundamental android UI design
* Intents, adapters, dialogs
* Data Storage
* Location and Maps
* Graphics
* Activity and services

**Advanced Topics**

* Notification
* FireBase cloud Messaging
* Material Design
* Social Service integration (like Facebook, Twitter etc)
* Sensor programming