LPIC 101 LINUX SYSTEM AND NETWORK ADMINISTRATION I

COURSE OUTLINE

1. Free Open-Source Software (FOSS)

- Free Software versus Proprietary Software

- Fundamental features of Free Open-Source Software (FOSS)

- Horizontal and Vertical Free Open-Source Software (FOSS)

- Benefits of using Free Software over Proprietary Software in Organizations

2. Computer System Organization and Architecture

- Structural Components of Computer System

- Major Functions of Computer Systems

- Enabling and Disabling Peripheral Devices

- Interrupts, Input/Output and DMA Addresses

- Types of Mass Storage Devices

- Examining the CPU, Memory and Hard Disk Partitions

- Device Drivers Installation and Configuration

3. Evolution of GNU/LINUX Operating System

- Operating System Concepts

- Functions and Services provided by Operating Systems

- Origin of GNU/LINUX Operating System

- History of UNIX Operating System

- GNU System versus Linux Kernel

- Growth of GNU/LINUX System

4. GNU/LINUX Installation and Configuration

- Installing GNU/LINUX Operating Systems – RedHat-based Distros (RedHat, CentOS, Fedora) and Debian-based Distros (Ubuntu, KALI Linux, Debian)

- Hardware Compatibility and Requirements

- Selecting an Installation and Boot Method

- Troubleshooting Installation Process

- Post-Installation Procedures

5. GNU/LINUX GRUB Configuration

- Booting an Alternative Kernel

- Booting into a Different Runlevel

- Changing the Default Runlevel

- Passing Kernel Arguments

- Making Persistent GRUB Changes

- Troubleshooting and Resolving GRUB Problems

6. GNU/LINUX Software Package Management

- Identifying Installed Software Packages

- Installing, Removing and Updating Software Packages

- Using RPM and YUM Package Management Tools

- Using APT-GET and DPKG Package Management Tools

- Managing Shared Libraries

7. GNU/LINUX and UNIX Commands

- Working on the Command Line
- Processing Text Streams using Filters
- Performing basic File Management
- Using Streams, Pipes and Redirects
- Creating, Monitoring and Killing Processes

- Modifying Process Execution Priorities
- Searching text files using Regular Expressions (regex)
- Performing basic file editing operations using Vim

8. Devices, Linux Filesystems & Filesystem Hierarchy Standard (FHS)

- Creating Partitions and File Systems
- Designing Hard Disk Layout
- Maintaining the Integrity of File Systems
- Controlling Mounting and Unmounting of Filesystems
- Managing File Permissions and Ownership
- Creating and changing Hard and Symbolic links
- Filesystem Hierarchy Standard (FHS)

CERTIFICATION EXAM

- **LPIC 101 LINUX SYSTEM AND NETWORK ADMINISTRATION 1**