CompTIA A+

Program Summary :

• The CompTIA A+ certification is the industry standard for computer support technicians. The international, vendor-neutral certification proves competence in areas such as installation, preventative maintenance, networking, security and troubleshooting. CompTIA A+ certified technicians also have excellent customer service and communication skills to work with clients.

• CompTIA A+ is part of the certification track for corporations such as Microsoft, Hewlett-Packard, Cisco and Novell. Other technology companies, including CompuCom and Ricoh, have made CompTIA A+ certification mandatory for their service technicians. More than 700,000 people worldwide have become CompTIA A+ certified since the program's inception in 1993.

Upon Completion of this program learners will be able to :

- **Identify types and characteristics of PC components, including motherboard, CPU, memory, and storage, input, and output devices.**
- **Install and configure peripheral devices.**
- **Identify types and characteristics of portable computers.**
- **Install and configure Microsoft Windows 2000, Microsoft Windows XP, and Microsoft Windows Vista.**
- **Perform basic PC maintenance and troubleshooting.**
- **Understand fundamental principles of securing IT systems and working safely.**
- **Communicate effectively with customers.**
- **Understand fundamental principles of implementing LANs and internet access.**
- **Manage and optimize Windows using command line tools, administrative consoles, and Remote Desktop.**
- **Manage and optimize disks and volumes using command line tools and administrative consoles.**
- **Diagnose and resolve Windows troubleshooting scenarios.**
- **Use anti-virus tools to prevent and recover from malware infections.**
- **Configure and troubleshoot local network and wireless connections and client applications.**
- **Configure and manage users, groups, and shared resources.**
- **Configure and troubleshoot access control measures, such as BIOS security, authentication, encryption, and firewalls.**
- **Perform preventive maintenance using approved tools and products.**
- **Assemble, disassemble, and upgrade PC and notebook components.**
- **Configure and update BIOS/CMOS.**
- **Troubleshoot, optimize, and upgrade hardware.**
- **Install, configure, troubleshoot, and maintain printers.**

Targeted Trainees:

This course is intended for trainees wishing to qualify with CompTIA A+ Certification for PC Support professionals. It is also suitable for trainees wanting to improve their skills in PC support and administration. By completing this course, students will also be assisted with entry into a career in ICT. This course will particularly benefit trainees pursuing a career in supporting desktop personal computer users, in job roles such as Support Engineer, Maintenance Engineer, Desktop Engineer, Computer Administrator, or PC Support Analyst. Study of the course can also help to prepare for other, similar technical support qualifications and act as groundwork for more advanced training, including CompTIA Network+ or CompTIA Server+, CCNA, and MCSE / MCSA.

Criteria of acceptance and methods of measuring the skills of the trainees:

Due to the fast paced nature of this accelerated course delegates should already have at least a high level understanding of the topics covered.

Duration in hours :

40 hours

Exams:

Two exams are necessary to be certified: CompTIA A+ Essentials, exam code 220-701; and CompTIA A+ Practical Application, exam code 220-702.(online exam)

Certificate:

CompTIA accredited certificate.

Module 1 - PC and Notebook Hardware

Types of Computer

- Personal Computers
- Desktop Computers
- Portable Computers
- Units, Signaling, and Circuits

Motherboards

- Motherboard Layout
- Bus Architecture
- Motherboard Components
- Expansion Bus and Adapter Cards
- Motherboard Form Factors
- Power Supply Unit (PSU)
- Cooling

Processors

- Central Processing Unit (CPU)
- Features of CPUs
- Intel Processors
- AMD Processors
- CPU Packaging
- Notebook Processors

Memory

- Memory Types
- Memory Characteristics

Storage Devices

- Storage Devices
- Hard Drives
- Drive Controllers
- Floppy Drives
- Optical Disk Storage
- Flash Memory
- Tape Drives

Input and Peripheral Devices

- I/O Ports and Cables
- Input Devices

- I/O Devices
- Communications Devices
- Installing and Configuring Peripherals

Video and Sound Devices

- Display Devices
- Video Adapters
- Audio Devices
- Multimedia Input Devices

Module 2 - Operating Systems

Windows Operating System

- What is an Operating System?
- Windows Architecture
- Early Versions of Windows
- Windows 2000
- Windows XP
- Windows Vista
- Other Operating Systems

Managing Windows

- Windows Administrative Tools
- Configuring Hardware
- Screen Savers and Power Management
- Managing Software
- Managing Services
- Windows Registry

Windows Storage Management

- Preparing a Hard Disk
- Navigating Windows
- Working with Folders
- Working with Files
- Searching For Files
- The Recycle Bin
- File and Folder Management in Vista
- My Network Places

Installing and Upgrading Windows

- Overview of OS Installations
- Installing Windows from CD / DVD
- Upgrading the OS
- Options for Deploying Windows

Windows Boot Process

- Windows Boot Process
- The BOOT.INI File
- Windows Vista Boot Process
- Configuring Boot Devices
- Advanced Startup Options

Module 3 - Networking and Printing

Network Concepts

- What is a Network?
- The OSI Model
- Network Devices
- Network Transport Protocols
- The Internet

Local, Wireless, and Remote Networks

- Network Cabling
- Wireless Networks
- Accessing the Internet

Printers

- The Print Process
- Printer Types
- Installing and Configuring a Printer
- Maintaining Printers

Module 4 - PC Support

Troubleshooting Techniques

- Troubleshooting Models and Processes
- Approaching Troubleshooting
- Troubleshooting Resources

Basic Troubleshooting Scenarios

- Common Hardware Symptoms
- Windows Errors
- Troubleshooting Applications
- Troubleshooting Printers
- Network Troubleshooting Basics

Preventive Maintenance

- Health and Safety
- Static Electricity and ESD
- Materials Handling
- Disposal of Consumables and Computer Equipment
- Physical Inspections
- Patch Management
- Data Backup

Security

- Security Fundamentals
- Access Control
- Authentication
- Accounting
- Social Engineering
- Malware
- Data Security

Professionalism and Communication

- Customer Service Skills
- Communication Skills
- Professionalism
- Handling Customer Complaints

CompTIA A+ Practical Application

Module 1 - Supporting Windows

Monitoring and Performance Tools

- Command Prompt and Text Editors
- System Information and Monitoring
- Performance Options
- Remote Utilities

Disk and File Management Tools

- Disk and Volume Management
- Navigating Directories at the Command Prompt
- File Management using a Command Prompt

Troubleshooting Windows

- Windows Troubleshooting
- Troubleshooting Applications
- Windows Printer Troubleshooting

Viruses and Malware

- Malware Symptoms
- Anti-virus Software

Module 2 - Supporting Networks

Installing a SOHO Network

- Implementing a LAN
- Configuring Network Properties
- Implementing Wireless Networks
- Configuring Client Options
- Configuring Internet Connections
- Voice-over-IP

Network Security

- User and Group Accounts
- Setting Share Permissions
- NTFS Folder and File Permissions
- Troubleshooting File System Security
- Implementing Other Security Mechanisms

Troubleshooting Networks

- Troubleshooting Networks
- Testing TCP/IP

Troubleshooting Client Connectivity

- Electronic Mail (Email)

Module 3 - Supporting PC Hardware

- Maintaining PCs
- Maintenance Toolkit
- Preventive Maintenance

Upgrading and Troubleshooting PCs

- General Installation and Upgrade Advice
- Upgrading and Optimizing Hardware
- Disassembling a PC
- Installing Components on the Motherboard
- CMOS Setup
- Troubleshooting Motherboard Components

Upgrading and Troubleshooting Peripherals and Notebooks

- Storage Devices

- Adding and Removing Peripheral Devices
- Upgrading and Troubleshooting Notebooks

Maintaining and Troubleshooting Printers

- Dot Matrix Printers
- Inkjet Printers
- Laser Printers
- Other Printer Types
- Maintaining and Upgrading Printers
- Printer Troubleshooting