HIGHER NITEC IN IT SYSTEMS & NETWORKS (2 YEARS)

CERTIFICATION

Credits required for certification:

Sector Foundation Modules	:	3
Cluster Core Modules	:	21
Specialisation Modules	:	23
Life Skills Modules	:	9
Cross Disciplinary Core Modules	:	6
Electives	:	6
Total	:	68

COURSE STRUCTURE

Module Title	Credits
SECTOR FOUNDATION MODULES	
Networking Fundamentals	3
CLUSTER CORE MODULES	
System Software Essentials	3
Computer Maintenance	3
Networking Technology	3
Enterprise Networking	3
System Administration	3
System Hardening & Infrastructure Services	3
Virtualisation Management	3
SPECIALISATION MODULES	
Hybrid Cloud Technologies	3
Scripting Essentials	3
Administrative Scripting	3
Wireless Networking	3
Network Security	3
Internship Programme	8
ELECTIVES (GENERAL) AND LIFE SKILLS MODULES	
For details, click here	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Sector Foundation Modules

Networking Fundamentals
On completion of the module, students should be able to set up, configure, set up and troubleshoot wired and wireless network system for small office environment. They should be able to provide network support and configure network devices.

Cluster Core Modules

System Software Essentials
On completion of the module, students should be able to install and configure operating system (OS) and application software on end user computing devices. In addition, they should also be able to perform OS maintenance and troubleshooting.

Computer Maintenance
On completion of the module, students should be able to perform installation and configuration of hardware components and peripherals of end user computing devices. In addition, they should also be able to perform end user computing devices maintenance and troubleshooting of hardware problems.

Networking Technology
On completion of the module, students should be able to apply the fundamentals of computer networking in relation to the OSI model. They should also be able to configure and set up wired and wireless local area network (LAN) including network segmentation. Students will also be able to perform network documentation and monitor network performance.

Enterprise Networking
On completion of the module, students should be able to configure and set up a switched and routed network with Virtual LANs (VLANs) as well as set up a wide area network (WAN), implement access control lists and troubleshoot common network issues and problems.

System Administration
On completion of the module, students should be able to set up server operating systems and perform system administration tasks such as user management, resource management and performance monitoring. Students should also be able to configure file server services and implement basic system security.

System Hardening & Infrastructure Services
On completion of the module, students should be able to perform server security hardening and manage infrastructure services. Students should also be able to automate server administration and implement high-availability systems.

Virtualisation Management
On completion of the module, students should be able to set up a virtualisation server and environment, perform backup and recovery of VMs for fault tolerance, and carry out basic troubleshooting with hypervisors and VMs. They will also be able to monitor resource utilisation on the hypervisor, perform VM migration, troubleshoot performance and connectivity issues, secure the virtualised infrastructure.

Specialisation Modules

Hybrid Cloud Technologies
On completion of the module, students should be able to configure connection to cloud services in on-premises environment, perform essential cloud operation and cloud services utilisation, as well as troubleshoot virtualisation services.

Scripting Essentials
On completion of the module, students should be able to apply basic structured thinking skill to develop script to perform basic system related tasks and activities.

Administrative Scripting
On completion of the module, students should be able to provide programming support to IT system automation and other related project.

Wireless Networking
On completion of the module, students should be able to install, configure and secure Wireless Local Area Networks (WLANs). They should also be able to perform monitoring of WLAN.

Network Security

On completion of the module, students should be able to install hardware firewalls, set up intrusion detection and prevention systems, and maintain firewall policies for network connectivity to external networks. They will also be proficient in setting up Virtual Private Networks, configure endpoint protection, and implement cryptography in the enterprise environment.

Internship Programme

On completion of the modules, students should be able to integrate and apply a cluster of key technical, social and methodological competencies related to their field of study.

Electives (General) and Life Skills Modules

For details, click here.