

ITEC Program

Course Catalogue 2017-18



Indian Technical and Economic Cooperation
Ministry of External Affairs
Government of India



Who We Are



**World is Global Village...
...Its True at UTL**

Over 40000 participants from 120 countries
have gained the UTL Edge

UTL Technologies Ltd., a UTL Group company, one of India's highly appreciated and widely recognized prominent high-end training organization in providing Industry relevant training solutions to Working Professionals and Corporate houses.

UTL Technologies is known as a trailblazer in emerging technologies training, its comprehensive and innovative training methodology on a vibrant spectrum of latest technologies makes it a leader. UTL offers courses in niche areas like Telecom, Embedded Systems Design, VLSI Design, Networking, Software and Open Source Technologies. Since its inception, UTL has trained more than 40,000+ engineers from 120 countries

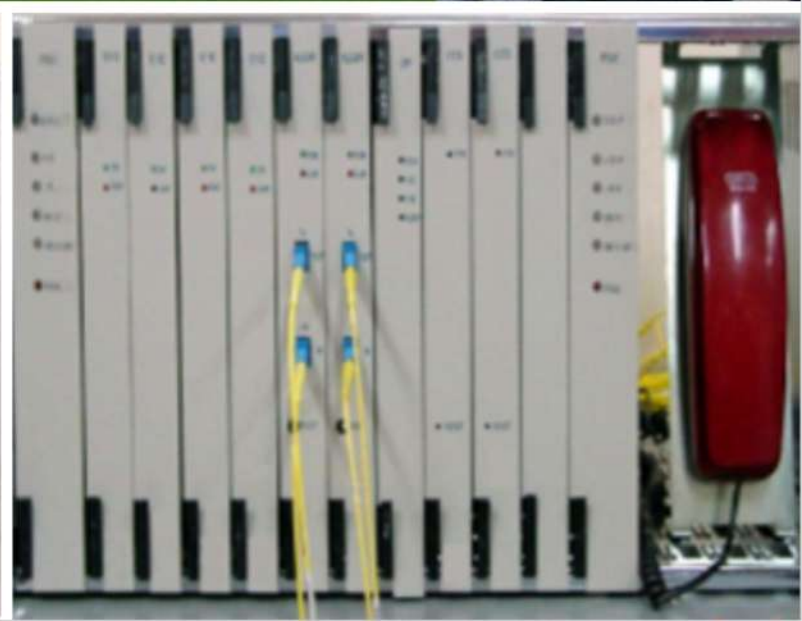
UTL is associated with Ministry of External Affairs, Govt. Of India to deliver various technological training programs for participants coming from 161 Countries in Asia, East Europe (including former USSR), Central Asia, Africa, Latin America, the Caribbean as well as Pacific and Small Island countries.

UTL is associated with 5 Universities and 40+ leading academic institutions to train their Engineering Graduates / Post Graduates in campus.

UTL offers corporate training solutions for many prestigious ICT companies in wide range of technologies to enable them to meet their project specific goals. UTL Technologies is a training partner of ZTE Corporation, China to deliver the customer trainings of ZTE in Africa, Asia and Europe.

Our Associates & Clients



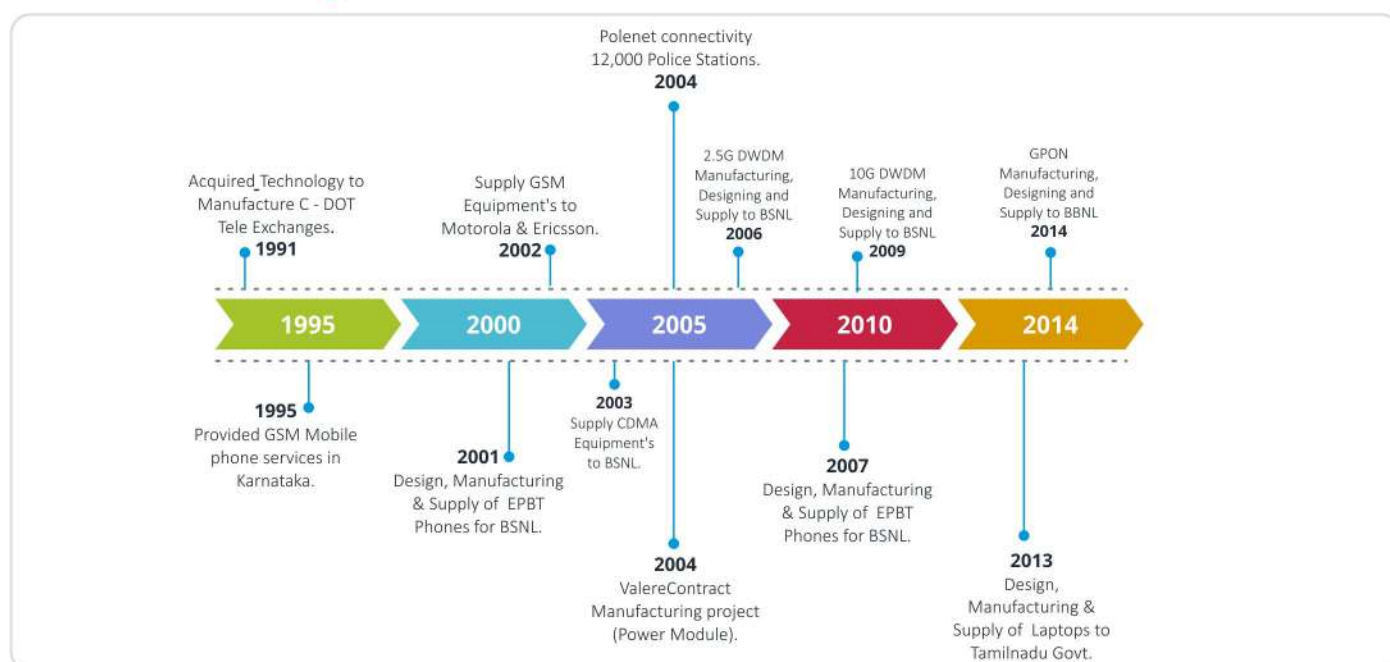


UTL Group

United Telecoms is a reputed global business house with interests in diversified sectors like Telecom, E-governance, Steel, Power, IT, Real Estate, Manufacturing and Education. Today our foot print extends over 60+ nations across the globe and employing more than 2000 people

UTL has been a pioneer in the Telecommunication revolution in India. Being experts in Telecom, Networking, IT, Software Development, Turn key projects and Project Management, we have an edge. UTL has a broad product range comprising of Switching, Transmission, Access, Wireless and Terminal equipment.

Our Telecom Journey



UTL Group - Domains

Telecom / Networking	Telecom Domain Offerings	Access Products	Transmission Equipments	Switching Equipments	Customer Premises Equipment's
	Products	DWDM	MD ROADM	CWDM	
	Services	Contract Manufacturing	Design Services	Product Engineering	
	Field Engineering	GSM	CDMA		
	Solutions	Long Haul	Metro Solutions	Mobile Back Haul	Broad Band Solutions
Information Technologies	TrigynTechnologies	Managed Services	IT Staffing	Outsourcing Services	Content Management
E-Governance	Infrastructure	Applications	Capacity Building	Transaction based Services	
Mobile Devices	Karbons	Feature Phones	Smart Phones	Tablets	
	Gionee & HTC (Distribution)	Feature Phones	Smart Phones		
Power	Renewable Energy Projects	Thermal Projects	EPC Services	Supply of Solar Products	
Education	Course Delivery & Certifications	Corporate Training	MEA Training Program	University Training Program	PlacementServices



ITEC

The Indian Technical and Economic Cooperation (ITEC) Programme was instituted by a decision of the Indian Cabinet on 15 September 1964 as a bilateral programme of assistance of the Government of India. Prime minister Jawaharlal Nehru, who also served as External Affairs Minister, was the main architect of the ITEC programme.

The ITEC Programme, fully funded by Government of India, has evolved and grown over the years under ITEC and its corollary SCAAP (Special Commonwealth African Assistance Programme) 159 countries in Asia, East Europe (Including former USSR), Central Asia, Africa, Latin America, the Caribbean as well as Pacific and small Island countries. Countries are invited to share in the Indian development experience in various fields. As a result of various activities under ITEC programme, there is now a visible and Indian development experience in various fields. As a result of and small Island countries. Countries are invited to share in the Central Asia, Africa, Latin America, the Caribbean as well as Pacific 159 countries in Asia, East Europe (Including former USSR), SCAAP Special Commonwealth African Assistance Programme) evolved and grown over the years under ITEC and its corollary The ITEC Programme, fully funded by Government of India,

ITEC Courses Offered by UTL

UTL offers most advanced courses on Network Security, Optical Communication, 3G Mobile Communication, Cisco, Linux and Microsoft Technologies, these courses are most sought after in the ITEC Programme, participants from 120 countries have attended our courses and furthered their careers is the testimony to the fact. UTL offers most advanced courses on Network Security, Optical Communication, 3G Mobile Communication, Cisco, Linux and Microsoft Technologies, these courses are most sought after in the ITEC programme, participants from 120 countries have attended our courses and furthered their careers is the testimony to the fact.

With the support from UTL Group companies and other partners, our participants will get much needed industry exposure through planned visits to Mobile Communication Labs, Optical fiber Labs Network Operating Centers, during these visits participants are, trained by the experts on the network setup and configurations. Participants are also taken to the study tour to understand the history and heritage of India

UTL Advantage

UTL is authorised by Ministry of External Affairs, Govt. of India to offer most advanced courses in Networking and Telecom technologies under their ITEC programme, participants from across the globe have taken advantage of these courses and furthered their careers. With the support from UTL Group companies and other partners, our participants will get much needed industry exposure through planned visits.

- ◆ Industry mapped curriculum
- ◆ Trained more than 40,000 participants from 120+ Countries
- ◆ Structured course delivery system
- ◆ Well qualified trainers
- ◆ Exposure to Industry practices through Industry visits
- ◆ State of the art training facilities - 25000 sft area

Labs equipped with advanced software and network equipments, Telecom students are given live exposure to various elements of Mobile Communication network (MSC, BSC, & BTS), through our association with one of the leading telecom operator in the country

Scholarship

Government of India will bear the following expenses for the selected candidate



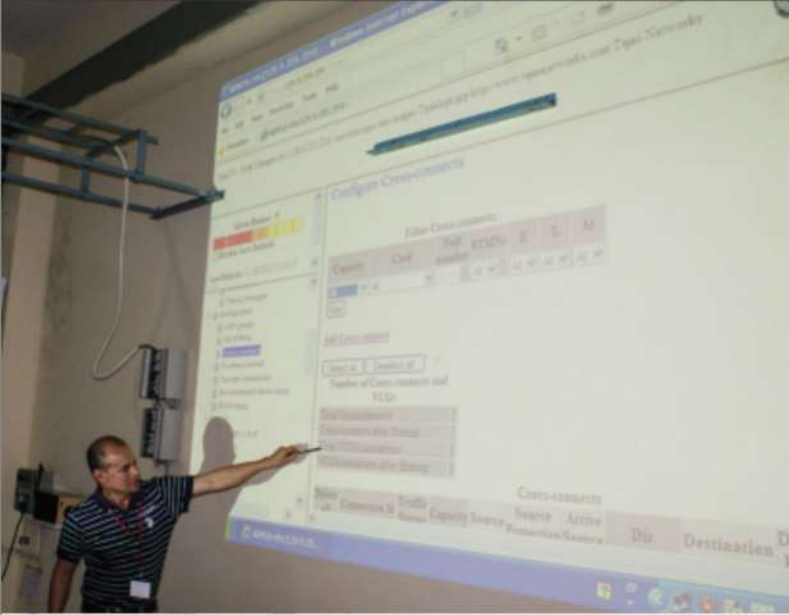
Industrial Visit

Along with theoretical knowledge gained during the course execution a visit to a live site gives the participants better understanding of the practical implementation of the concepts learned in the course UTL has implemented six state wide area networks and e-governance projects in various states of India. Participants will be taken to one of network center to demonstrate the live network functionality

Study Tour

As a part of the course, all the participants are taken for a study tour to get exposure to Indian heritage, history and culture. Study tour will be organized at the end of the course and all the expenses connected with the study tour will be borne by Ministry of External Affairs







Course Calendar 2017 - 18

Sl NO	Courses	Duration in weeks	Starts	Ends
1	Certificate Course in Advanced Mobile Communication Technologies (3G, 4G)	10	03-07-2017	09-09-2017
2	Certificate Course in Network Security	10	03-07-2017	09-09-2017
3	Certificate Course in Networking (A+, N+, MCSE 2012, CCNA, Exposure to ITIL)	12	17-07-2017	07-10-2017
4	Certificate Course in Advanced Telecom Transmission Technologies (FTTH & GPON)	08	11-09-2017	04-11-2017
5	Certificate Course in Network Security	10	11-09-2017	18-11-2017
6	Certificate Course in Cisco Enterprise Networking (CCNA, CCNP)	12	09-10-2017	30-12-2017
7	Certificate Course in Advanced Mobile Communication Technologies (3G, 4G)	10	30-10-2017	06-01-2018
8	Certificate Course in Networking (A+, N+, MCSE 2012, CCNA, Exposure to ITIL)	12	20-11-2017	10-02-2018
9	Certificate Course in Cisco Enterprise Networking (CCNA, CCNP)	12	03-01-2018	28-03-2018
10	Certificate Course in Linux Administration (RHCE-7)	08	08-01-2018	03-03-2018
11	Certificate Course in Wireless Network Administration (CWNA)	10	05-03-2018	12-05-2018
12	Certificate Course in Cisco Enterprise Networking (CCNA, CCNP)	12	26-03-2018	16-06-2018
13	Certificate Course in Networking (A+, N+, MCSE 2012, CCNA, Exposure to ITIL)	12	26-03-2018	16-06-2018

Only 30 participants per batch, applications should be submitted to the Indian Embassy in your country at the earliest.

Admission Process

- ◆ Applications are now required to be filled in by the applicants at : <https://www.itecgoi.in>
- ◆ Applicants can choose their own login email ID and create their login password, which would be used to keep them posted of the processing status.
- ◆ After applying for the course, applicant must take a printout of the application and send it to the Indian Mission/Post through the nominating Ministry/Organizations.
- ◆ Missions/Posts can retrieve the application using the unique Application ID of the application and further process this and transmit to Ministry for further action.
- ◆ Applicants can track their applications status by logging with their register email ID and password.



Courses Offered



Certificate Course in Advanced Mobile Communication Technologies (3G 4G)

Course Objective

This course aims at providing the participants with a comprehensive knowledge in 2G, 3G and 4G technologies. Practical training provided during the course on Network Elements will give the participants much need hands-on experience

Course Outcomes

On completion of this course the participants will be able to:

- Understand Telecom and datacom fundamentals
- Explain Network structures & Key technologies involved in GSM, CDMA, WCDMA & LTE technologies
- Excel on Call flows involved in GSM, CDMA, WCDMA & LTE
- Understand RF concepts involved in Wireless telecommunication
- Understand how does telecom industry provide services to millions of people

Target Audience

Officials from ICT Ministry, Telecom Companies, Universities, Colleges, Telecom allied service companies etc.

Teaching Methodology

This course is based on both theoretical lessons and practical exercises

Prerequisites

Graduates / Engineers / Diploma Holders in Electronics / Electrical / Communications / Telecom or Equivalent with prior Telecom Knowledge

Duration : 10 Weeks (5 days a week , 4 - 6 hours per day)

Batch 1 - 03-07-2017 to 09-09-2017

Batch 2 - 30-10-2017 to 06-01-2018

Course Outline

■ Telecom and Datacom Fundamentals

- Communication Fundamentals, Understanding of Wired & Wireless systems Electromagnetic Spectrum, Frequency, Velocity, Wavelength, Bandwidth
- Transmission media - Twisted pair, Coax, Fiber, Satellite and LOS
- Modulation methods, Multiplexing techniques, Antennas theory and characteristics
- Introduction to LAN's, MAN's and WAN's, IEEE standards, Switching concepts, T1/E1 standards, X.25, ATM and Gigabit Ethernet
- IP Addressing IPv4 and IPv6 concepts.

■ Global System for Mobile communication and Signaling System

- FDMA, TDMA, CDMA, Introduction to cellular concepts Wireless Generations: 1G, 2G, 3G, Frequency ranges,
- GSM Architecture MS, BSS, MSC, Transcoder, HLR, VLR and other network elements
- Authentication, Channels on Air-Interface, Handovers, Time slot and Frame structure
- Call process procedures and Transmission process, Traffic Engineering, SS7 signaling, Architecture nodes, Protocol stack, Signal units and Call setup
- Configuration of cell site, Drive Test and RF planning

■ IS-95A standard and CDMA 2000 1x

- Introduction to CDMA, Spread Spectrum techniques, DSSS, FHSS, THSS. Pseudo noise sequence, Diversity, Orthogonal codes, Walsh codes
- Architecture, Forward and Reverse Links, Handoff, Power control, Call processing and Speech coding
- Evolution of IS-95A to CDMA 2000 1x, Physical and logical channels, Call processing and services. 1x EVDO Architecture, Channels in EVDO and Call procedures

■ 3G Technologies

- Introduction to packet switching, GPRS network elements, GPRS attach & PDP context activation, EDGE concepts
- Introduction to WCDMA, Radio channels, Frame structure, Enhancements in WCDMA, UTRAN Architecture, Node-B, RNC, Core network, IMS, Services and security
- UMTS protocols and Procedure Examples, UMTS Radio network planning and dimensioning, Coverage issues, Link budget & tools for planning, the move towards 4G
- WLAN standards, WLAN concepts, WLAN architecture WiMax

■ 4G Technologies

- Introduction to LTE, Goals and market drivers, Network architecture, e-UTRAN and EPC, roles of UE, eNB, MME, S-GW, P-GW and HSS, Interfaces S1, X2, S6a, S5 and S11
- LTE air interface, Orthogonality, OFDM, MIMO, Antenna Considerations.
- LTE services - CS-Fall back, VoLTE and SR-VCC, SMS support, Interworking with 2G/3G wireless networks, Wireless Mobility in LTE.

■ **Case study:** UTL has installed more than 2 million GSM lines and 2 million CDMA lines. A study of the installation techniques, practical problems faced on the field, Do's and Don'ts for the installation etc., will be dealt in the case study.

■ **Industry training:** UTL is associated with Operators and OEMs for conducting Industrial / Practical Training on Mobile Communication equipment's for participants

Certificate Course in Network Security

Course Objective

with Vulnerabilities & Threats all over, this course aims at preparing participants to secure their Computer Networks in various environments like Microsoft, Linux and Cisco

Course Outcomes

On completion of this course the participants will be able to:

- ➊ Understand of ethical hacking ethics and legality
- ➋ Implement the Foot printing and social engineering, Scanning and enumeration, system hacking
- ➌ Identifying of Trojans, back doors, virus and worms, sniffers, Denial of services and session hijacking
- ➍ Understand Hacking web servers, web application vulnerabilities
- ➎ Implementing Evading IDS honey pots and firewalls, wireless hacking
- ➏ Implementing Cryptography, penetration testing methodologies
- ➐ Configuring, verifying & troubleshooting a switch with VLANs and interswitch communications
- ➑ Implementing an IP addressing scheme and IP services to meet network requirements
- ➒ Implementing CBAC and zone-based firewalls, IPS
- ➓ Install, Configure of STP, VLAN, Secure layer 2 Switches
- ➔ Implement Traffic Control IP tables , NAT, SNAT, DNAT, PAT
- ➕ Implement SQUID (proxy server), QOS, Bandwidth, Splitting
- ➖ Implementing of Securing - Web, FTP, Open SSH, NFS, Email
- ➗ Implementing of IPcop as Firewall Intrusion Detection and Recovery
- ➘ Installing and configure AD, group policy, access control, DFS.
- ➙ Configure ADCS & PKI deploying a CA hierarchy EFS
- ➚ Configure ADRMS, IPSec, NAP, NAT, VPN services.
- ➛ Design & Identifying treats to network security
- ➜ Implementation and maintaining of TMG

Target Audience

This course is designed for individuals expected to have some hands-on experience with Windows Server, Windows based networking, Active Directory, Anti-Malware products, firewalls, network topologies and devices, and network ports

Teaching Methodology

This course is based on theoretical lessons and delivered in a Classroom atmosphere.

Course Outline

Prerequisites

Graduates / Engineers / Diploma holders with basic Knowledge of Hardware and networking application used

Duration : 10 Weeks (5 days a week , 6 - 8 hours per day)

Batch 1 - 03-07-2017 to 09-09-2017

Batch 2 - 11-09-2017 to 18-11-2017

■ Network Essentials

- Networking Essentials, LAN, WAN, Protocols
- ISO Model, IP Addressing, Internet, Intranet, Network Cables

■ Essential of IT Security System

- Introduction to ethical hacking ethics and legality
- Foot printing and social engineering
- Scanning and enumeration, system hacking
- Trojans, backdoors, virus and worms, sniffers
- Denial of services and session hijacking
- Hacking web servers, web application vulnerabilities,
- Evading IDS honey pots and firewalls, wireless hacking
- Cryptography, penetration testing methodologies

■ Forefront Threat Management Gateway (TMG)

- Installing and Maintaining TMG Server, Enabling Access to Internet Resources
- Configuring TMG as a firewall, Access to Advanced Application & Web Filtering
- Implementing Caching to Browsing & TMG Enterprise Edition

■ Windows Security

- Overview of AD, group policy, access Control, file system Security.
- Config AD CS overview of PKI deploying a CA hierarchy, EFS.
- Config AD right management services,
- Configuration of IPSec and network access protection.
- Config VPN access, routing and remote access, NAT.
- Designing network security, identifying threats to network Security.

■ Linux Security

- Traffic Control Iptables, NAT, SNAT, DNAT, PAT
- SQUID (proxy Server), QOS , Bandwidth Splitting
- Internet Security -Web, FTP, OpenSSH, NFS, Email
- IPcop as Firewall Intrusion Detection and Recovery

■ CCNA Security

- Administrative access, administrative access using AAA & RADIUS. Policy development & implementation.
- CBAC and zone-based firewalls, intrusion prevention system (IPS) using the CLI and SDM.
- Spanning tree, VLAN, securing layer 2 switches, VPN using Cisco IOS and SDM, remote access VPN server & client

Certificate Course in Networking (A+, N+, MCSE 2012, CCNA Exposure to ITIL)

Course Objective

This course aims at preparing the participants for Installation, Maintenance and Troubleshooting of the Networks using Microsoft (Servers, Client, and Security) and Cisco Products (Routers and Switches). The Hardware and Network Essential Module will give the Participants good foundation to start with

Course Outcomes

On completion of this course the participants will be able to:

- ❶ Install, Troubleshoot and Maintain Server and PC Hardware and Peripherals
- ❷ Understand the network topology, Devices and protocols, configure and Maintaining of Ipv4,Ipv6 based networks
- ❸ Install, Configure, Maintain, Troubleshoot, Upgrading of router & switches devices
- ❹ Deploy and Manage Windows Server 2012.
- ❺ Implementing of AD DS services, objects & Automate Administration.
- ❻ Implementing of DHCP,DNS,Local Storage, files & print services
- ❼ Secure Windows servers by using Group Policy Objects (GPOs).
- ❽ Install, configure and troubleshoot the Network Policy Server (NPS) role.
- ❾ Install, configure and troubleshoot AD CS, AD RMS, iSCSI, Branch Cache deployment , Network Load Balancing, Failover clustering
- ❿ Understand appropriate command-line, PowerShell and applicable management shell commands
- ⓫ understands How a network works, selecting the appropriate administrative tasks required for a WLAN
- ⓬ Configuring, verifying and troubleshooting basic switch & router operation on Cisco devices
- ⓭ Implementing an IP addressing scheme and IP services to meet network requirements
- ⓮ Identifying security threats to a network
- ⓯ Identifying methods to mitigate security threats

Target Audience

Officials from IT Departments of all Ministries, Govt. Departments, Banks, Telecom Companies, Universities, NGOs, Colleges, ICT Organizations etc.

Teaching Methodology

This course is based on theoretical lessons and delivered in a Classroom atmosphere.

Prerequisites

Graduates / Engineers / Diploma Holders with prior Knowledge in Computer Networking

Duration : 12 Weeks (5 days a week , 6 - 8 hours per day)

Batch 1 – 17-07-2017 to 07-10-2017

Batch 2 – 20-11-2017 to 10-02-2018

Batch 3 – 26-03-2018 to 16-06-2018

Course Outline

■ A+ & N+

- Hardware Basics, PC Functions & Components, Tools and Equipments,
- System Configuration, BIOS, CMOS Settings, Installation, Upgradation & Troubleshooting,
- Power Supplies, Expansion Bus, Hard Drives, Floppy Drives, Printers Motherboard, Safety & Preventive Measures
- Networking Essentials, LAN, WAN, Protocols, ISO Model, IP Addressing, Internet, Intranet, Network Cables etc.,

■ Microsoft Certified Solution Expert (MCSE 2012)

- Installing & Configuring Windows Server 2012 (70-410)
- Administering Windows Server 2012 (70-411)
- Configuring Advanced Windows Server 2012 Services (70-412)
- Designing & Implementing a Server infrastructure (70-413)
- Implementing an advanced server infrastructure (70-647)

■ Exposure to ITIL Standards

■ Cisco Certified Network Associate (CCNA) Track

- Concept of internetworking, internet protocols
- IP addressing, subnetting, CIDR, VLSM, Cisco IOS, IP routing, RIP, EIGRP, OSPF.
- Layer 2 switching VLAN, STP, VTP, Managing traffic with access control list.
- Wide Area Networking Protocols.
- Identify enhanced switching technologies (RSTP, PVSTP, Etherchannels)
- IP addressing (IPv4 / IPv6) & configuration
- Global unicast, Multicast, Link local, Unique local, eui 64, Auto configuration, Recognize high availability (FHRP, VRRP, HSRP, GLBP)
- Troubleshooting and Concepts of WAN Technologies.

■ **Case Study** : UTL has implemented six state wide area networks & e-governance projects in various states of India. Overview of couple of these complex networks will be given as case studies to have a perfect understanding of the technologies learnt

■ **Industrial Visit / Training**: Participants are taken to State Wide Area Network project implemented by UTL and also to R&D Manufacturing facilities of UTL & its partners

Certificate Course in Advanced Telecom Transmission Technologies (FTTH & GPON)

Course Objective

This course provides the participants with a comprehensive Knowledge on Planning, Designing, Implementing, Managing and Trouble Shooting FTTH & GPON.

Course Outcomes

On completion of this course the participants will be able to:

- Excel on Network essentials and Optical fundamentals
- Expertise on telecom transmission technologies such as SONET/SDH, DWDM & GPON/FTTx
- Build GPON Infrastructure Networks

Target Audience

Students who are pursuing Under Graduate & Post Graduate courses on Electronics or Telecommunication or Information & Communication Engineering from Engineering Colleges of various Universities may attend this program

Teaching Methodology

This course is based on both theoretical lessons and practical exercises

Prerequisites

Graduates / Engineers / Diploma Holders in Electronics / Electrical / Communications / Telecom or Equivalent with general Knowledge of wireless telecommunication is desirable

Duration : 08 Weeks (5 days a week , 6 - 8 hours per day)

Batch 1 - 11-09-2017 to 04-11-2017

Course Outline

■ Network Essentials

- Network Architecture, Internetworking Devices, OSI, TCP/IP Model
- Network Addressing Design : IPv4/IPv6, Ethernet Technologies, MPLS Fundamentals

■ Optical Fundamentals

- Light theory, Introduction to fiber optics, Electromagnetic Spectrum
- Evolution of fiber, types of fiber, ITU-T Standards, Fusion & Mechanical Splicing, OTDR, Power meter
- Light sources & detectors, connectors like FC, SC, ST, LC, MU, Patch chords, Patch panel etc

■ SONET/SDH, DWDM

- Multiplexing techniques TDM & FDM, SDH architectures, STM-1, STM-4, STM-16, STM -64.
- SDH multiplexing & protection schemes, SONET layered Structure STS-N frame structures
- SDH tester, E1 tester, Elements of WDM link, OADMs and ROADMs, regenerators and transponders, Types of amplifiers, EDFA, pre-Inline & booster
- DWDM network design considerations, operating wave lengths, DWDM test & measurement, optical spectrum analyzer etc. Photonic networks
- Optical layer, optical routing and elements of all-optical networking , ROADM - Reconfigurable Optical Add-Drop Multiplexing
- Coherent optical communications, New optical modulation schemes for 40 G, 100Gb/s transmission, DP-QPSK
- Use of Digital Signal Processing along with coherent optical systems to alleviate chromatic dispersion, polarization mode dispersion and OSNR impairments

■ Overview of FTTX

- FTTx Technology, Architecture, Access Networks, Network Layers, Open Access networks

■ Passive Optical Networks

- PON Principles, Benefits and PON types (BPON / EPON / GPON)
- How Passive Optical Network is Economical, xPON comparison, GPON vs GEAPON

■ Building GPON Infrastructure Networks

- G-PON basics, Network Elements, OLT, ONU, Splitter, ODF, Power Budget Calculation
- GPON Standards, Infrastructure in-buildings, In-Building wiring, Transmission Basics GPON Multiplexing Architecture
- Downstream & Upstream TDM Architectures, GPON Stack & Control User Planes, Services: IPTV, VoIP and Internet, RF Services
- GTC Layer Main Functions, GTC Frame Format: Downstream, Upstream, ONU state machine, ONU status change: Activate, Deactivate, Disable, ONU, POPUP, PON Physical Parameters

■ **Case study:** Case Study of UTL GOA Network will be given to participants

■ **Industry training:** All the participants are taken to GOA BroadBand Network (GBBN) implemented by UTL and also visit to UTL R & D Manufacturing facilities where the optical fiber equipment's are designed and manufactured.

Certificate Course in CISCO Enterprise Networking

Course Objective

This course is intended for those interested in the Planning, Implementing, Verifying and Troubleshooting Local and Wide-area enterprise networks and work collaboratively with specialists on advanced Cisco networking solutions. It will prepare the student to: plan, implement, verify and troubleshoot Cisco networking products,

This course would help the candidate to prepare for Cisco global certification exams CCNA and CCNP also

Course Outcomes

On completion of this course the participants will be able to:

- Implement, monitor, and maintain routing and switching services in an enterprise campus network.
- Plan, configure, and verify the implementation of complex enterprise
- LAN and WAN routing solutions
- Implement IPv6, EIGRP, BGP, and OSPF in an enterprise network
- Implement the secure integration of VLANs, WLANs, voice, and video into campus networks.
- Plan, configure, and verify the implementation of complex enterprise switching solutions.
- Plan and execute regular network maintenance to monitor
- Maintain complex enterprise routed and switched IP networks
- Implement the secure integration of VLANs, WLANs, voice, and video into campus networks.
- Plan, configure, and verify the implementation of complex enterprise switching solutions.
- Plan and execute regular network maintenance to monitor
- Maintain complex enterprise routed and switched IP networks

Target Audience

This course is designed for individuals and anyone needing a solid foundation for understanding the Basic network concepts, identifying the type's network, categories, Transmission basic, topologies, protocols and devices

Prerequisites

Post Graduates / Engineers / Diploma holders / Graduates in Computer Science, Electronics, Telecommunications, Instrumentation or equivalent, even Graduates in Arts & Commerce with basic Knowledge of CCNA-level networking concepts and skills, knowledge and skills needed to plan, implement, secure, maintain, and troubleshoot converged enterprise networks. This experience-oriented courses that employ industry-relevant instructional approaches to prepare Participants for professional-level jobs

Teaching Methodology

This course is based on theoretical lessons and delivered in a Classroom atmosphere.

Duration : 12 Weeks (5 days a week , 6 - 8 hours per day)

Batch 1 – 09-10-2017 to 30-12-2017

Batch 2 – 03-01-2018 to 28-03-2018

Batch 3 – 26-03-2018 to 16-06-2018

Course Outline

■ Network Essentials

- Open Source Interconnection Model (OSI)
- Local Area & Wide Area Networks
- TCP / IP Protocols,
- IP Addressing,
- Ethernet Networking

■ Cisco Certified Network Associate Track

- Internetworking & Internet Protocols
- IP Sub netting and Variable Length Subnet Masks
- Introduction to the Cisco IOS
- IP Routing & EIGRP and OSPF
- Layer2 Switching & Virtual LANs
- Managing a Cisco Inter-network
- Managing Traffic with Access Lists,
- Wide Area Network Protocols

■ Cisco Certified Network Professional (Routing & Switching) Track

- Implementing Cisco IP Routing (CCNP ROUTE)
- Implementing Cisco IP Switched Networks (CCNP SWITCH)
- Troubleshooting and Maintaining Cisco IP Networks (CCNP TSHOOT)

■ **Case study:** UTL has implemented Six State Wide Area Networks and e-governance projects in various states of India. Overview of couple of these complex networks will be given as case studies to have a perfect understanding of the technologies learn.

Certificate Course in Linux Administration (RHCE-7)

Course Objective

This Course aims at preparing participants to Install, Configure, Troubleshoot, Secure, Administer and Maintain Red Hat Enterprise Linux based networks. It also aims at preparing participants for RHCE Certification Exam conducted by Redhat .

Course Outcomes

On completion of this course the participants will be able to:

- Understand Linux ideas and history, Usage basics, Browsing the file system, Users, groups and Permissions
- Using & Configuring the bash shell, Standard I/O and pipes
- Test processing tools, Vim: An advanced test editor
- Basic system configuration tools Investigating and managing processes
- Finding & processing files, System services, user administration, file system management
- Network configuration, Installation kick start, Virtualization with Xen, Troubleshooting
- Network resource access controls, Organizing networked systems, Network file sharing services
- Web services, Electronic mail services, Securing data account management

Target Audience

This course is designed for Professionals, Fresher's and Students who want to learn and preparing for RHEL – Redhat System Administration Certifications, Professionals moving from Microsoft Windows platform to Linux Environment.

Teaching Methodology

This course is based on theoretical lessons and delivered in a Classroom atmosphere.

Prerequisites

Graduates / Engineers / Diploma holders with basic Knowledge of how Linux works and how to fix user level problems and back end issues

Duration : 08 Weeks (5 days a week , 6 - 8 hours per day)

Batch 1 – 08-01-2018 to 03-03-2018

Course Outline

■ Red Hat Linux Essentials

- Overview of UNIX History, UNIX Principles, GNU Project / FSF, GPL - GNU General, Public License, Linux Origins, Why Linux
- Get started with Gnome Graphical Desktop, Get Help in graphical environment
- Get started with bash, Manage physical storage, Manage logical volumes, Monitor system resources, Manage system software
- Get help in a textual environment, Establish network connectivity, Administer users and groups
- Manage files from the command line, Secure Linux file access, Administer remote systems, Configure general services
- Manage physical storage, Install Linux graphically, Managing Virtual Machines, Control the boot process
- Deploy file sharing services, secure network services.

■ Red Hat Linux System Administration

- Automated installation of Red Hat, Enterprise Linux, Accessing the command-line, Intermediate command-line tools
- Regular expression, pipelines & I/O redirection, Network Configuration & Troubleshooting

- Managing simple partitions & file systems, Managing flexible storage with logical volume manager, Accessing network file sharing services
- Managing user accounts, Network user accounts with LDAP, Controlling access to files
- Managing SELinux, Installing and managing software, Analyzing and storing logs, Managing processes, Tuning & maintaining the kernel, System recovery techniques

■ Red Hat Network Services and Security Administration

- Getting started with the classroom environment, Enhance user security, Bash scripting & tools, File security with GnuPG, Package management
- Network monitoring, Advanced network configuration, Secure network traffic, NTP Server Configuration, System monitoring and logs
- Centralized and secure storage, SSL encapsulated web services, Web server additional configuration, Basic SMTP configuration
- File sharing with NFS, Caching-only DNS server, File sharing with CIFS, File sharing with FTP, Troubleshooting the boot process.

Certificate Course in Wireless Network Administration

Course Objective

This course will enable the participants to Install, configure and support wireless NICs, access points, wireless bridges, workgroup bridges, wireless gateways and WLAN antennas from Cisco Systems, Analyze and troubleshoot WLAN problems

Course Outcomes

On completion of this course the participants will be able to:

- Excel on LAN,MAN,WAN & IP technologies
- Expertise on IEEE 802.11 standards & Procedures
- Excel on WiMax, IEEE 802.16, OFDM & MIMO
- Install, configure, troubleshoot and support wireless NICs, access points, wireless bridges, workgroup bridges, wireless gateways and WLAN antennas from Cisco Systems
- Excel on Wireless security issues

Teaching Methodology

This course is based on both theoretical lessons and practical exercises

Prerequisites

Graduates / Engineers / Diploma holders in electronics / electrical / communications / telecom or equivalent with general Knowledge of wireless telecommunication is desirable

Duration : 10 Weeks (5 days a week , 4 - 6 hours per day)

Batch 1 – 05-03-2018 to 12-05-2018

Target Audience

Officials from IT Departments of all Ministries, Govt Departments, Banks, Telecom Companies, Universities, NGOs, Colleges, ICT organizations, etc.

Course Outline

■ Radio Frequency Fundamentals

- Electromagnetic Spectrum, RF Systems, Modulation, Multiple Access Schemes, RF Measurements, Fading, Link Budget

■ Network Essentials

- Introduction to Networking, LAN, MAN, WAN, TCP/IP, Configuring IP address, IPv4, IPv6 Concepts.

■ Wireless Generations

- 1G, 2G, 3G & 4G Technologies

■ Overview of 802.11

- ISM, UNII bands, IEEE 802.11 Standards, Spread Spectrum Technology, FHSS, DSSS, Bluetooth, Zigbee, RFID concepts.

■ 802.11 WLAN Architecture

- Service Set Identifier, Beacons, Scanning, Service sets, Roaming, 802.11 Physical Layer (PHY) Operations and MAC Layer
- RF Power Output Regulations, WLAN Deployment, Site Surveying, Next Generation Technologies
- Overview of 802.11 Security, Encryption Ciphers and Methods
- Enterprise 802.11 Layer 2 Authentication Methods
- Robust Security Network (RSN), SOHO 802.11 Security, 802.11 Fast Secure Roaming
- Wireless Security Risks & Policies, Wireless LAN Security Auditing, Wireless Security Monitoring
- VPNs, Remote Access, and Guest Access Services
- WLAN Security Infrastructure.

For more details and procedure to apply for scholarship : <http://www.utltraining.com/itec-scaap/>

Bengaluru City

Bengaluru, or Bangalore, lies in the south western part of India. It is the capital of the state Karnataka. Always regarded as an important city, Bengaluru is a prominent education and business hub in India. A modern city, Bengaluru has a host of flourishing sectors. These include

- Information Technology (IT)
- Aerospace
- Education
- Real estate
- Telecom
- Hospitality
- Housing
- Healthcare
- Biotechnology
- Media
- Tourism

Bengaluru is one of the most beautiful places in India. It is also known as the 'Garden City of India' and also called as Silicon Valley of India. The city has well-maintained roads, good railways and airways. This is highly useful for tourists as well as students who come here to pursue Education



Participants from 120 Countries has gained UTL Edge



For More Details Contact:

Mr. Vishwas M (b/w 9am - 8pm IST)
 Manager ITEC Program - UTL Technologies
 Mobile : +919902966833
 E-mail : itec@utltraining.com

For Alliances and Corporate Training Contact:

Mr. Srinivas Raju (b/w 9am - 8pm IST)
 CEO - UTL Technologies
 Mobile : +919980866166
 E-mail : srinivasraju@utltechnologies.com

UTL Technologies Ltd

No 19/6, Ashokpuram School Road, Industrial Suburb, Yeshwanthpur, Bangalore: 560022.

☎ : (91) 80 23472171 / 23472172 📠 : (91) 80 23572795 ✉ : info@utltraining.com 🌐 : www.utltraining.com