IT Fundamentals and System Administration – 6 Weeks

Aim
- To increase employee knowledge in new technologies
- Introducing emerging technology
- Understanding of how PC and web-based programs work and how they'll use them on the job.

Objective

- To understand the concepts of various types of hardware, installing & troubleshooting.

- To understand the Computer Network fundamentals and role of associated devices & share resources.

- To understand the different types of OS, install and work on various types of OS .

- To understand the principles of creating an effective web page.

- To understand the Software troubleshooting in which process of scanning, identifying, diagnosing and resolving problems, and restore the software to normal operation.

- To be aware about the types of security threats and its countermeasures.

Course Content

Hardware
- Subassembly of computer system
- Identifying faulty hardware
- Subcomponents of power supply
- Types of hard disk
- Types of RAM, CMOS battery, LAN card, connectors, Power cable, screen, VGA cable)

Software
- Driver (missing, outdated, conflicts with other application)
- System maintenance tool (scan disk, defragmentation, disk clean)
- Enabling and disabling OS update
- System restore
  - Safe mode
  - Resetting system password
- Booting from different device (USB)
- Installing ,Formatting (Windows & Linux Operating System)
- Sharing printer
- Configuration and setting up of server
- Antivirus and malware removal tools

Networking
- Introduction to Network
  - OSI Model
  - TCP/IP Model
  - Network Topology

- IPv4
  - IPv4 Addressing

- ➢ Subnetting

- Parts of network cable (UTP,Fiber Optic)
- Crimping of UTP cable
- Network Cable layout
- Knowing network switch
- Configuring small router/modem/access point/ manageable switch
- Internet connection (broadband, leased line)
- Remote network monitoring and support tool

- IPv6
  - ➢ Introduction to IPv6
  - ➢ IPv6 Addressing

- Network Security

Cyber security
- Information Security
- Data Protection and Integrity
- OS vulnerability and Prevention
- Internet Security
- Email Security
- USB Security

- Desktop Security
- Mobile Security
- Secure Usage of Credit/Debit and ATM Card
- Broadband and Wi-Fi Security
- Introduction and Types of Cyber Crime

Others
1. Basics of Web Development (HTML)

- Introduction to HTML
- Tags and attributes
- working with different Heading style,
- Text Style (Bold, Italic and Underline),
- Working with different types of Listing and their attributes
- Ordered list
- Unordered list
- Definition list
- Adding graphics and images to HTML
- Tables.
- Link documents,
- Working with Hyperlinks
  - ➢ Internal hyperlinks
  - ➢ External hyperlinks

- iFrames
- Form handling
  - ➢ Form input types
  - ➢ Form attributes

- HTML 5
  - Audio
  - Video
  - Validations

2. Exploration of different digital tools for learning
3. Advance office packages (Word, sheet and slides)