



Skill India
कौशल भारत-कुशल भारत



सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



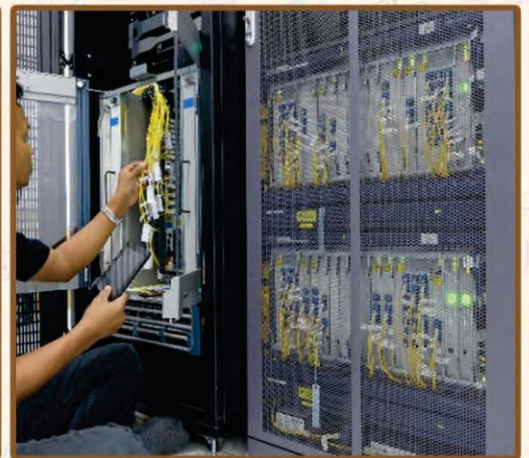
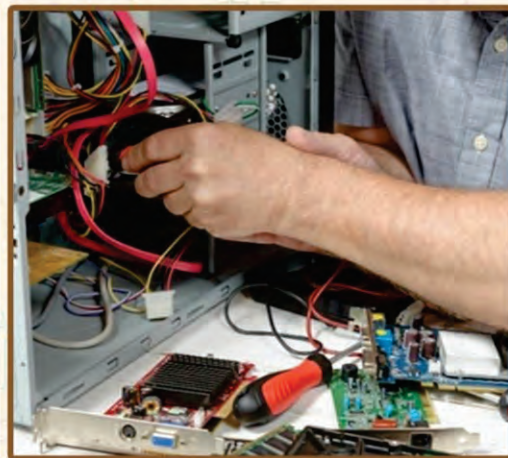
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Skilling India in Electronics

Facilitator Guide



Sector
Electronics

Sub-Sector
IT Hardware

Occupation
After Sales Support

Reference ID: ELE/Q4607, Version 1.0

NSQF Level: 5

Service Engineer

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Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”

Acknowledgements

The need for having a standard curriculum for the Job Role based Qualification Packs under the National Skills Qualification Framework was felt necessary for achieving a uniform skill-based training manual in the form of a Facilitator Guide.

I would like to take the opportunity to thank everyone who contributed in developing this Guide for the QP Service Engineer.

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CEO

Electronics Sector Skills Council of India

About this Guide

This Facilitator Guide is designed to enable training for the specific Qualification Pack (QP). Each National Occupational (NOS) is covered across Unit/s. Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS. The symbols used in this book are described below.

Symbols Used



Ask



Demonstrate



Facilitation Notes



Learning Outcomes



Notes



Objectives



Practical



Team Activities



Do



Explain



Say



Resources



Activities



Summary



Role Play



Example

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1. Basics of IT

Hardware System

Unit 1.0- Introduction of the Module

Unit 1.1 - Introduction to Service Engineer

Unit 1.2- Basics of Computer

Unit 1.3- Operating System and Other Software

Unit 1.4- Basics of Networking

Unit 1.5- Internet and Web Browser



ELE/N4614

Key Learning Outcomes



At the end of this module, you will be able to:

- Explain the roles and responsibilities of a service engineer
- Define the basics of computer
- Describe operating system and other software
- Identify the basics of networking
- Make use of Internet and web browser

UNIT 1.0: Introduction of the Module

Objective of the Module

The objective of this module is to make the participants familiar with the roles and responsibilities of a service engineer. The participants will be able to understand the basics of computer. They will also be introduced to operating system and other software. In addition, they would be told about the basics of networking. Lastly they will become aware of Internet and web browser.

Ask

- Enquire if anybody knows what the support services are.
- Ask the participants to tell some responsibilities of a service engineer.
- Ask if anyone knows about Information Technology (IT) hardware system.
- Ask the participants to share their expectations from this course.

Notes for Facilitation

- Make the session interactive by involving the participants in a discussion and introduce the topics to them.
- You could ask the participants about the expectations from the course. Then, inform them briefly about the major topics that will be covered in this course.
- Invite the participants to share their expectations on the whiteboard/blackboard.
- Give the participants a brief overview of what all will be covered in the course.

Icebreaker

Objective

The objective of this activity is to make the participants familiar with each other. This is mainly done to break the ice between the participants (make them talk to each other).

Do

- Make some tags of famous people such as
 - PV Sindhu
 - Undertaker
 - Harry Potter
 - Narendra Modi
 - Amitabh Bachchan

Notes for Facilitation

- Ask the participants to stand in a circle. Randomly choose any participant and stick one tag on the person's back without showing the name.
- Ask the participant to identify the name written on the tag by putting up questions to his fellow participants.
- Give the participants an example of how to play this game by telling them the type of questions they can ask, such as:
 - Am I an athlete?
 - Am I a wrestler?
 - Am I an actor?
- The fellow participants should only answer either "Yes" or "No".
- Continue the same activity with a few of the other participants.

UNIT 1.1: Introduction to Service Engineer

Unit Objectives

At the end of this unit, the participants will be able to:

- Identify support services
- Describe IT hardware service engineer
- List components of IT hardware system

Say

- Start the session by telling the participants that support services are services that address problems with a service or product sold to a customer.
- Tell them that a service engineer is responsible for attending to problems to resolve or perform maintenance functions by visiting client or remote locations.
- Inform them that an IT hardware system mainly consists of:
 - Computer and peripheral devices
 - Related software
 - Network and network devices

Notes for Facilitation

- Tell the participants that support services includes tasks as shown in the following figure:

Evaluation of prospective customers

Telemarketing

Processing of purchase orders and fulfilment services

Information and tracking of delivery schedules

Customer relationship management services

Formulation of customer service

Fig 1.1.1: Support service tasks

- Further, tell them that after sales service ensures that the customers are satisfied with the products and services of the company or organization.

- In addition, tell them that after sales service ensures that sold products and services meet or exceed the expectations of the customers.
- Tell them about IT hardware support services with the help of the following figure:

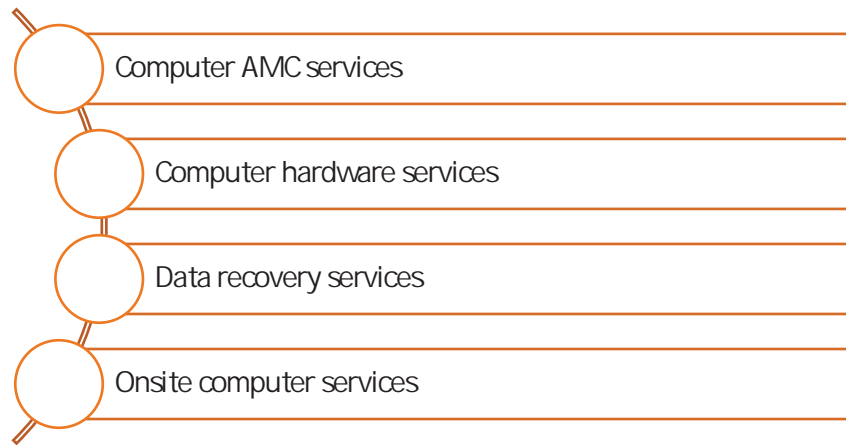


Fig 1.1.2 IT hardware support services

- Inform them that support services can be provided in two ways, onsite service and offsite service.
- Explain to the participants the roles and responsibilities of a service engineer with the help of following points:
 - Attends to problems to resolve them
 - Performs maintenance functions by visiting clients or remote locations
 - Assesses and installs or fixes the equipment or machinery.
 - Provides support and service in different fields such as IT and Biomedical
- Tell them that an IT Hardware service engineer provides hardware and related software service and maintenance. The maintenance may include installation or repair of hardware equipment or associated software by monitoring, troubleshooting and replacing faulty modules.
- Inform them that an IT hardware system mainly consists of components as shown in the following figure:

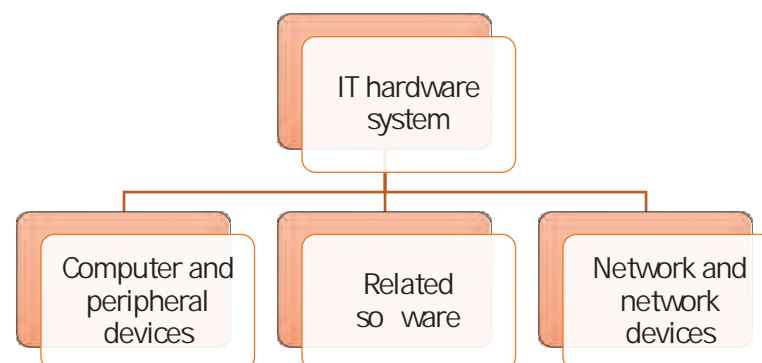


Fig 1.1.3: IT hardware system components

- Explain the components of IT hardware system with the help of the following points:
 - Computer and peripheral devices: These are devices which are connected to a computer but are not part of the core computer architecture. There are three types of computer peripheral devices:
 - Input devices: mouse, keyboard, and joystick
 - Output devices: monitor, printer, and speakers
 - Storage devices: hard drive, flash drive, and pen drive
 - Related software such as firmware: This is a type of software which provides control, monitoring and data manipulation of various products and systems.
 - Network and network devices: These are devices such as hub, bridge, modem, router, switches and so on.

UNIT 1.2: Basics of Computer

Unit Objectives

At the end of this unit, the participants will be able to:

- Define computer and types of computer
- Identify the basic hardware and related software required in a computer
- Describe the importance of computer maintenance

Ask

- Enquire from them if they know about first mechanical calculating device "Abacus".
- Ask them which component of computer is called the brain of computer and why.
- Ask them to define hardware and software.
- Ask them if they know some advantages of computer.
- Ask them if they can tell about different types of computers such as PC, workstation and so on.
- Ask them to tell the main connection ports of a computer.
- Ask them to explain the difference between a laptop and a notebook.

Demonstrate

- Show the various hardware components of a computer
- Show the working of webcam, scanner and printer
- Show the working of a system software such as Windows
- Show the working of a programming software such as Logo
- Show the working of an application software such as MS Office

Notes for Facilitation

- Tell the participants that computer has become an indispensable and multi-purpose tool.
- Inform them that computer is an electronic device for performing arithmetic and logical operations.
- Tell them that Abacus is known to be the first mechanical calculating device, which was used to perform addition and subtraction easily and speedily.

- Tell the participants that computer is a device or machine which is given a set of instructions to carry out arithmetic or logical operations. These set of instructions are called a program.
- Tell them a few characteristics of a computer with the help of the following points:
 - Speed: Computers work at a very high speed and are capable of performing 3-4 million instructions per second.
 - Accuracy: Computers deliver 100% accuracy.
 - Diligence: Computers are highly dependable.
 - Versatility: Computers are versatile machines and are capable of performing a variety of tasks.
 - Storage Capacity: Computers can store a very large amount of data.
- Explain to them the four functional units in a computer which are input unit, storage unit, CPU and output unit.
- Inform them that peripheral devices are input-output devices used to enter information and instructions into a computer for storage or processing and to deliver the processed data to a user.
- Next, tell them about the classification of computers of sizes with the help of the following figure:

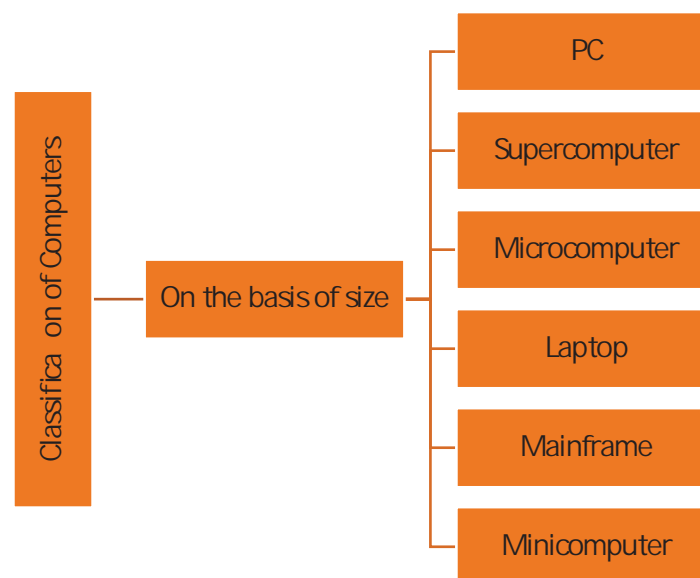


Fig 1.21: Classification of computer

- Explain to them about each type of computer in detail.
- Inform them about applications of computer in different fields such as:
 - Business: Computers are used in business for the calculations of payroll, budgeting, ERP and so on.
 - Banking: Online accounting facility
 - Education: Computer Based Education
 - Marketing: Advertisement, Online or Home shopping
- Explain in detail about the hardware components of a computer.

- Tell them about other hardware components such as webcam, scanner, printer, monitor, and speaker.
- Inform the participants that storage devices store the data in their memory.
- Explain to them about storage devices such as hard disk, compact disc (CD), magnetic strip and USB.
- Next, explain to them about software with the help of the following points:
 - Majority of software are written in high-level programming languages that are easier and more efficient for programmers, which means closer to a natural language.
 - High-level languages are translated into machine language using a compiler or an interpreter or a combination of the two.
 - Software may also be written in a low-level assembly language, essentially, a vaguely mnemonic representation of a machine language using a natural language alphabet, which is translated into machine language using an assembler.
 - With the help of the following figure, explain that computer software can be classified into various types:

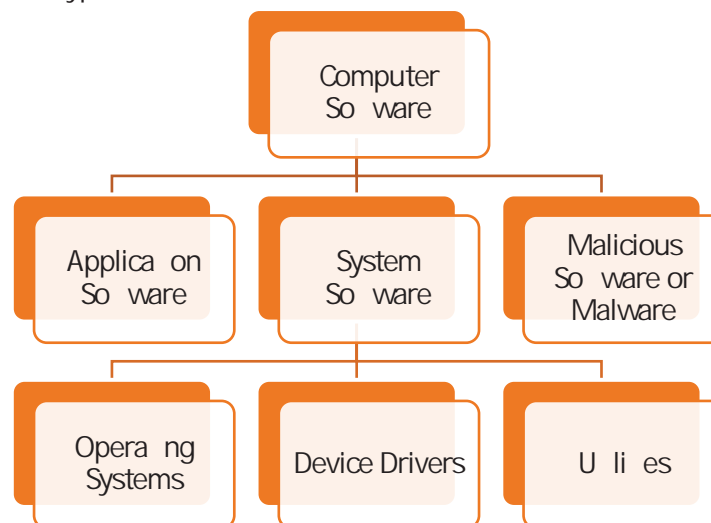


Fig 1.2.2 Type of computer software

- Application software: This software uses the computer system to perform special functions or provide entertainment functions beyond the basic operation of the computer itself. There are many different types of application software because the range of tasks that can be performed with a modern computer is large.
- System software: This software directly operates the computer hardware to provide basic functionality needed by users and other software, and to provide a platform for running application software. System software includes:
 - Operating systems: It is an essential collection of software that manage resources and provides common services for other software that runs "on top" of them. Supervisory programs, boot loaders, shells and window systems are core parts of operating systems.

Device driver: It operates or controls a particular type of device that is attached to a computer. Each device needs at least one corresponding device driver. As a computer typically has at least one input device and one output device, it needs more than one device driver.

Utilities: These are the computer programs designed to assist users in the maintenance and care of their computers.

- Malicious software or malware: It is software developed to harm and disrupt computers. As such, malware is undesirable and is closely associated with computer-related crimes. These undesirable programs, which are usually added without a user's knowledge, can significantly slow down the performance of a computer. Keeping an antivirus software up to date and running scans on a regular basis are the best ways to prevent virus infections.
- In addition, tell them about the different layers of software such as shown in the following figure:

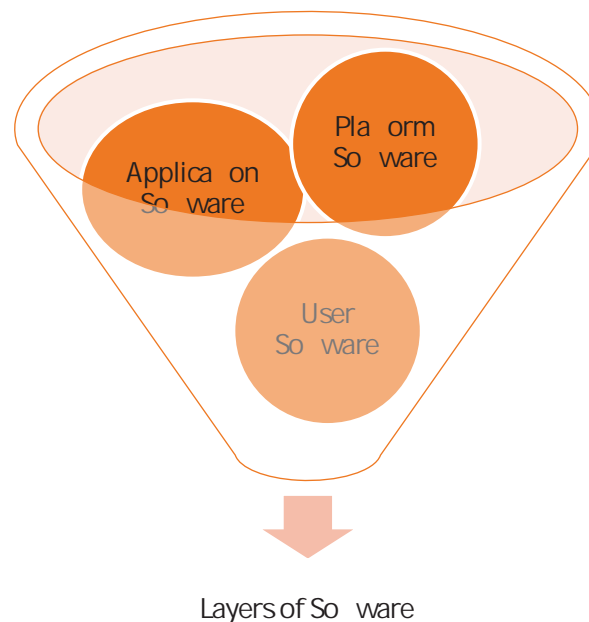


Fig 1.23: Layers of software

- Platform software: The Platform software includes the firmware, device drivers, an operating system and typically a graphical user interface which allows a user to interact with the computer and its peripherals. It comes bundled with the computer.
- Application software: Application software or Applications are what most people think of when they think of software. Application software is often purchased separately, apart from the computer hardware. They are usually independent from the operating system, though they are often tailored for specific platforms. Compilers, databases and other system software are not applications.
- User software: User software includes spreadsheet and word processor templates. Even email filters are a kind of user software. Users create this software themselves.

- Lastly explain to them about the importance of computer maintenance.
- Summarize the unit using the following figure, which gives an overview of the hardware and software:

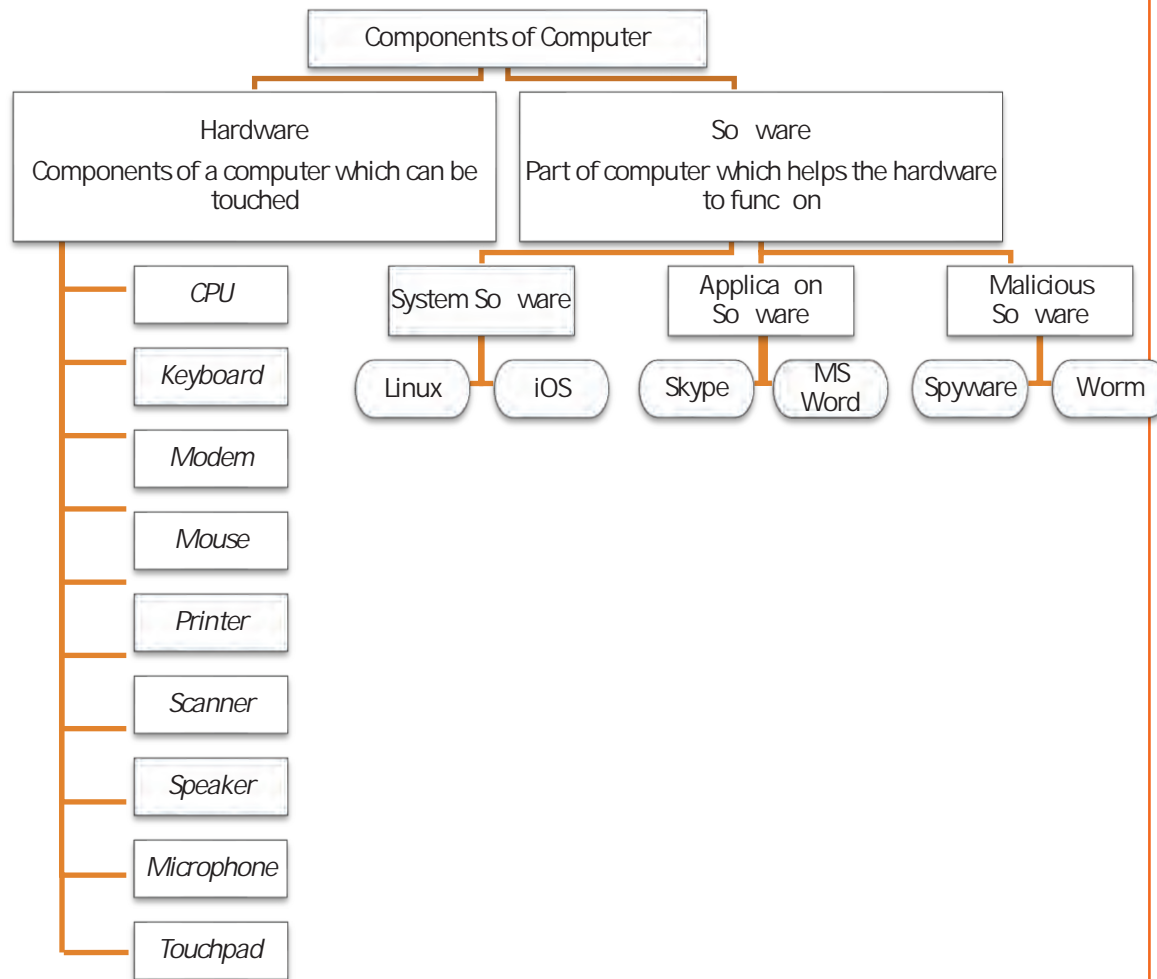


Fig 1.24: Components of computer

- Activity handling strategy:
 - Solution for the activity "Choose the correct answer for the following questions":
 1. B
 2. B
 3. B
 - Solution for the activity "Choose the correct answer for the following questions":
 1. d
 2. a
 3. b
 4. e
 5. c

UNIT 1.3: Operating System and Other Software

Unit Objectives

At the end of this unit, the participants will be able to:

- Define operating system
- Identify the types of operating system
- Describe other software

Say

- Enquire from the participants if they have ever noticed the different colour bands present on the resistors? If they say yes, then ask them to name few colours they remember.
- Ask them to name some components commonly used in circuits.
- Tell the participants that an operating system (OS) is an important system software which operates computer hardware and software resources.
- Tell them that there are various types of operating systems available in the market such as UNIX, Microsoft (MS) Windows and so on.

Demonstrate

- Perform the steps needed to install windows OS
- Perform the steps needed to install Linux OS
- Show the working of MS Exchange
- Show the working of Auto CAD
- Show the working of Skype and Team viewer
- Show the working of an antivirus software

Notes for Facilitation

- Tell the participants that an operating system is the most important software that runs on a computer. It manages the computer's memory, processes, and all of its software and hardware.
- Further, tell them the functions of OS with the help of the following points:
 - Booting: Booting is a process of initializing the computer. The booting process can either be hard or soft boot. Both the types of booting process can be initiated either by hardware such as a button press or by software command.

- Memory Management: The memory cannot be handled without the OS. Various programs and information execute in memory at one time. If there is no OS, the programs may mix up with each other.
 - Loading and Execution: A program is loaded in the memory before its execution. Operating system facilitates to load the program in memory and executes it later on.
 - Data: It is a critical part of any computer system. The OS ensures that the data stored in the computer is protected from any unlawful utilize, modification or deletion.
- Disk Management: Disk space is efficiently managed by the OS. It also manages the stored files and folders in a legitimate way.
- Process Management: The CPU can perform only one task at one time. When there are multiple tasks running on a system, the OS decides the sequence of the tasks to be performed by the CPU.
- Device Controlling: The OS controls all devices attached to a computer with the help of small software called device drivers.
- Print Controlling: The OS system controls the printing function. Even if a user issues two print commands simultaneously, it doesn't mix the information of these documents and prints them independently.
- Providing Interface: The OS provides an interface to the user to interact with a computer. User interface refers to the way the user inputs data and instruction and how information is displayed on the screen. The OS offers two types of interface to the user:
 - Graphical-line interface: Provides a visual environment to the user to communicate with the computer. It allows the user to utilize windows, icons, menus and other graphical objects to issue commands.
 - Command-line interface: Provides a text interface to communicate with the computer by allowing the user to type commands.
- In addition, explain to them the components of an OS.

- Next, explain to them about the different types of OS with the help of the following figure:

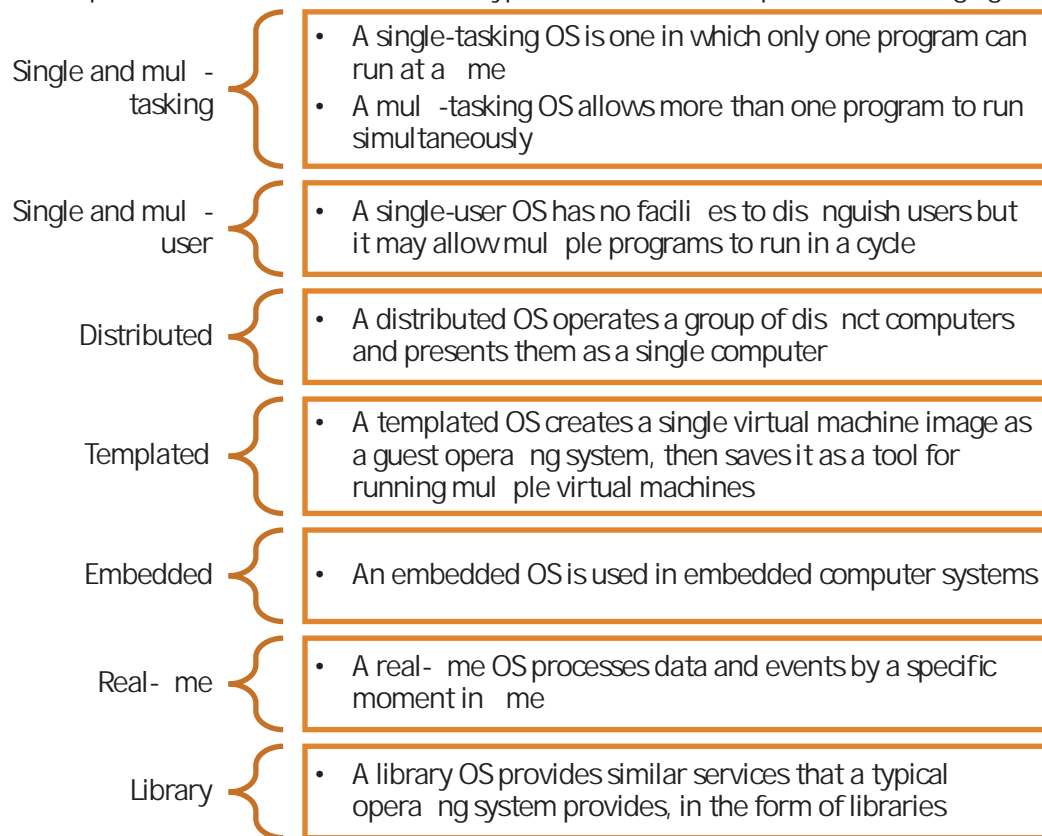


Fig 1.3.1: Different type of OS

- Explain to them the three most commonly used operating systems are Windows, Mac OS and Linux OS.
- Further, explain to them the following points about Microsoft Windows:
 - Owned and operated by Microsoft.
 - The latest version is Windows 10, which includes touchscreen support.
 - Architecture of Windows NT:

The Windows NT operating system architecture consists of two main layers that are user and kernel mode, with many different modules within both of these layers.

User Mode: User mode consists of different system-defined processes and DLLs. An environment subsystem acts as an interface between the applications of user mode and an operating system kernel functions. The four main environment subsystems are the Win32 subsystem, an OS/2 subsystem, the Windows Subsystem for Linux and a POSIX subsystem.

Kernel mode: Windows NT kernel mode has full access to the hardware and system resources of the computer and runs code in a protected memory area. It prevents user mode applications to access critical areas of the operating system. It controls all interaction with hardware and access to scheduling, thread prioritization and memory management.

- Further, tell them the steps involved in installing the latest edition of windows operating system (windows 10) on the computer:
 - Enter the computer's BIOS (Basic Input/ Output System).
 - Find the BIOS's boot options menu.
 - If the boot option menu can't be found, then search the name of the BIOS.
 - Select the CD-ROM drive as the first boot device of the computer.
 - Save the changes of the settings.
 - Shut down the computer.
 - Power on the PC and then insert the Windows 10 disc into the CD/DVD drive.
 - Select language, time and currency format and keyboard input format and click on Next.
 - Click on Install.
 - Wait for a few seconds for the setup to start.
 - If the product key is available, enter it, otherwise click on Skip.
 - Accept the license terms and click on Next.
 - Select "Custom: install Windows only (Advanced)".
 - Select the drive where Windows 10 needs to be installed.
 - Choose Windows 10.
 - Enter a serial key, otherwise click on 'Do this later' to skip this option.
 - Click on 'Use express settings' to use the recommended settings.
 - Enter a name and password to create an account.
 - Windows 10 has been successfully installed.
- Next, tell them that Mac OS, earlier known as Mac OS X, is the current series of Unix-based graphical operating systems developed and marketed by Apple Inc. It is designed to run on Apple's Macintosh computers and is preinstalled on all Macs since 2002
- Explain to them about the architecture of Mac OS with the help of the following link:
- https://en.wikipedia.org/wiki/Architecture_of_macOS
- Tell them the steps to re-install the Mac OS on Mac computers.
- In addition, tell them about the Linux OS with the help of the following points:
 - The Linux OS is comprised of a number of components such as:
 - Boot Loader: It is the software which manages the boot process of the computer. It is a simple splash screen that pops up and eventually goes away to boot into the operating system.
 - Kernel: It is one of the main components and is actually called "Linux". The kernel is the core of the system and manages the CPU, memory, and peripheral devices.
 - Daemons: These are background services that either start up during the booting process or after logging into the desktop.
 - The Shell: This is a command process that allows the user to control the computer via commands typed into a text interface.
 - Graphical Server: This is the sub-system that displays the graphics on the monitor. It is commonly referred to as the X server or just "X".

- Desktop Environment: This is a component that the users actually interact with. There are many desktop environments to choose from such as Unity, GNOME, Cinnamon, Enlightenment, KDE, and XFCE. Each desktop environment includes built-in applications such as file managers, configuration tools, web browsers, and games.
- Tell them the steps which are involved in installing and configuring Linux OS with the help of a disc:
 - Select Install or upgrade existing system options
 - Select Language.
 - Select keyboard type.
 - Choose skip media test.
 - Select storage device.
 - Type computer name or hostname.
 - Select time zone location.
 - Enter password for root user.
 - Select type of installation, review partitioning layout carefully and also choose the Encrypt system.
 - Review partitioning layout and modify if needed.
 - Manually configure LVM and RAID storage.
 - Create partition and formatting file systems.
 - Configure boot loader options, give boot loader password for security reason.
 - Select applications to install and select customize now.
 - Customize package selections.
 - Installation is completed successfully.
 - Reboot the computer and login with root credentials as it was set in the initial step.
- Lastly, explain to them about other software such as MS Exchange, AutoCAD, TeamViewer and Skype.
- Inform them that an antivirus is also known as an anti-malware software is a set of programs that is to prevent, detect and remove software virus, worms, adware, Trojans and so on.
- In addition, tell them about a few antivirus software such as Kaspersky Total Security, AVG Antivirus, Norton Security and Quick Heal Total Security with the help of following link:
 - <http://usa.kaspersky.com/products-services/home-computer-security/total-security/>
 - https://en.wikipedia.org/wiki/AVG_Antivirus
 - https://en.wikipedia.org/wiki/Norton_Security
 - <http://www.quickheal.co.in/home-users/quick-heal-total-security>
- Activity handling strategy:
 - Ask them to do the activity mentioned in the participant handbook.
 - Set a time limit of 5 minutes to complete the activity.
 - Once they are done, discuss the solutions which are as follows:
 1. c
 2. e
 3. D

- 4. a
- 5. b
- Solution for the activity "Choose the correct answer for the following questions":
 - 1. a
 - 2. a
 - 3. a
 - 4. b

UNIT 1.4: Basics of Networking

Unit Objectives

At the end of this unit, the participants will be able to:

- Define network and its topologies
- List the types of network
- Describe the layout of networks and their advantages
- Recognize network devices
- Explain TCP/IP and IP addressing
- Identify cables and connectors

Ask

- Start the session by asking the participants if they know about LAN, MAN and WAN.
- Ask them if they can tell different types of network topologies.
- Enquire if they know anything about TCP/IP. If yes, then ask them to name its layers.

Demonstrate

- Show a network interface card
- Show the various network devices
- The steps for identifying the IP address of a node or a computer
- The steps to ping a computer
- Show different types of network cables
- Show different types of network connectors
- The steps for crimping a RJ45 cable

Notes for Facilitation

- Tell the participants that a network is an interconnection of a group of computers that can communicate and share resources such as hard disks and printers and are connected by some type of transmission media.
- Tell them some advantages of network such as:
- Sharing of information across the network
- Optimum utilization of hardware resources
- Centralization of data management & peripherals

- Inform them that network architecture is a structural model that specifies the type, layout and components of a network along with data format, different protocols and services provided.
- Explain to them the two types of network architecture with the help of following points:
 - Peer-to-Peer: In a peer-to-peer network, there is no specific distinction between a client and a server. Every computer can communicate directly with every other computer. By default, no computer has more authority than another.
 - Client-Server: In a client-server network, the requests are processed centrally by one or more servers. The server is a system with high processing power, which provides services for the other computers in a network. The client is a system that accesses resources available on a server. In a client / server network setup, the server is responsible for processing the requests sent by the clients.
- Next, tell them about the different type of server such as file, print, communication, and mail server.
- Inform them that the three types of network that are:
 - Local Area Network (LAN)
 - Wide Area Network (WAN)
 - Metropolitan Area Network (MAN)
- Tell them about each type of network with the help of the following figure:

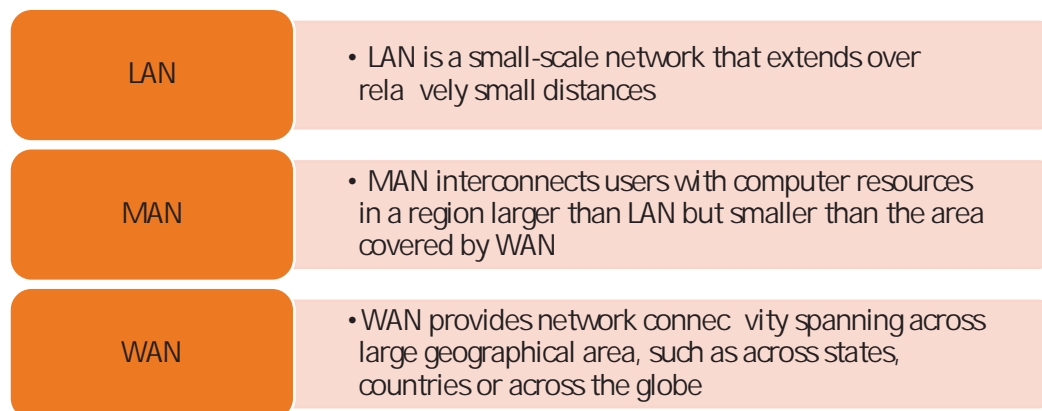


Fig 1.4.1: Type of network

- Inform the participants that network communication technology deals with the technology aspect of networking communication.
- In addition, also tell them that communication is the process of sharing information and ideas through speech, symbols, signals or signs.
- Briefly introduce Network Interface Card to them.
- Tell them about network communication technology such as Internet, Intranet and Extranet.
- Further tell them that communication technology also deals with the mode of transmission of data. Mode refers to the direction of data flow over the network. There are three types of mode:

- Simplex: It is a type of connection in which the flow of data is unidirectional i.e. the data flows in only one direction.
- Half-duplex: It is a type of connection in which the flow of data is in one direction or the other, but it cannot be both at the same time.
- Full-duplex: It is a type of connection in which the flow of data is bidirectional. Each end of the line can thus transmit and receive at the same time. This means that the bandwidth is divided into two for each direction of data transmission, if the same transmission medium is used for both directions of transmission.
- Further, tell them that there are other types of modes of transmission such as synchronous and asynchronous communication mode, parallel and series mode and so on.
- Explain to them about Network Operating System (NOS) with the help of the following points:
 - It runs on a server and provides server the capability to manage data, users, groups, security, applications and other networking functions.
 - The primary purpose of the NOS is to allow shared file and printer access among multiple computers in a network, for example it allows sharing through a LAN and also through a private network to other networks.
 - Examples of network operating systems are Microsoft Windows Server 2003, Microsoft Windows Server 2008, UNIX, Linux, Mac OS X, Novell NetWare and BSD.
 - Tell that the advantages of network operating systems are as follows:

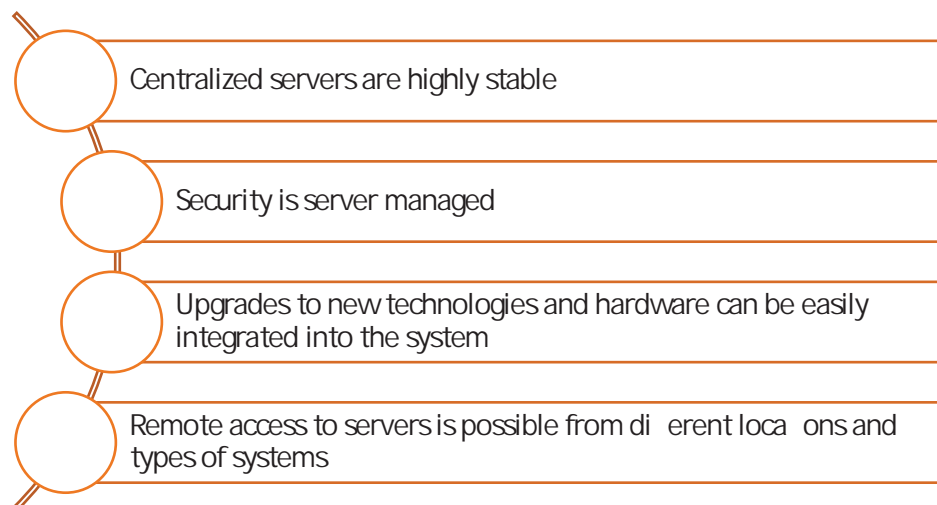


Fig 1.4.2 Advantages of network operating system

- In addition, tell them that the disadvantages of network operating systems are as follows:

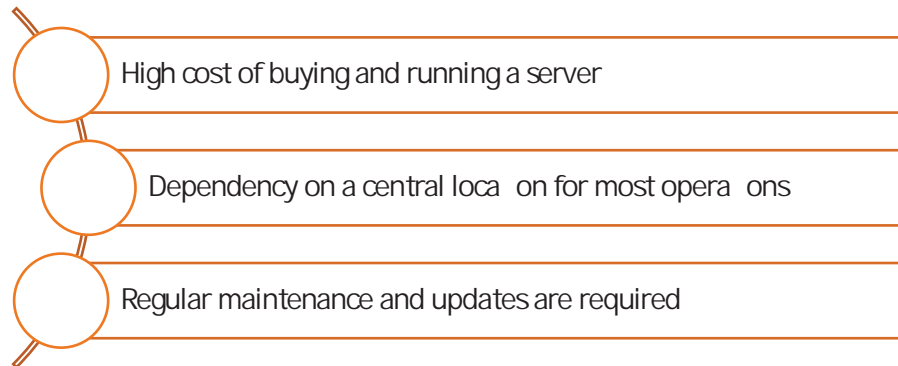


Fig 1.4.3: Disadvantages of network operating system

- Inform them about the various networking devices.
- Explain the concept of network topologies.
- Next, tell them that the Transmission Control Protocol and Internet Protocol (TCP/IP) was developed by department of Defence's Project Research Agency (ARPA, later DARPA) as a part of a research project of network interconnection to connect remote machines.
- Briefly explain the different layers of TCP/IP model.
- Tell them that an IP address is a unique identifier for a computer or any other device attached to the network. It is a 32-bit value. IP addresses are written in four decimal numbers which are separated by dots.
- Further tell them the steps involved in identifying the IP address of a node.
- Inform them that different cables are used for establishing a physical communication link.
- Explain that the cables are connected to the devices through different connectors.
- Tell them about the different types of cables.
- Tell them about different types of connectors.
- Explain to them the steps involved in crimping a RJ45 cable.
- Lastly, explain to them about the wireless network.
- Activity handling strategy:
 - Activity: Find out the network address and host address for the given IP addresses
 - Ask them to do the activity mentioned in the participant handbook.
 - Set a time limit of 5 minutes to complete the activity.

- Once they are done, discuss the solutions which are as follows:

| IP Address | Network Address | Host Address |
|----------------|-----------------|--------------|
| 10.10.48.80 | 10.10.48.0 | 0.0.0.80 |
| 28.212.250.254 | 28.212.250.0 | 0.0.0.254 |
| 10.10.250.1 | 10.10.250.0 | 0.0.0.1 |

- Activity: Match the following
 - Ask them to do the activity mentioned in the participant handbook.
 - Set a time limit of 5 minutes to complete the activity.
 - Once they are done, discuss the solutions which are as shown in the following figure:

| | |
|----|----|
| 1. | C. |
| 2. | D. |
| 3. | B. |
| 4. | E. |
| 5. | A. |

UNIT 1.5: Internet and Web Browser

Unit Objectives

At the end of this unit, the participants will be able to:

- Describe Internet
- Identify common methods for Internet access
- Explain types of web browsers
- Define cyber security and its importance
- List IT acts and cyber laws

Ask

- Enquire from the participants if they surf the Internet.
- Ask them if they know about different web browsers.
- Ask them if they can tell through which browser they surf the Internet.
- Enquire if they have an Email account. If yes, then on which webmail service provider do they have the account?
- Ask them if they have ever installed any software from the Internet.

Demonstrate

- Show the working of Internet
- Perform the steps needed to find information online
- Perform the steps needed to send and receive email
- Perform the steps needed to upload and download data
- Perform the steps needed to access a social networking site
- Perform the steps needed to chat or message online
- Perform the steps needed to do online shopping

Notes for Facilitation

- Tell the participants that Internet is a computer network with billions of computers and various electronic devices interconnected together across globe.
- Inform them that the use of Internet is very useful now-a-days as it provides the facility of Email, online chat, file transfer and so on.
- Briefly explain some important terms related to Internet.

- Explain the working of internet with the help of the following points
 - As Internet is a global network of computers, so each and every computer which is connected to the Internet should possess a unique IP address.
 - These IP addresses are in the form aaa.aaa.aaa.aaa and aaa must be a number, ranging from 0 - 255.
 - A temporary IP address is assigned when the Internet is accessed through an Internet Service Provider (ISP), for the duration of the dial-in session.
 - A permanent IP address is assigned when the Internet is accessed from a LAN.
 - Each computer has a unique IP address.
- Explain to them how to work on the internet.
- Next, tell them that Internet access enables an individual or any organisation to be active on Internet using computers or other mobile devices. When a device is connected to Internet, users of the device can access the Internet services.
- Briefly explain to them about Internet Service provider (ISP).
- Tell them that the two main types of internet connection are Hardwired Broadband Connection and Wireless Broadband Connection.

- Then, explain to them about different categories of these connections with the help of the following points:

- Hardwired Broadband Connection:

Dial-up

- A dial-up connection is made through modem connected to an active telephone line which is not in use.
- The phone line is connected to the modem and the other end is inserted into the phone jack.
- The computer must be configured for the dial-up connection.
- The user has to dial a specific number that is provided by the ISP to access internet on the computer.

ISDN

- Integrated Digital Services Network (ISDN) is a switched telephone service which can transport voice and digital data over standard phone lines.
- There are two types of channels in ISDN connection. Bearer (B) channels are used for data and Data (D) channels are used for signaling and control.

Leased line

- Leased line is a dedicated telephone line that provides full time connection to a network.
- It provides dedicated, fixed-bandwidth, symmetric data connection.

Cable Connection

- It provides access to internet using a cable modem.
- Fiber-optics or coaxial cables are used for wiring.

DSL

- Digital Subscriber Line (DSL) can be operated using a single telephone line without affecting the normal use of the telephone.
- The high frequencies of the line are used leaving the low frequencies free for regular telephone communication.

Fig 1.5.1: Hardwired broadband connection

- o Wireless Broadband Connection:

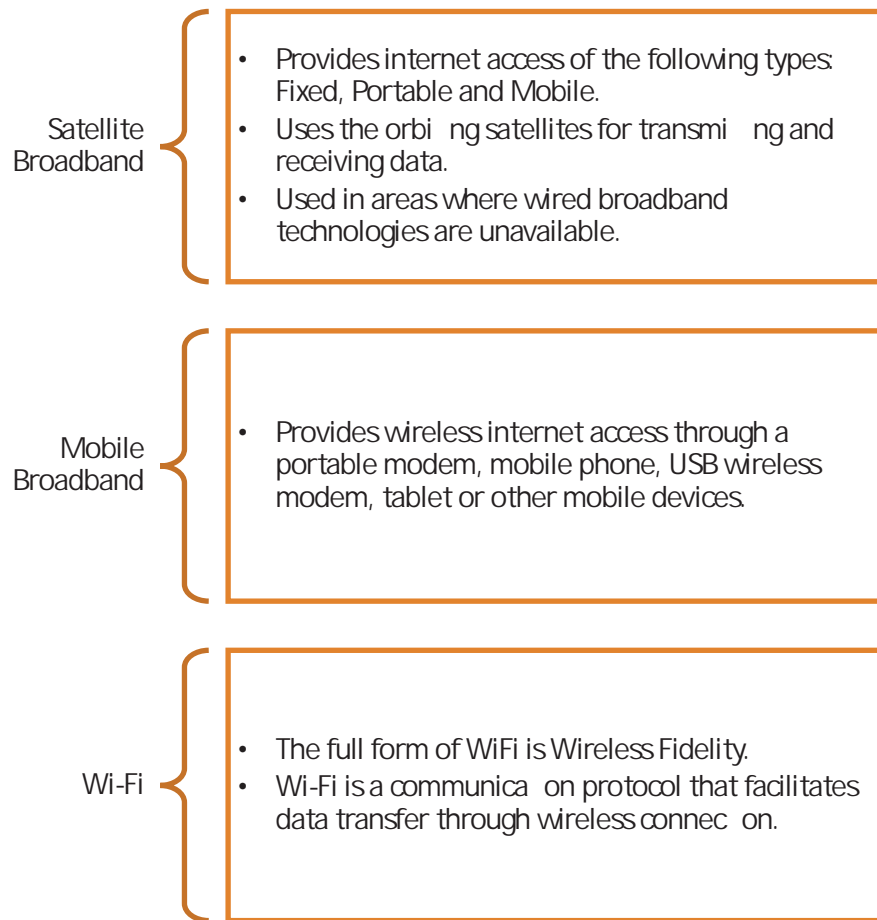


Fig 1.5.2 Wireless broadband connection

- Explain to them about different web browsers, cookies and cache.
- Tell them that computer security is also known as cyber security or IT security.
- Explain that cyber security refers to:
 - o Protecting computer systems from unauthorized access
 - o Protecting hardware and software by controlling access
 - o Preventing the loss of information
 - o Preventing disruption or misdirection of services
- Explain to them that cyber security can be categorized as:
 - o Application security
 - o Information security
 - o Network security
- Explain that an anti-spyware is a type of software that detects and removes unwanted spyware programs.
- Tell them that a spyware is a type of malware that is installed on a computer without the user's knowledge in order to collect information about them.
- Lastly, tell them about the cyber law and software piracy.

- Activity handling strategy:
 - Ask them to do the activity mentioned in the participant handbook.
 - Set a time limit of 5 minutes to complete the activity.
 - Once they are done, discuss the solutions which are as follows:
 1. d
 2. e
 3. a
 4. b
 5. c



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2. Computer Troubleshooting, Maintenance and Repair

Unit 2.0- Introduction of the Module

Unit 2.1 - Computer Troubleshooting

Unit 2.2- Computer Maintenance and Repair



ELE/N4614
ELE/N4615

Key Learning Outcomes

At the end of this module, you will be able to:

- Identify the faulty module and perform troubleshooting
- Analyse the error codes and messages
- Implement maintenance and repair
- Execute assembling and disassembling of computers
- Explain E-waste management

UNIT 2.0: Introduction of the Module

Objective of the Module

The objective of this module is to make the participants familiar with basic computer troubleshooting, maintenance and repair. The participants will be able to identify the faulty module and perform troubleshooting. They will also be able to analyse the error codes and messages. In addition, they would be told about maintenance and repair. They will also be able to assemble and disassemble computers. Lastly, they will become aware of E-waste management.

Ask

- Enquire if anybody knows what troubleshooting is.
- Ask if anyone knows about troubleshooting hardware and software problems.
- Ask the participants to share their expectations from this course.

Notes for Facilitation

- Make the session interactive by involving the participants in a discussion and introduce the topics to them.
- You could ask the participants about the expectations from the course. Then, inform them briefly about the major topics that will be covered in this course.
- Invite the participants to share their expectations on the whiteboard/blackboard.
- Give the participants a brief overview of what all will be covered in the course.

UNIT 2.1: Computer Troubleshooting

Unit Objectives

At the end of this unit, the participants will be able to:

- List the general steps for troubleshooting
- Distinguish between hardware problem and software problem
- Identify the faulty module and perform troubleshooting
- Analyse the error codes and messages

Demonstrate

- The steps to run Windows 7 Troubleshooter
- The steps to download and install a driver
- The steps to update a device driver using windows update
- The steps to troubleshoot common hardware problems
- The steps to troubleshoot system issues
- The steps to troubleshoot problems due to installation of new components

Notes for Facilitation

- Tell the participants that troubleshooting refers to the process of identifying the source of a problem so as to fix problems with the hardware or software.
- Explain that the basic principle of troubleshooting is to start with the most common cause of problems and then check for more specific issues.
- Tell them that while troubleshooting a problem, the service engineer should follow a clear and rational approach. He should work quickly, efficiently, economically and safely.
- Explain that there are some generic troubleshooting steps that every service engineer should follow.

- List the steps of troubleshooting with the help of the following figure:

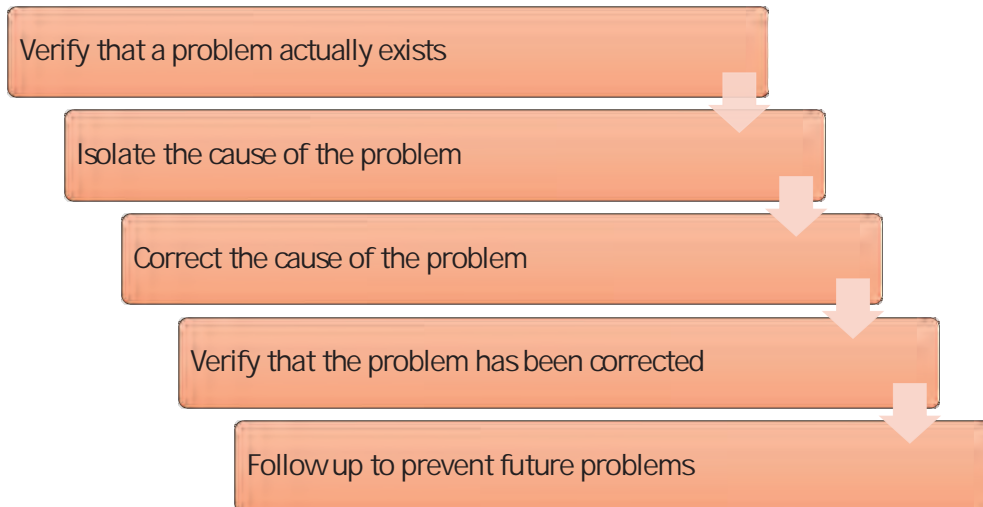


Fig 2.1.1: Steps of troubleshooting

- Tell them that hardware problems refer to faults in physical components of a computer. As compared to the software problems, hardware problems are difficult to spot and cure.
- Explain that the following symptoms point towards the problem being hardware related:
 - A problem occurs regularly even though no new software is installed
 - The problem occurs every time a specific device is accessed
 - The problem occurs randomly, such as the computer rebooting in between work
 - The computer fails to boot, shows errors on POST or produces beeps while starting
- In addition, explain that irrespective of what the actual issue is, there are only three ways to troubleshoot a hardware problem.
- Explain these three ways with the help of the following figure:

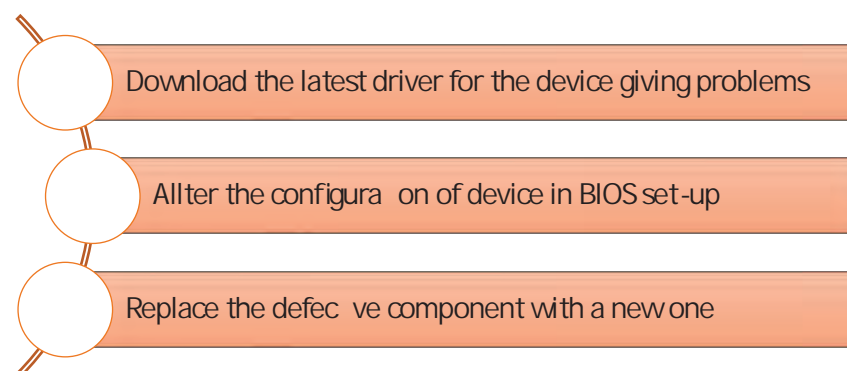


Fig 2.1.2 Troubleshoot a hardware problem

- Inform them that on running Windows 7 Trouble-shooter, a screen as shown in the following figure is displayed:

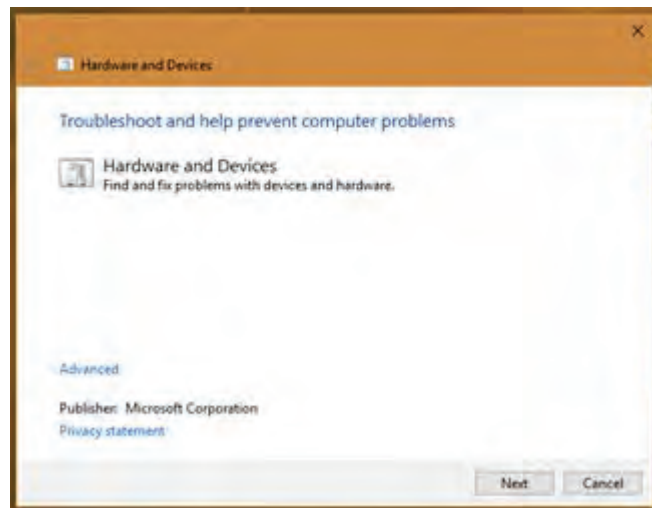


Fig 2.1.3: Screen of window 7 trouble-shooter

- Give an example. Assume that a driver needs to be downloaded and installed to update the keyboard. Tell the participants that the following screen is displayed when they search for the device manager:

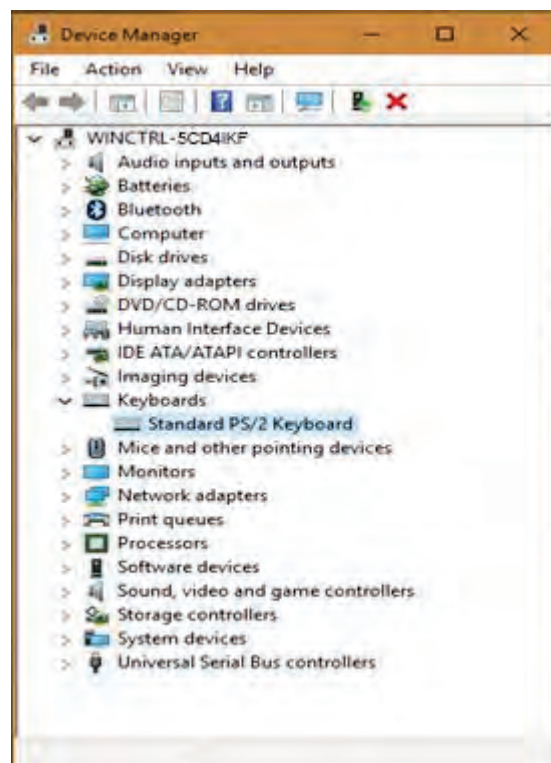


Fig 2.1.4: Screen of window 7 trouble-shooter

- On double-clicking the name of the keyboard, the following screen is displayed:

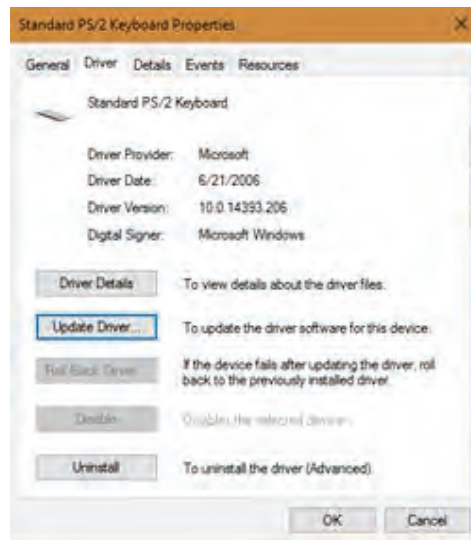


Fig 2.1.5: Screen of keyboard properties

- The next step is to select the 'Update driver' tab and follow instructions.
- Explain that when they are troubleshooting hardware problems, they should first check the simple solutions and take the steps given in the following figure:

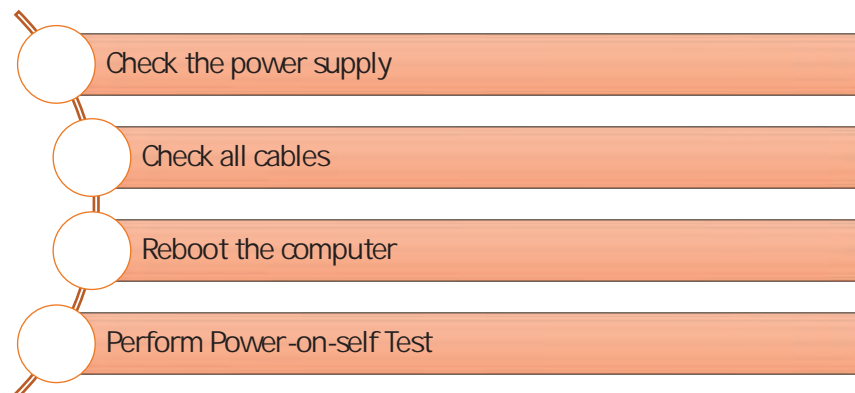


Fig 2.1.6: Steps for troubleshooting hardware problems

- Tell them that Power on Self-Test (POST) checks that the basic system devices, peripheral devices and other hardware elements are present and functioning properly.
- Inform them that the common hardware problems are as follows:
 - No power
 - Unresponsive program
 - Keyboard not working
 - Mouse not working
 - Computer has no sound
 - Computer not connecting to network
 - Blank screen
 - Printer error

- List the problems on the whiteboard and explain the diagnosis and solution of each problem one by one.
- Wherever possible, give a live demonstration of the troubleshooting process.
- Explain that in addition to the above problems, there can also be following system issues:
 - Devices not listed in BIOS
 - No operating system found
 - Non-working devices/device not recognized
 - Problems after installing new software or device driver
 - Spontaneous reboots
 - System time keeps changing
 - Nothing happens on hitting the power button
 - System turns on but nothing happens
 - System turns on, beeps intermittently, does not boot up
 - System turns on, gives a sequence of quick beeps, does not boot up
 - System freezes intermittently while installing the OS
 - Problems in installing the OS due to errors in copying files and blue screens
- List the issues/symptoms on the whiteboard and explain the action needed to be taken for each problem, one by one.
- Wherever possible, give a live demonstration of the troubleshooting process.
- Explain that if a problem occurs when a computer runs POST, an error message gets displayed on the screen. The following figure shows the message displayed on the screen: (Note: The following image has been taken from <https://www.lifewire.com/what-is-post-2625953>)

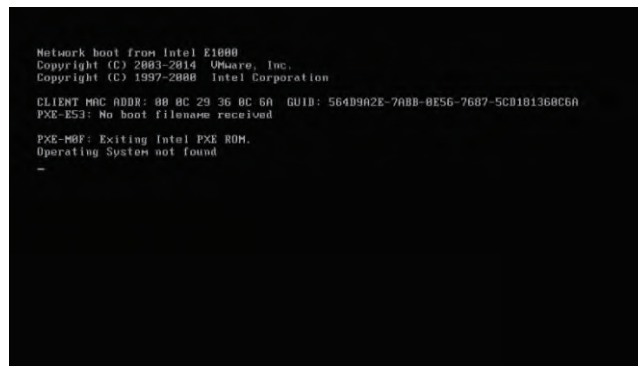


Fig 21.7: Screen displaying error message

- However, if the computer cannot boot far enough to display message, then a beep code is sounded.
- Explain that depending on the BIOS manufacturer, there are following three types of beep codes:
 - AMI Beep Code (AMIBIOS)
 - Award Beep Code (AwardBIOS)

- Phoenix Beep Code (PhoenixBIOS)
- Explain the beep codes for AMIBIOS, one by one.
- Explain the common error codes faced while using Windows and its basic components.
- Tell them that sometimes a new component is not properly installed, and it results in compatibility and other issues.
- Explain the issues that can crop-up after installing the following components:
 - Monitor:
 - The picture does not appear
 - The position of the screen is not in the center
 - The screen is too bright or too dark
 - The screen is shaking
 - Hard Drive:
 - Computer does not boot, and no error message appears on the screen
 - The screen remains blank when the system is powered up
 - The system does not recognize the drive
 - The system hangs in FDISK or fails to create or save the partition record
 - The DOS message "Disk Boot Failure," "Non-System Disk" or "No ROM Basic - SYSTEM HALTED" appears
 - The system error message, "HDD controller failure" appears
 - System inoperative. Keyboard lights are on, power indicator lights are lit and hard drive is spinning.
 - System does not boot from hard disk drive but can be booted from floppy disk drive
 - System only boots from Floppy Disk. Hard Disk can be read and applications can be used, but booting from Hard Disk is impossible
 - Screen message says "Invalid Configuration" or "CMOS Failure"
 - Cannot boot system after installing second hard drive
 - New Network Card:
 - Unable to connect to a server or if Windows reports an error after double-clicking Network Neighbourhood
- List the problems on the whiteboard and explain the solution of each problem, one by one.
- Wherever possible, give a live demonstration of the troubleshooting process.
- Explain that the Blue Screen of Death or BSoD refers to the full, blue screen error code that is displayed after the system crashes.

- Inform them that the error text displayed on the screen lists the information as shown in the following figure:

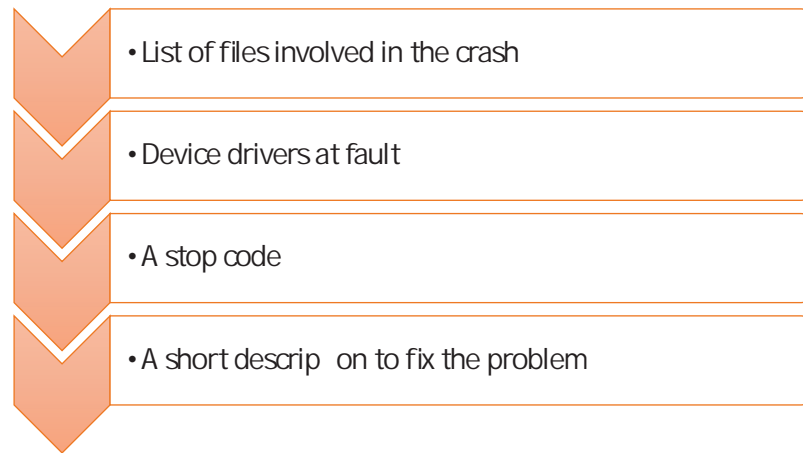


Fig 2.1.8: Information displayed on error text screen

- Activity handling strategy:
 - Ask them to do the activity mentioned in the participant handbook.
 - Set a time limit of 5 minutes to complete the activity.
 - Once they are done, discuss the solutions which are as follows:
 1. a
 2. b
 3. a
- Activity handling strategy: No POST troubleshooting
 1. Verify that power supply is of the appropriate wattage for the system:
 - a. Minimum 300 WATT is recommended for most ATX form factor systems.
 - b. On high end systems with fast video card, fast CPU, RAID HD array may require a larger power supply such as a 350 watt.
 - c. Disconnect power from other devices such as drives and case fans.
 2. Verify that case power switch is working:
 - a. Bypass case switch by shorting power switch pins on motherboard with a small screwdriver.
 3. Verify that power supply switches are set correctly:
 - a. Set 115/230v switch.
 - b. Setup power supply power switch to ON for power supplies equipped with power switch.
 4. Check the power supply switches:
 - a. Make sure that the power supply is switch to ON for the power supply, and also check to see if the power supply is set to either 115 volts or 230 volts.
 5. Clear CMOS settings by removing battery:
 - a. First locate the battery on the board. The battery is similar in shape and size to a nickel.
 - b. There should be a small dip on the side of the battery socket.
 - c. Undip the battery and it should pop up so that you can remove it.

- d. Remove the battery for several minutes and then re-install it.
 6. Verify that all the connected components are compatible with the system.
 7. If none of the above steps help, check the POST beep code.
- Activity handling strategy: 5 beep POST error
 1. If you have recently assembled this PC, or you have recently performed an upgrade to it, check here for possible general problems.
 2. If you have an extra processor available for a quick test, try swapping the processor with the other one and see if the problem clears up. If it does, then put the original processor back in again and see if the problem returns. If it does, then you can feel pretty confident that the processor was probably bad. It is only recommended early in the troubleshooting process, if it is convenient (most people don't have an extra processor handy for this sort of test). You may also want to try the processor you swapped out of your system in another one, as another test for detecting the fault.
 3. Check to see if the processor is overheating. After the PC has been running for a while, open it up, and turn it off. Then ensure earthing for ground and touch the processor carefully, or part of the heat sink near the processor. If you cannot leave your finger on the processor for more than a few seconds due to the heat, the chances are good that the CPU is overheating. Diagnose this fault here.
 4. Make sure that the processor is tightly inserted into its socket and that it has been inserted correctly and not rotated in the socket somehow (this is not generally possible with newer chips anyway).
 5. Double-check the jumpers (or BIOS settings for a jumperless system) that tell the motherboard which processor you have in the system, to make sure that they are correct. Setting the jumpers incorrectly can cause the processor to malfunction, because you may be accidentally overclocking it or telling the motherboard that it is from a different processor series than what it actually is.
 6. If you are configuring a Cyrix processor that uses a "P rating", remember to set the chip up using its real clock speed, not the "P rating" number, which is just a benchmark. For example, the Cyrix 6x86-PR133+ is not a 133 MHz chip. It runs at 110 MHz and should be configured with a bus speed of 55 MHz and a clock multiplier of 2. Setting it up as a 133 MHz chip would mean you were overclocking it and this can cause a host of problems.
 7. Double-check the voltage settings for the board. In particular, the voltage requirements for some of the chips, such as the Pentium with MMX, Cyrix 6x86L and 6x86MX, and AMD K6, differ from the standard 3.3 to 3.5 volts used by the original Intel Pentium processor. They require a split-rail or dual voltage. Many older motherboards do not support these CPUs.
 8. In general, make sure that you are using a processor that is supported by your motherboard. If the processor you are trying to use in the motherboard was not established in the market at the time you bought the motherboard, and you don't see it specifically listed as supported in the motherboard manual, it may not be supported even if the processor's manufacturer claims that it is "compatible". You

may need a BIOS upgrade to use the chip. Contact the motherboard's technical support department and tell them what chip you are trying to use, and ask them what you need to do to make the board support the CPU.

9. Apparently, non-Intel CPUs will not work in some Intel motherboards, which specifically check the CPU type and refuse to boot if they find anything other than Intel there. Note that this applies only to Intel motherboards; not all motherboards using Intel chipsets (of which there are hundreds of varieties). It is not certain how many different Intel motherboards this applies to.
 10. If you are running the Cyrix 6x86, make sure that you are using a motherboard that is approved for the chip. Not all motherboards will support it, and the number one reason for this is that the chip is too demanding electrically. A board with incorrect support for the chip may overheat or cause the chip to malfunction.
 11. Incorrect or overly-aggressive BIOS settings can cause processors to behave strangely. Try toning down the BIOS settings to conservative or default values and see if the problem clears up.
 12. Try to disable the secondary cache in the BIOS setup. This may fix the problem (but usually will not). If it does, it is likely that there is a problem associated with the secondary cache.
 13. Try to reduce the speed of the processor to see if that fixes the problem. For example, if you are running a Pentium with MMX at 200 MHz, try changing the motherboard to run it at 166 MHz. If the problem goes away, then the chances are strong that the problem was due to overheating and should be corrected before you try the processor at the higher speed again. If the processor will only run at a slower speed, it is possible that you have unfortunately purchased a remarked CPU, although this is far from a conclusive test.
 14. Try swapping the processor with another and see if the problem clears up. If it does, then the processor was probably bad. If it doesn't, you need to look elsewhere.
 15. If the processor doesn't appear to be the cause of the problem, try troubleshooting the motherboard.
- Activity handling strategy: Faulty motherboard analysis
 1. Symptoms associated with system board hardware failures include the following:
 - o The On/Off indicator lights are visible and the display is visible on the monitor screen, but there is no disk drive action and no bootup occurs.
 - o The On/Off indicator lights are visible and the hard drive spins up, but the system appears dead and there is no bootup.
 - o The system locks up during normal operation.
 - o The system produces a beep code with one, two, three, five, seven, or nine beeps (BIOS dependent).
 - o The system produces a beep code of one long and three short beeps (BIOS dependent).
 - o The system does not hold the current date and time.

- A DMA Error message displays, indicating a DMA controller failed page register test.
 - A CMOS Battery Low message displays, indicating failure of the CMOS battery or the CMOS checksum test.
 - A CMOS Checksum Failure message displays, indicating that the CMOS battery is low or a CMOS checksum test failure.
 - A 201 error code displays, indicating a RAM failure.
 - A Parity Check error RAM displays
2. Typical symptoms associated with system board CMOS setup failures include the following:
- CMOS Inoperational message displays, indicating failure of CMOS shutdown register.
 - CMOS Memory Size Mismatch message displays, indicating a system configuration and setup failure.
 - A CMOS Time & Date Not Set message displays, indicating a system configuration and setup failure.
3. Typical symptoms associated with system board I/O failures include the following:
- The speaker doesn't work during operation. The rest of the system works, but no sounds are produced through the speaker.
 - The keyboard does not function after being replaced with a known-good unit.
- Activity handling strategy: No audio output
- To troubleshoot sound problems, perform the following steps:
1. Shut down and restart the system.
 2. Check whether sound driver is installed and updated.
 3. Check default playback device. If system have more than one sound card installed, check the default playback device is the sound card to which the audio output is connected.
 4. includes a testing utility, run it to verify that all components of the sound card are operating properly.
 5. Connect headphone directly to Line-out on the sound card to isolate the problem to the system itself.
 6. Verify that the audio output is linked to Line-out rather than to the Line-in or Microphone jack.
 7. Verify that the CMOS Setup settings are correct for OS type.
 8. Check the compatibility of sound card with the motherboard.
 9. Uninstall the drivers, restart the system, and reinstall the drivers and make sure that the drivers are updated.
 10. Remove and reinsert the sound card to a different PCI slot and reinstall the drivers.
 11. Replace the sound card:
 - a. From the Control Panel Add/Remove Programs app to remove audio drivers and supporting software.

- b. Turn off the PC.
 - c. Remove the screw holding the card and then lift the card up and out of its slot.
 - d. Take the new card and hold it by its edges.
 - e. Place it over the appropriate slot, either PCI or PCI-Express 1x.
 - f. Now push the card slowly into the slot.
 - g. Run your installation program for the sound card.
 - h. Screw the card in the slot.
 - i. Test the functioning.
12. If the replaced sound card also shows same symptoms, try installing a different model of sound card.

UNIT 2.2: Computer Maintenance and Repair

Unit Objectives

At the end of this unit, the participants will be able to:

- Recognize the importance of maintenance
- Identify the monitoring tools
- Execute assembling and disassembling of computers
- Recognize the ways for E-waste management

Demonstrate

- The correct way to clean a computer and its peripherals.
- The steps to take while doing computer maintenance.
- The steps to take to diagnose basic hardware problems.
- The way to run hardware testing and monitoring tools in in-built operating system.
- The correct way of assembling and disassembling a computer.
- The steps to upgrade RAM, HDD and CPU of a computer

Notes for Facilitation

- Explain to them the importance of doing regular preventive maintenance of the equipment.
- Inform them that preventive maintenance refers to the regular, repetitive activities done at scheduled intervals, such as daily, weekly and monthly, to extend the life of equipment and prevent failure.

- Explain that a regular maintenance plan ensures:

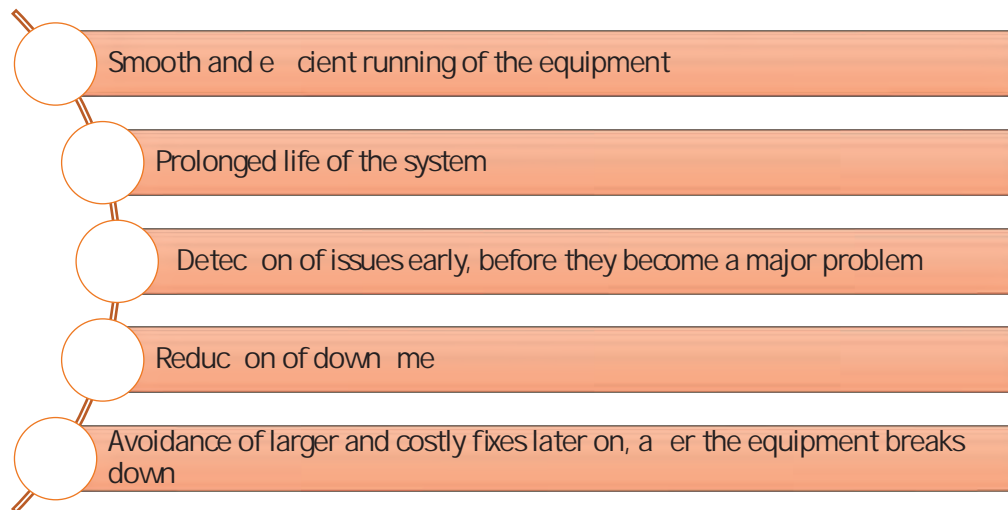


Fig 2.2.1: Regular maintenance plans

- Explain that the following steps should be followed to keep the system efficient:
 - Use Microsoft Fix It
 - Reduce items that run on start-up
 - Remove programs no longer in use
 - Clean system drive
 - Clean browser
 - Scan for and remove malware
 - Scan and remove viruses and spyware
 - Make adjustments for better performance
 - Defrag system drive
 - Add more ram memory
 - Upgrade to an SSD drive
- Explain the importance of performing software maintenance.
- Explain that software maintenance consists of the following four techniques:
 - Corrective maintenance
 - Adaptive maintenance
 - Preventive maintenance
 - Predictive maintenance
- Explain the importance of doing regular software updates.
- Explain that malware, short for malicious software is especially designed to gain access or damage a computer without the knowledge of the owner.
- Inform them that there are following types of malware:
 - Virus, worms and Trojans
 - Viruses are attached to a file and become active when the infected file is downloaded.
 - Worms break into networks and computers by finding their code.

Trojans give the access of owner's computer to another user, thereby leaving the host computer vulnerable to cyber-attacks.

- Adware and spyware
 - Adware, when downloaded, push ads into the host computer.
 - Spyware tracks owner's activities, monitors the browsing activities and even records keystrokes.
- Bots
 - Short for robot, a bot is an automated process that interacts with other network services and allows the attacker to take control of an infected computer.
- Explain that most of the malware is created by professionals to earn profit through following ways:

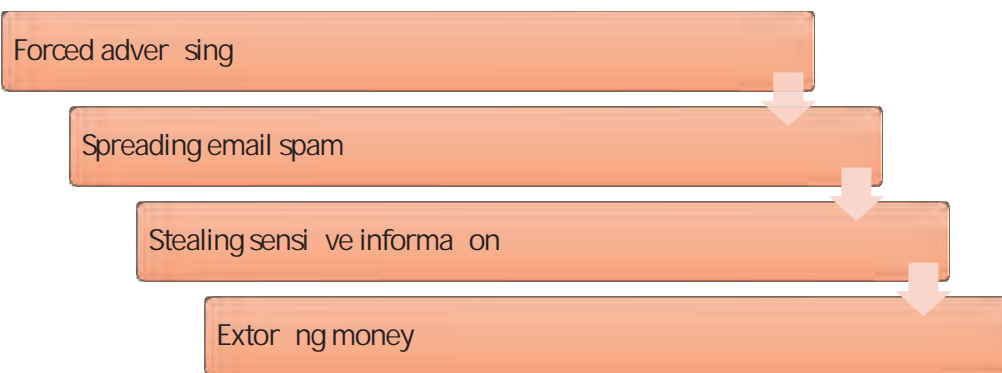


Fig 2.2.2 Ways of creating malware

- Explain that a system can be protected from malware through:
 - Personal vigilance
 - Be careful about the type of email attachments before opening them
 - Be cautious while surfing internet
 - Stay away from suspicious websites
 - Protective tools
 - Install and maintain an updated anti-virus program that:
 - à Is simple to download and install
 - à Checks every new downloaded program to ensure its malware free
 - à Scans the computer to detect and beat any malware
 - à Is regularly updated to recognize latest threats
 - à Warns against unknown malware threats
 - à Detects suspicious websites
- Explain the importance of performing Windows maintenance.
- Explain that Windows automatic maintenance schedules the maintenance only when the system is on and idle.
- Explain that the first step of hardware maintenance is cleaning a computer and its components. Cleaning the physical components is essential as it:

- Keeps everything in good working order
- Allows proper air flow
- Prevents spreading of germs
- Tell the participants about the importance of having a proper toolkit before starting cleaning and maintenance work.
- Explain to them that the hardware tools can be classified into four categories:
 - Electrostatic tools
 - Hand tools
 - Cleaning tools
 - Diagnostic tools
- Briefly explain to them that there are two types of electrostatic tools as shown in the following table:



| Tool | Image | Description |
|------------------------|---|---|
| Anti-static wrist band |  | Used to prevent ESD damage to computer equipment |
| Anti-static mat |  | Used to place hardware on it to prevent static electricity from building up |

Fig 2.2.3: Electrostatic tools

- Tell them that hand tools are used to perform work on a system using only hands.
- Inform them that the following table lists the various hand tools needed:






| Tool | Image | Description |
|---------------|---|----------------------------------|
| Screw drivers |  | Used to loosen or tighten screws |
| Pliers |  | Used to hold small parts |
| Wire cutter |  | Used to strip and cut wires |
| Tweezers |  | Used to manoeuvre small parts |
| Flash light |  | Used to light up areas |

Fig 2.2.4: Hand tools

- In addition, tell them that it is essential to have proper cleaning tools to ensure that computer components are not damaged during cleaning.
- Inform them that the following table lists the various cleaning tools needed:






| Tool | Image | Description |
|-------------------|---|--|
| Lint-free cloth |  | Used to clean different computer components |
| Anti-static brush |  | Used to clean dirt from hard to reach corners |
| Compressed air |  | Used to blow away dust and debris from computer parts |
| Cable ties |  | Used to bundle cables neatly |
| Parts organizer |  | Used to prevent screws and other small parts from getting mixed together |

Fig 2.2.5: Cleaning tools

- Further explain to them that diagnostic tools help in finding out the computer problems.
- Inform them that the following table lists the various diagnostic tools needed:



| Tool | Image | Description |
|-------------------|---|--|
| Multimeter |  | Used to test the integrity of circuits |
| Loop back adapter |  | Used to test the functionality of computer ports |

Fig 2.2.6: Diagnostic tools

- List the following testing and monitoring tools in-built in the operating system on the whiteboard:
 - Windows memory diagnostic tool
 - Resource monitor
 - Performance monitor
 - Computer management and administrative tools
 - Device manager
- Explain the working of the tools one by one along with live demonstration.
- Explain the importance of taking safety precautions before assembling and disassembling a computer or a laptop.
- Inform them that they must take the following safety precautions:
 - Shut down and unplug the computer
 - Remove all metal objects from arms or fingers
 - Protect against electrostatic discharge (ESD)
 - Use an anti-static wrist band, mat and gloves
 - Ensure that hands are completely dry
 - Handle all parts with care
 - Avoid forcefully removing the components
 - Hold the motherboard with care
 - Do not attempt to remove the power source
 - Take care not to drop small parts into unreachable areas
 - Protect the parts from moisture, dirt and debris
- Tell them that if a system is having problems, such as less storage capacity, low RAM speed or slow processor, one or more of the following hardware components need to be upgraded:
 - RAM
 - Hard disk drive (HDD)
 - Processor
- Explain that before upgrading any hardware component, following basic precautions should be taken:
 - Take care to protect against ESD
 - Take care to check RAM pin configurations, data rates and bus speeds
 - Check the capacity limit of the system before buying RAM
 - Take care to use the correct screws for mounting the hard drive
 - When upgrading the processor, take care to avoid:
 - Pin displacement
 - Poor thermal paste application
 - Improper heat sink installation
 - After doing upgrades, ensure that the current power supply can take the additional load
 - Take care to route the cables neatly

- Tell the participants that the term 'e-waste' stands for 'electronic waste' and is used to describe discarded electrical or electronic devices which have reached the end of their life and have become obsolete.
- Tell the participants that the harmful consequences of e-waste have led to:
 - Pollution of ground water
 - Emission of toxic fumes and gasses
 - Acidification of soil
 - Release of carcinogenic substances into air
- Explain that the e-waste is disposed of using one of the following methods:
 - Open dumping: waste is disposed along shorelines into the seas
 - Land filling: waste is buried at a location
 - Incineration: waste is burned
- Explain that e-waste management should begin at the point of generation by minimizing waste.
- Explain that the following steps can help in e-waste management:

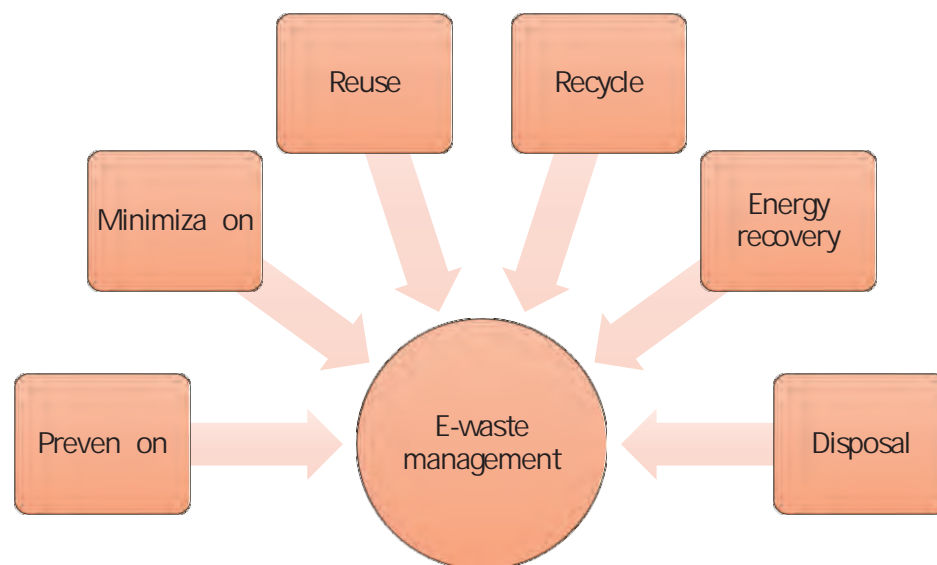


Fig 2.2.7: Steps in e-waste management

- Tell the participants that the basic principles of e-waste management are:

REDUCE
REUSE
RECYCLE

Fig 2.2.8: Principles of e-waste management

- Reduce
Adopt measures that lead to decrease in the number of electronic and electrical equipment.
Give an example that instead of buying a new product, the old product can be upgraded or repaired.
Further, tell them that, if possible they should always encourage the customer to get the old product repaired instead of encouraging the person to buy the latest model.
 - Reuse
If the equipment is in working order, increase the lifecycle of the equipment by selling it or donating it.
 - Recycle
After end of use, disassemble the equipment and recover the components to make new products.
Tell them that they should always advise the customer to recycle the old product to ensure that all usable material is extracted from them.
- Tell them that they should practice following e-waste management steps:

The unwanted electronics should not be thrown along with normal garbage.

Used batteries and other e-waste should be collected, labelled and stored safely to be disposed of.

The manufacturer should be contacted to find out if they have a buy-back policy for discarded products.

Buy rechargeable batteries instead of disposable ones.

Always choose products with less hazardous substances, higher energy efficiency, and longer life span.

Choose products with good warranty and take back policies.

Fig 2.2.9. Steps for e-waste management

- Tell the participants that the users of electronic equipment should follow certain don'ts of e-waste recycling such as:

Don't dispose of electronic equipment if they are in working order.

Don't dismantle any electronic equipment to remove parts.

Don't try to repair any electronic equipment.

Don't keep any replaced spare part in an exposed area.

Don't leave hard drives in a computer while disposing it of.

Don't dispose of batteries by throwing them away.

Don't group alkaline batteries together for disposal.

Don't sell or give electronic equipment to local scrap dealers.

Fig 2.2.10 Don'ts of e-waste recycling

- Activity handling strategy:
 - Randomly choose two participants
 - Ask one of them to play the role of a service engineer
 - Ask the other participant to play the role of customer
 - Explain the situation to both
 - Guide the participant, enacting the role of a service engineer, on how to provide the right kind of information
 - Ask the other participants to observe the role play and write down their observations
 - Set a time limit of ten minutes
 - After the role play is over, hold a discussion with all the participants
 - Analyse the performance of the participant playing the role of a service engineer and give suggestions
- Activity handling strategy: Match the following
 - Ask the participants to answer individually. Then ask for their scores by telling them the correct answers.
 - The answer is as follows:
1. C, 2. A, 3. B, 4. E, 5. D

- Activity handling strategy: Printer maintenance
 - Laser Printers
 1. Make sure that the toner is being delivered evenly.
 2. Adjust the toner flow regulator as per the standard. Extra toner throughout the printer causes crummy copies.
 3. If the toner cartridge is empty or leaking, replace it.
 4. Clean the ozone filter and fan assembly
 5. Avoid exposure of the transfer drum to direct light as it will affect its performance.
 6. Check for stray bits of papers. If not removed, small paper can cause paper jams.
 7. Use good quality paper in the printer, as bad quality paper can hamper the performance.
 8. Use the printer driver as per the model and keep it updated.
 - Ink-jet and Dot-matrix Printers
 1. Check the print head and keep it clean.
 2. Make sure that the pins in the dot matrix print head move freely.
 3. Ensure that the nozzles on the ink-jet printer are clean.
 4. Check the ribbon in the dot-matrix printer.
 5. Replace the ribbon in case there is defected ribbon.
 6. Check whether Re-inking the ribbon is required or not.
 7. Check the ink cartridge in the ink-jet printer. Replace the cartridge If the print head is clean but print quality is poor.
 8. Refill the cartridge if required.
 9. Check for stray bits of paper.
 10. Use good quality paper. Poor quality paper can hamper the performance of optical or mechanical sensors in the printer.
 11. Use the printer driver as per the model and keep it updated.
- Activity handling strategy: Computer maintenance
 - Weekly Computer Maintenance:
 1. Backup Files
Create backup of the data. It is recommended to create backup in an external hard drive. The native utility of software can be used to create backup.
 2. Disk Cleanup:
Go to Start, Programs>Accessories>System Tools and select Disk Cleanup. Windows will automatically remove all the temporary, unused and extra data from the system.
 3. Full Virus Scan:
A full virus scan can be done on daily or weekly basis. It is one of the most important part of maintenance. Any virus or malware should be removed.

4. Updating virus database:
Updating virus database or updating an antivirus should be done weekly as new virus version can be harmful if the antivirus is outdated.
- o Monthly Computer Maintenance
 1. Disk Defragmenter
Disk Defragmenter is designed to increase access speed by rearranging files stored on a disk. This utility should be used at least once in the month.
 2. Clean Computer
The system should be inspected and cleaned weekly. The internal and external parts should be free from hair, dust and other debris that can cause heat-build up.
 3. Software Update
The updates of native software should be installed immediately. Java, Flash and Windows Updates will usually appear adjacent to your system clock in the lower right-hand corner of the screen.
 4. Hard Drive Diagnostics
Run Check Disk monthly to check for impending computer hard drive failure.
 - Activity handling strategy: Windows reset
 - o Windows 10
 1. Go to Start Menu.
 2. Open Settings option.
 3. Go to the Update & security option in the Settings window.
 4. Go to the Recovery option from the navigation pane.
 5. Go to reset this PC section.
 6. Click Get started option.
 7. Select from the Keep my files or Remove everything option as per the requirement.
 8. Follow the messages on the window to begin the recovery process.
 9. Windows will be reset.
 - o Windows 8
 1. Press windows + F keys and type reinstall in the Search text field.
 2. Go to the Settings option.
 3. From there on the left, select Remove everything and reinstall Windows.
 4. "Reset your PC" screen will appear, click Next.
 5. "Do you want to fully clean your drive" message appears.
 6. Select "Just remove my files to do a quick deletion" or "select Fully clean the drive" to erase the files.
 7. The "Ready to reset your PC" screen appears.
 8. Click Reset on the "Ready to reset your PC" screen.
 9. The hard drive will be erased and Windows 8 will be reinstalled.

- Activity handling strategy: Restore Windows
 1. Log on to your computer as an administrator.
 2. Go to Control Panel from the start menu.
 3. Click System and Security > System
 4. Click System protection under the Control Panel Home menu.
 5. Click System Restore.
 6. Select the recent and safest restore point.
 7. Click Next, and confirm the restore point.
 8. Start the restore process.
 9. Once the system restore is done the system will restart.
- Activity handling strategy
To restore the system from boot menu. Perform the following steps:
 1. Restart your computer.
 2. Enter the boot menu using the function key.
 3. Open Advanced Boot Options menu.
 4. Select Repair Your Computer, and then press Enter.
 5. Select the language, and click Next.
 6. Log on as an administrator.
 7. Select System Restore, and then click Next.
 8. Select the recent and safest restore point.
 9. Click Next, and confirm the restore point.
 10. Start the restore process.Once the system restore is done the system will restart.



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3. Manage Hardware at Customer Facility

Unit 3.1 – Maintaining Hardware/Software at Customer's Facility

Unit 3.2 – Managing Assets and Warranty

Unit 3.3 – Monitoring the System

Unit 3.4 – Maintaining Schedules and Records



ELE/N4614
ELE/N4615

Key Learning Outcomes



At the end of this module, you will be able to:

- Identify the work processes at customer's facility
- Manage and resolve issues at the facility
- Explain the importance of managing assets and warranty
- Identify the tools to monitor the system
- Describe the maintenance schedules and records

Unit 3.1: Maintaining Hardware/ Software at Customer's Facility

Unit Objective

At the end of this unit, you will be able to:

- Identify the work processes at customer's facility
- Troubleshoot issues
- Perform fault tolerance and fault handling
- Resolve general hardware issues
- Manage issues beyond the scope of a service engineer

Say

- Tell the participants that within an organization, customers' issues are reported to the IT service engineer either through an email or through a telephone call.
- Tell them that the service engineer should be aware of the types of applications that run on the systems of customers and the importance of these applications to the customer.
- In addition, tell them service engineers also need to be aware of the critical hardware used at the customer's facility.
- Further tell them that service engineers need to identify whether the root cause of the problem lies in hardware or software. Thereafter, they need to troubleshoot the related components to look into the details of the problem.
- Tell them about software fault tolerance by saying that it refers to the ability of a software to continue operation even if there are system or hardware faults present in the system.
- Next, give them a brief introduction of some techniques of software fault tolerance which a service engineer should know such as timeouts, audits and incremental reboot.
- In addition, tell them they will also learn about the hardware fault tolerance techniques in this module.

Notes for Facilitation

- Inform the participants that the first time fix rate is of prime importance for customer satisfaction. Sometimes a service engineer is unable to repair a broken piece of equipment for the customer, which annoys the latter. The reasons for failure are countless. A few of them could be wrong tool usage, wrong spare parts, wrong fault diagnosis and wrong engineer skill set. These reasons for failure can be avoided through better:

- training
- field service management system
- control
- In addition, tell them that these strategies can straightaway lead to an increase in the first time fix rate which in turn leads to happy and satisfied customers. This is only possible when the first time fix rate is checked as a specific field in service engineer KPI (Key Performance Indicator).
- Tell them that if a service engineer does not reach on time for providing the required services at the customer's facility, then it can also annoy the customer in a similar manner. Reaching on time, every time, can sometimes be difficult due to unpredictable traffic conditions, even with the availability of route scheduling tools such as Route4me, flexiroute and Roufic. Therefore, a service engineer should know that a field service management system tracks their punctuality as an engineer KPI. If they are found punctual, then it will help to pin down other less valid causes such as excessive breaks and lingering to chat with customers. These causes can suppress the person's performance.
- Tell the participants that every organization has its own defined work processes to manage IT operations at its facility. For an IT service engineer, it is important to learn these work processes and follow them.
- Explain the work processes briefly. Tell them that generally, most of the work processes are automated by IT support software systems while others need to be performed manually or physically. A service engineer should be aware of the common IT work processes of the organization he/she works in, to work efficiently. The following figure lists some common IT work processes of an organization:

| Common IT Work Processes | | | | |
|--|-----------------------------------|----------------------------------|---------------------------------|----------------------------------|
| Receiving of customers' complaints via email or telephone call | Generating of Service Request(SR) | Performing daily scheduled tasks | Handling of issues beyond scope | Reporting and receiving feedback |

Fig 3.1.1: IT process of organization

- Also, tell them that when a customer reports an issue or complains, an Information Report (IR) or SR is generated either automatically by the logging system or manually by the service engineer.

- The following figure lists the characteristics of an SR:

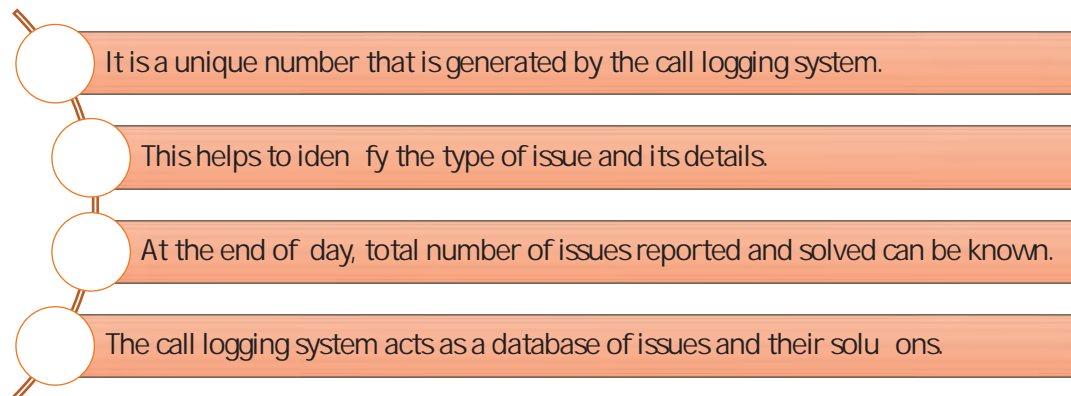


Fig 3.1.2 Characteristics of SR

Say

- Tell the participants that service engineer has to perform the tasks assigned by the superior either remotely or at the customer's site. Besides these duties there are some repetitive tasks such as scheduled scripts, checking hardware log files, checking antivirus and malware log files. These tasks must be done at regular intervals.
- Inform them there are some issues that are beyond the scope of work. These issues should be reported to the appropriate person in the organization. For example, some hardware are under annual maintenance of the supplier. If there is a problem with these hardware, the service engineer should report to the suppliers.
- In addition, also tell them there are some software or hardware systems that are very critical. This is because their breakdown means loss to the organization. The service engineer should have knowledge about these systems and if there is a problem with these systems, it should be taken on priority.
- Say that the service engineer should be aware of the escalation mechanism as described in the organization IT policy. The problems that require some external support from the vendor or superior needs to be escalated via an email or a call.
- Inform them that at the close of an issue, there may be a feedback mechanism where a user gives a feedback. The service engineer should accept the feedback and share it with the supervisors.
- Give them some more examples of typical hardware problems and tell that a service engineer may need to carry spares to resolve the problems.
- Further, tell them some common problems that a customer may be encountering with the hardware, such as:

- Blank monitors: It is one of the most common problem found in a computer. The solution to resolve this problem is to test the supply cord and power systems for their functionality. Check the video cable and if found loose, then simply push the video cable into its place. Next step is to check the CPU by connecting it to another monitor. If everything is fine, then the problem must be in the monitor or its wire. If the monitor displays some different colours, then check that all the pins of the monitor are properly acquired by the CPU.
- Dead Hard drive: As the hard drive is one of the major hardware component, so a dead hard drive can cause major hardware issue which can involve a huge expense. It is almost impossible to repair the hard drive and the only solution is to recover the data using the specialized software available for the recovery. Another solution is to escalate the issue to the hard drive recovery issue.
- For troubleshooting, consider another example. A customer's mouse and keyboard are not functioning. The service engineer must:
 - Check the configuration settings on the system
 - Check the compatibility and installation of the device drivers
- N+X Redundancy – The setup of N+X redundancy is less expensive than that of One for One setup due to the fact that N modules can be backed up by only X modules. The disadvantage of this setup is that it provides less system availability if all the N modules fail simultaneously.
- Then, explain to them about the various hardware fault tolerance techniques. Discuss the techniques and tell them the pros and cons of each technique.
- Emphasize that the main drawback of Memory Mirroring setup is the need of a specialized hardware. In addition, processor's overall performance is also low in this setup.
- Next, explain fault detection and fault avoidance.
- Discuss the various fault handling mechanisms.
- Then, explain that it is best to escalate issues to the right person/team when the issue is not within the scope of the service engineer.
- Explain to the participants that there is a formal process of addressing IT related issues and problems when they appear. This process is called as escalation process. Inform them that there is a written escalation process available at all IT departments and all the staff members are trained to its use. Under this process:
 - priority levels are assigned to various issues
 - delegated responsibilities are assigned to particular personnel
 - a particular time is allocated to personnel to resolve the issue before escalation

- Explain issue escalation using the following figure:

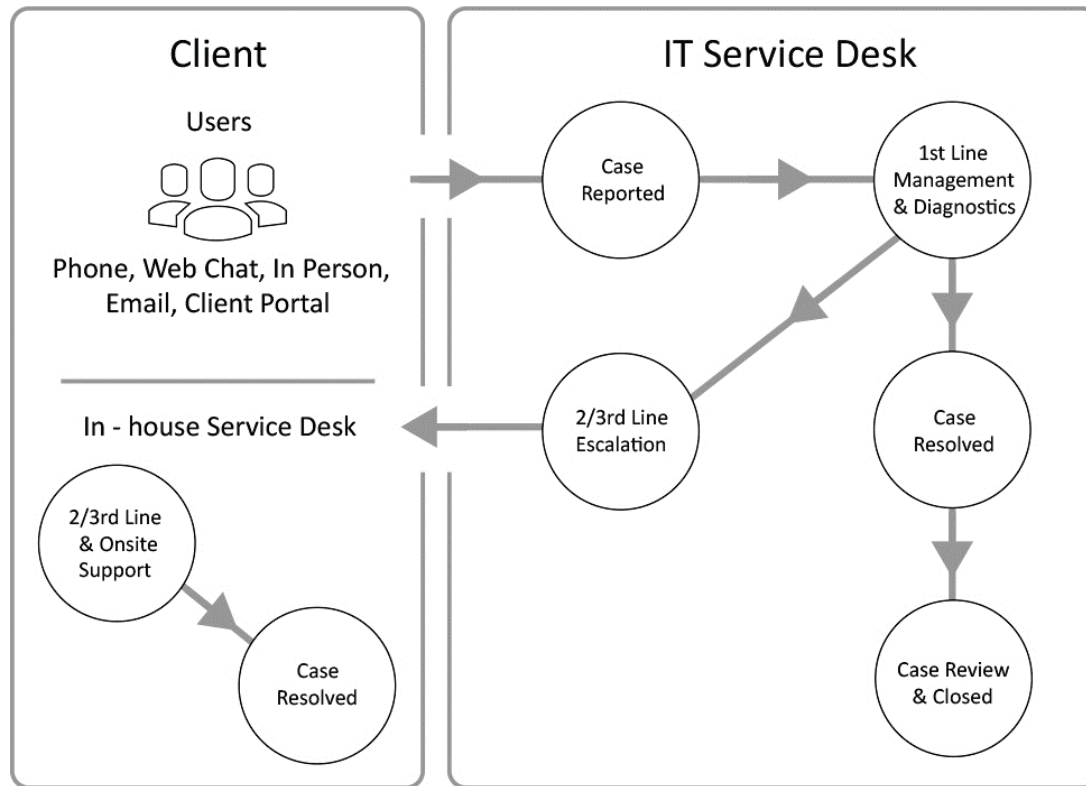


Fig 3.1.3: Escalation diagram

- In addition, tell them while handling issues not within their scope, they may feel they are in a black box situation. Tell them about a black box by saying that it is an electronic device which is placed in an aircraft for easing the process of investigation during aviation accidents and incidents. It is also known as a flight recorder and is orange in colour. Similarly, some systems, such as ERP/Word data management systems, where a lot of customization has been done for the client by the service provider or the implementation partner, act as a black box for an IT service engineer.
- Lastly, explain to them about the escalation process of a service engineer. Tell them that when a problem is faced by a user, he reports it to the service engineer. The service engineer then clarifies the problem with the customer and looks for the solution of the query from the solution database. The solution database either gives a resolution/procedure with the help of which he resolves the problem, or displays a message "no match found". In the latter case, the service engineer escalates the issue to the vendor support. Vendor support recreates the same problem and looks for the solution. If the solution is found, it is provided to the service engineer who resolves the problem. If in case the vendor support is unable to find a solution, then the problem is escalated to vendor engineering.

Notes for Facilitation

- Activity Handling Strategy
 - Troubleshoot the problem: At start-up it repeatedly gives four beeps at very short intervals and nothing appears on the screen however the fan running sound is there hence this is a system mer failure.
 - Actual Issue: The issue is due to System mer failure - The system dock/ mer IC has failed or there is a memory error in the first bank of memory.
 - Try the following steps to resolve the issue:
 1. If any new hardware has been recently added to the computer:
 - a. Remove that hardware to make sure it is not the causing the issue.
 - b. If a er removing the new hardware your computer works, it's likely that the computer is either not compa ble with the new hardware device or a system se ng needs to be changed to work with the new hardware.
 2. Remove any disks, CD's, DVD's that are in the computer and if any USB devices are connected disconnect all of them. Reboot the computer and see if anything changes.
 3. Make sure all fans are running in the computer:
 - a. If a fan has failed (especially the heat sink fan for the CPU) your computer could be overheated and/or is detec ng the fan failure. It causes the computer not to boot.
 - b. If the above recommenda ons s ll have not resolved the irregular POST, a empt to disconnect the Riser board (if applicable) and/or each of the expansion cards. If this resolves the issue or allows the computer to POST, connect one card at a time un l you determine which card is causing the issue.
 4. Disconnect the IDE, SATA, SCSI, or other data cables of the CD-ROM, hard drive, and floppy drive from the Motherboard. If this resolves your irregular POST or you now get an error message a empt to re-connect each device one at a time to determine which device and/or cable is causing the issue. In some situa ons, it can simply be a loose cable connec on.
 5. In some situa ons, a computer may have power related issues o en caused by either the power supply and/or the Motherboard.
 - a. To help, determine if this is the cause of your issue try turning the computer on, o , and back on as fast as possible, making sure the computer power light goes on and o each me.
 - b. In some situa ons, you may be able to temporarily get the computer to boot.
 6. Reset the RAM and Processor by removing it and pu ng it back into the computer.

7. If after doing all of the above, you continue to have the same issue, unfortunately it is likely that you have a faulty Motherboard, PSU, CPU, and/or RAM. The next step would be either to replace these components and/or have the computer serviced.
 - a. Replace the Motherboard first, RAM, CPU, and then power supply in that order and/or try swappable parts from other computers.
- Activity Handling Strategy
 - o Troubleshoot the problem: If the date and time keeps on changing automatically even after corrections this means the CMOS battery is at fault.
 - o Actual Problem: The computer mother board contains the internal Real time clock and this clock works with the CMOS battery only. If the CMOS battery gets faulty then the system gives date and time update problem.
 - o To fix this problem. Perform the following steps:
 1. Turn off the PC.
 2. Unplug the power cable.
 3. Open the side case.
 4. Identify the CMOS battery and locate it on the motherboard.
 5. Remember the direction in which the battery was installed.
 6. Remove the battery from the main board.
 7. Take the new battery and replace it in the same socket it was removed from.
 8. Make sure the new battery is installed same as the previous one.
 9. Assemble the case.
 10. Fasten the screws to secure the side panel.
 11. Connect all cables and turn on the PC to set the time.
 - o If the problem still persists, try to adjust region and time
 1. Go to date and time settings.
 2. Select change date and Time settings.
 3. Now select Time Zone.
 4. From time zone select the desired time zone from the drop-down list.
 5. Now click the internet Time tab.
 6. Then make the desired changes and click Ok.
 7. Click apply.
 8. Restart the system.

Unit 3.2: Managing Assets and Warranty

Unit Objective

At the end of this unit, you will be able to:

- Identify various assets in the organization
- Recognize the requirement of asset management
- Explain IT asset management methodology

Notes for Facilitation

- Tell the participants that a warranty is a manufacturer's assurance to a purchaser that an item or service is or shall be provided as represented. It might be thought to be a legal agreement between a purchaser and manufacturer (or vendor) which comes into effect after the sale of the item or service.
- Explain to them about warranty costs. In addition, also tell them that there are various ideas of warranty costs such as:
 - warranty cost/unit
 - warranty cost over an interval
 - warranty costs/ time or warranty cost rate
- Tell them that there are two main factors on which the warranty costs depend, which are product reliability and product usage.
- Draw the diagram of characteristics for determining the warranty cost per unit on the white/black board as shown in the following figure:

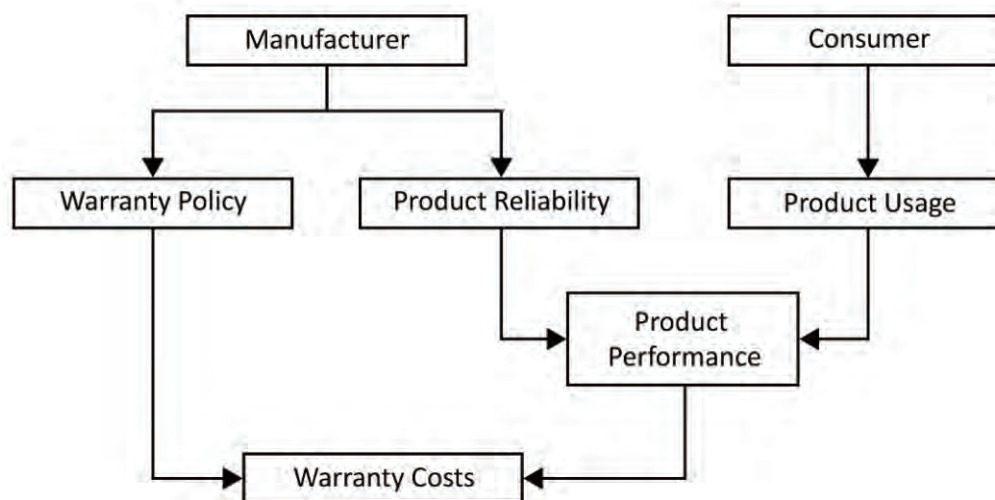


Fig 3.2.1: Characteristics for determining warranty cost per unit

- In addition, explain to them the following terms:
 - Asset identification: It identifies the key system assets or the services that need protection.

- Asset value assessment: It gives the estimated value of the assets that are identified for protection.
- Exposure assessment: It estimates all the potential losses linked with each asset.
- Threat identification: It analyses the most possible threats to the assets of the system.
- Attack assessment: It breaks down the threats into most probable attacks on the system and the different ways these may occur.
- Control identification: It offers the controls which might be needed to be put in place so that an asset can be protected.
- Feasibility assessment: It checks the technical feasibility and cost of the controls.
- Security requirements: It describes the security requirements for the system. These requirements can be either of the infrastructure or of the application system.
- Availability Handling Strategy
 1. Open the computer case.
 2. If you are installing an IDE drive, set the master/slave jumpers on both the old AND new drives; for SCSI drives, set the SCSI ID jumpers to a unique SCSI ID number.
 3. Write down the drive parameters (cylinders, heads, sectors per track, etc.) before mounting drive into PC.
 4. Physically mount the drive into case; use screws and/or drive rails as needed.
 5. Attach the cable to the drive(s) and be sure to attach the power cable from the power supply.
 6. Power up the PC and enter the BIOS setup program and enter the drive parameters into CMOS.
 7. Save the new information to CMOS and reboot PC.
 8. Boot the PC from a bootable floppy disk.
 9. Run the FDISK utility and create a partition table on the new drive.
 10. If partitions exist on the new drive,
 - a. backup the old data,
 - b. delete the existing partition and
 - c. recreate a new disk partition
 11. Once the computer re-boots from the floppy drive, run FORMAT to format the new drive and give the drive a volume label.
 12. Install operating system software and application software as needed.
 13. Replace the computer case.
 14. Do not install the cover until you know the drive is working properly.
- Availability handling strategy:
 - If the PC isn't booting at all:
 - Make sure you have at least the minimums in the machine, required to make it work: processor, a full bank of memory, video card, and a drive.
 - Make sure that all of these are inserted correctly into the motherboard, especially the memory.

Partially inserted memory modules can cause all sorts of bizarre behaviour.

- Remove all optional devices from the motherboard, including expansion cards and external peripheral devices and check whether the problem is resolved.
- Carefully check all the jumper settings on the motherboard twice. Ensure their correctness. Check the processor type, clock multiplier, bus speed and voltage jumpers in particular. Also, make sure that the CMOS are clear and flash BIOS jumpers are in their normal, default operating positions.
- Reset all BIOS settings to default, conservative values to make sure an overly aggressive BIOS setting isn't causing the problem. Set all cache, memory and hard disk timing as slow as possible. Turn off BIOS shadowing and see if the problem goes away.
- Double-check all connections to the motherboard.
- Check the inside of the case to see if any components seem to be overheating.
- Inspect the motherboard physically.
 - Check to make sure the board itself isn't cracked. If it is cracked, replace it.
 - Make sure that there are no broken pins or components on the board; if there are, you will have problems with the component of the PC using that connection.
 - Check for any socketed components that may be loose in their sockets, and push them gently but firmly back into the socket if this has happened.
- Make sure the keyboard is inserted correctly into the motherboard.
- A failed cache module or using the wrong type can cause motherboard problems. If you suspect it, troubleshoot the secondary cache.
- An overheated processor can cause system problems. Try troubleshooting the processor.
- Troubleshoot the system memory. Memory problems are often mistaken for motherboard faults, especially on systems that don't have the protection of using memory error detection.
- Try troubleshooting the video card or replacing it with another one, preferably a simple straight VGA card that is confirmed to be in a working condition, as it is from another system that functioned properly.
- If the power supply is old, or the case is cheap, or you have added many new drives to a system with a weak power supply (especially one that is less than 200W) then you may have a power supply problem. You may want to try replacing it.
- You may have a BIOS bug or other problem. Check your manufacturer's technical support resources for any known problems with your motherboard. Check on USEnet as well.
- Contact the technical support department of your system or motherboard manufacturer for additional troubleshooting information. If this is a new motherboard, you may want to exchange it, in case you have exhausted all other troubleshooting avenues.

- o Some newer viruses, when activated, overwrite part of the BIOS code in systems that employ a flash BIOS. If the BIOS is corrupted, the system won't boot.
- o Try swapping the motherboard with another one and see if the problem resolves itself. If it does then the original motherboard is probably faulty, but it could just have been misconfigured or installed incorrectly.
- Activity Handling Strategy:
 1. Open the case of the PC and locate an unused bus connection on the motherboard. Once you have removed the case from the PC, you will be able to look inside the PC and determine if there is a free, unused bus connection (a slot) located on the motherboard. If you have a 16-bit network interface card (the card has 2 sets of gold contacts), you will insert it into a 16-bit bus connection (a slot that has a 2-part connector). If you have an 8-bit network card (it has only 1 set of gold contacts), you may insert it into either an 8-bit or a 16-bit bus connection.
 2. Before installing the NIC, set the jumpers on the NIC to the desired IRQ level, DMA channel and port address. In PCs, the devices that plug into the bus are prioritized by interrupt level, or IRQs. This allows the PC to allocate CPU time by orders of priority. Generally, network cards are set to IRQ 5, but the cards can be set to any free IRQ level for that specific PC. The DMA channel is the data path through which information travels from the bus to the CPU and memory. NICs will generally use DMA channels 5, 6, or 7. Port addresses are locations in memory where data is picked up and delivered between an adapter board and the motherboard. Generally, NICs use port address 280 or 300 hex, but can use any free port address found in the PC.
 3. Install the NIC in the free bus connection. This involves pressing the card into the bus connector on the motherboard, and installing the retaining screw onto the case so that the card doesn't creep up out of the bus connection. Do not attach the network cable to the NIC at this time, for any reason!
 4. Before installing the top of the case, turn on the PC, install the network card drivers into a directory on the PC's hard disk, and modify the CONFIG.SYS file to load the network card driver software at boot-up time. You must load some driver software into memory during the boot-up process so that the PC will recognize and use the NIC. This involves adding a device line to your CONFIG.SYS file; when this line is added, DOS will locate and load the driver software into RAM during the boot-up process.
 5. Run the diagnostic program for your network card before attaching the cable to it. A defective NIC on 1 PC can crash an entire network of active users; therefore run the diagnostic program that came with your NIC before attaching it to any network cable. Once you have determined that the card is working properly, then re-install the computer's case top and attach the network cable to the NIC.

6. Install the network operating system software into a directory on your hard disk, and modify your AUTOEXEC.BAT file to boot up to the network file server. Create a directory on your hard disk (i.e. MD NOVELL), and then install the network operating system software into that directory. Next, change your AUTOEXEC.BAT file so that you load the network software into memory at boot-up time, remembering to add a line to LOGIN into the network. Finally, re-boot your PC and attempt to log into the network.

Unit 3.3: Monitoring the System

Unit Objective

At the end of this unit, you will be able to:

- Explain the causes of low performance of the system
- Identify different monitoring tools
- Evaluate the monitoring reports

Say

- Tell the participants that an IT service engineer should monitor the customer's system at their facility for assessing different components and establishing maintenance schedules.
- Also, tell them that they should be aware of the changes in technology of products so that they can upgrade and update the product after checking its compatibility with the other components of the system.

Ask

- Ask the participants whether they know about some of the causes behind the degradation of a system.
- Enquire from them if they have ever used any monitoring tool such as SpeedFan, Open Hardware Monitor and Core Temp.
- Ask them to name a few devices that computers have inside them to bring down the temperature of hardware components.
- Ask them to name a few monitoring tools.

Notes for Facilitation

- Start the session by explaining to the participants the need of a monitoring system.
- Explain to them some of the causes of degradation of a system such as power supply rating, CPU fan speed, temperature, disk and array, memory and temperature.

- Further, tell them what they need to do in order to diagnose the different causes of low performance of a system with the help of the following figure:

Monitor the voltage and power readings of system components to be sure that they are within safe operating limit.

Monitor the server's CPU and system board temperatures to track that the functioning of the modules is within the safety range.

Detect and rectify faulty configuration or improper installation of memory.

Monitor and track details for both physical and logical disks to ensure there are no disk failures. Also, ensure that recovery files for file systems are updated and maintained.

View details of CPU configuration.

Ensure proper functioning of CPUs by monitoring the status of processor devices.

Monitor network performance for smooth workflow.

Fig 3.3.1: Diagnoses of different causes of low performance system

- Next, tell them that computers have devices such as heat sinks and fans inside them to bring the temperature of hardware components down as much as possible. These devices are necessary because the system may stop working due to excessive heat generation.
- In addition, tell them the steps for monitoring a system.

- Brief them about the monitoring tools. Then, explain to them about a few monitoring tools and software with the help of the following figure:

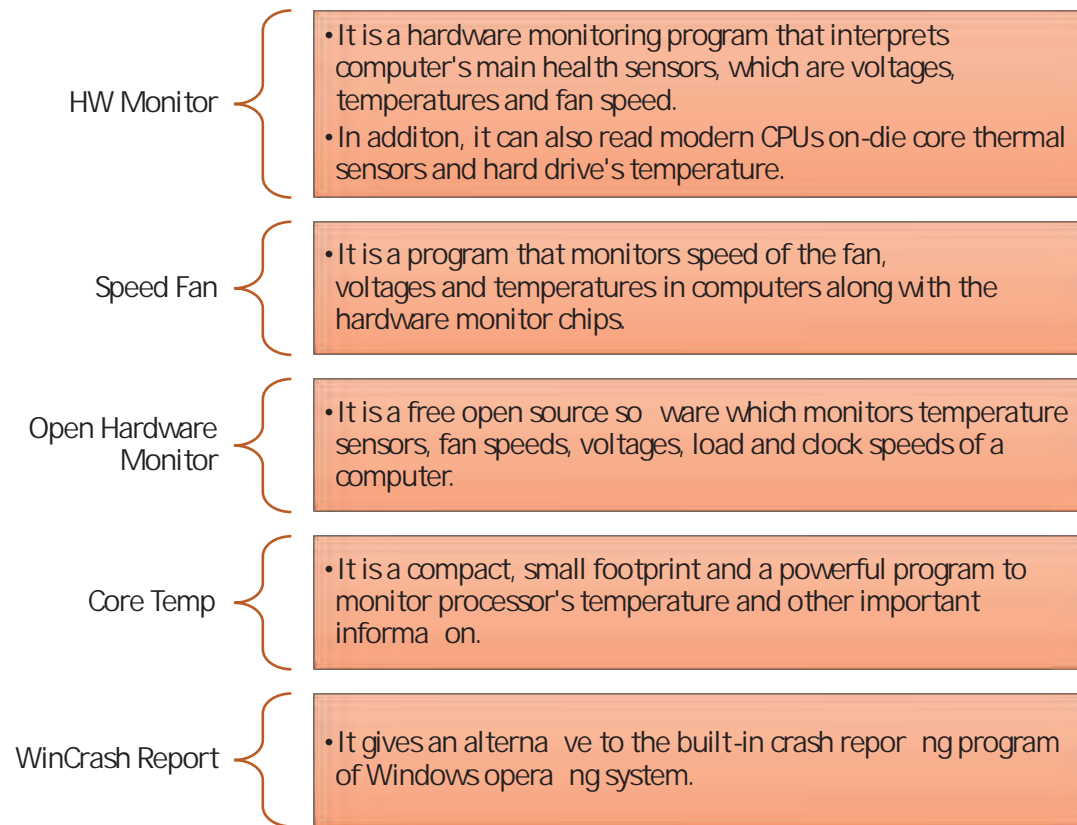


Fig 3.3.2 Monitoring tools and software

- Inform the participants that the service engineer should be able to assess the report of monitoring software and take steps to rectify the faults.

- Lastly, explain to them the importance of generating and delivering reports with the help of the following points:

It is important to generate and deliver reports for showing the status of the system to non-technical people, in a clear format.

These reports need to be forwarded to specific people in the organization to whom the information is relevant.

It is imperative to save and analyse historic data not only to know what is happening in real time but also to use the reports for making better decisions for the same issue in future.

It is important for keeping track of the temperature and dust environment required for managing the assets.

These reports enable the service engineer to manage security of the system by installing security tools.

It is required so that the service engineer can define the access controls for securing the systems and the user accounts.

It is necessary to keep track of the number of changing passwords of the system.

Fig 3.3.3: Importance of generating and delivering reports

- Activity Handling Strategy
 - To check the device manager for errors, perform the following task:
 1. Open the device manager from start menu.
 2. Exclamation Mark
 - a. If a device has a yellow circle with an exclamation mark this means that the device is conflicting other hardware.
 - b. It may also indicate that the device or its drivers are not installed properly.
 3. Red X
 - a. The device has been disabled, removed, or Windows is unable to locate the device.
 4. Downward arrow
 - a. Small arrow in downward direction next to the device indicates that the device has been disabled.
 5. Missing hardware or Unknown device
 - a. Missing hardware
If the driver that is to be installed is not in the list of device manager then the device is not being detected.
 - b. Unknown device
 - c. If there is a compatibility issue of the system with device or device driver then also it should show that device under "Other devices" or "Unknown device."
- Activity Handling Strategy
 - Perform the following task to do the testing of the system memory:

1. Ensure that the system is booting properly and not giving any beep error. Check the system for the following:
 - a. Random computer crashes
 - b. BSOD
 - c. General Protection Fault error messages,
 - d. Illegal Operations
 - e. Fatal Exceptions, etc.
2. Check if the system reboots randomly.
3. Install new programs and ensure that the window is not throwing any error during installation.

Unit 3.4: Maintaining Schedules and Records

Unit Objective

At the end of this unit, you will be able to:

- Explain maintenance schedules
- Recognize importance of schedules and records

Say

- Tell the participants that:
 - A maintenance schedule is important for keeping records of servicing, repairing and performing preventive maintenance.
 - The service engineer should maintain service records and next servicing schedules to be able to inform the customer about the maintenance of the components at the facility.
 - The service engineer needs to perform hardware and software maintenance.
- In addition, tell them about software and hardware maintenance.

Notes for Facilitation

- Explain to the participants about the importance of filling forms and submitting to the respective customer for record keeping. For example: filling up a form which would include the name of the customer, address, contact number, service type and also a section containing the last service date and next service date.
- Tell them that computer maintenance is a process of protecting computers and keeping them in a good working condition. In addition, tell them about the different types of computer maintenance with the help of the following figure:

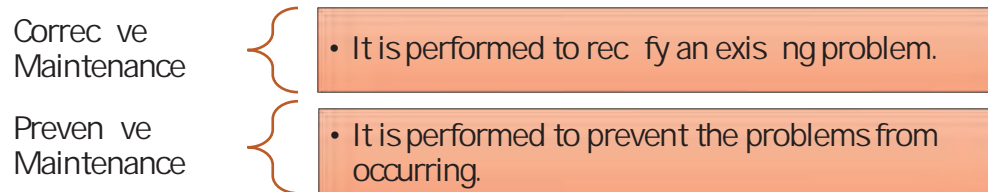


Fig 3.4.1: Types of computer maintenance

- In addition, tell them some importance of preventive measures such as:
 - It saves time and money
 - It safeguards the data
 - It also improves system's performance

- Give them a brief introduction about the maintenance checklist. Then explain to them about things that need to be done on weekly, monthly and yearly basis with the help of the following points:
 - Maintenance to be done weekly are:
 - Run the disk clean-up to remove the temporary files and cookies.
 - Run the check disk utility to check the hard disk for any error.
 - Update the anti-virus software (if required).
 - Check all connections of computer and its peripherals.
 - Clean the monitor screen.
 - Maintenance to be done monthly and yearly are:
 - Take the backup of the files
 - Uninstall any extra programs or files
 - Run the disk defragmenter utility tool to rearrange the fragmented files
 - Update the windows
 - Clean the printers to remove the dust and any other foreign material
 - Replace the printers' ink.
 - Uninstall any extra programs or files
 - Run the disk defragmenter utility tool to rearrange the fragmented files





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4. Manage Customer's System Remotely

Unit 4.1 – Monitoring Systems Remotely

Unit 4.2 – Reporting Performance

Unit 4.3 – Interacting with Customer, Vendor and Superior

Unit 4.4 – Achieving Delivery Standards



ELE/N4615
ELE/N9909

Key Learning Outcomes

At the end of this module, you will be able to:

- Define remote monitoring and management (RMM)
- Explain incident management
- Use statistical tools for monitoring
- Achieve downtime of less than 1% or as contracted
- Escalate problems
- Maintain records of activity

Unit 4.1: Monitoring Systems Remotely

Unit Objective

At the end of this unit, you will be able to:

- Define remote monitoring and management (RMM)
- Describe remote monitoring system process flow

Notes for Facilitation

- Start the session by telling the participants that nowadays in Smart Cities, the Smart home concepts are: monitoring systems for home security and basic functioning that can be monitored remotely. Use the following diagram to explain this concept to them:



Fig 4.1.1: Monitoring system for home security

- Inform them all these monitoring systems are controlled centrally by a computer.
- Then, tell them that similarly, the computer at a customer's site can also be monitored and maintained remotely.

- Tell the participants that certain versions of Microsoft Windows have a built-in remote administration package called Remote Desktop Connection which offers similar functionality.
- Tell them that system monitoring also includes tracking and monitoring the date and time, system uptime, computer name, username, hard drive S.M.A.R.T. data, fan speeds, and the voltages being provided by the power supply.
- Inform them that some hardware-based systems' monitoring components are also used to monitor systems remotely. Typically, these hardware-based systems' monitoring components need to be placed in front of the computer cabinets in case of desktops. Then, these components can interact with the host system hardware. Alternatively, these components can connect to a software data-collection system through a USB.
- Tell them that whichever approach for collecting data is used by these components, the monitoring system shows the monitoring information on either a LCD panel or on series of small LED numeric displays.
- Tell them that a few hardware-based system monitors also permit direct control of fan speeds. Thus, permitting the user to rapidly customize the cooling in the system.
- The following image shows a system monitor displaying system resource usage:
- (The following screenshot has been taken from the "System Monitor", [Web. https://upload.wikimedia.org/wikipedia/en/e/e0/Example_of_a_software_system_monitor.png](https://upload.wikimedia.org/wikipedia/en/e/e0/Example_of_a_software_system_monitor.png) /)

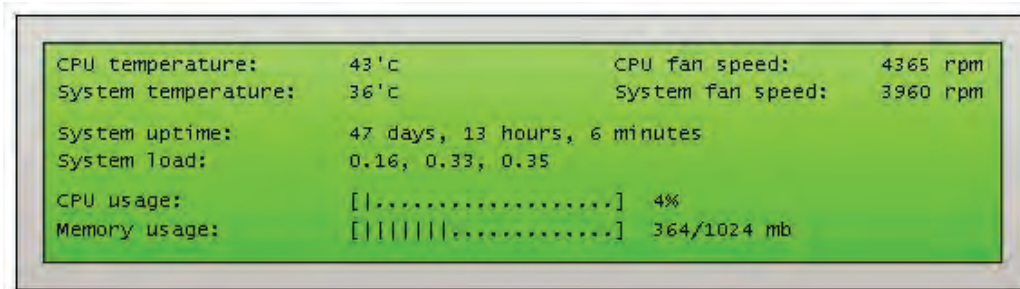


Fig 4.1.2: System monitor displaying system

- Tell them that performance counters are used to measure system state or activity. Performance counters exist as a part of an application or for the entire OS. MS Windows' Performance Monitor works by periodically requesting the current value of performance counters.
- Also, tell them that the configuration information is the key value information derived from the Windows registry. MS Windows' Performance Monitor maintains a log file containing the value of a registry key for a particular time or interval.

- Show them the following image of a typical system log file that is used to monitor the system performance:



Fig 4.1.3: Typical system log file

- In addition, show them some screenshots on your laptop of Argus tool, Nagios and HP SiteScope for distributed system monitoring such as shown in the following images:
(The following screenshot has been taken from the "14 Free Server & Network Monitoring Tools", Web. <http://www.smashingapps.com/2014/05/02/14-free-server-network-monitoring-tools.html>)

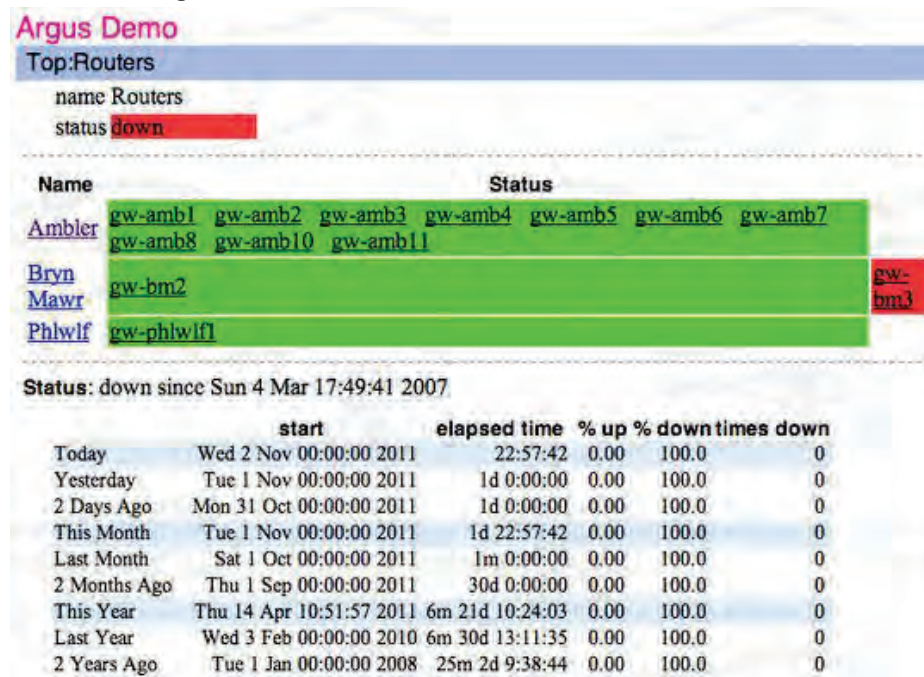


Fig 4.1.4: Screenshot of argus demo

(The following screenshot has been taken from the "Nagios", Web.
<http://www.nagios.org/projects/>)



Fig 4.1.5: Screenshot of nagios

(The following screenshot has been taken from the "HP SiteScope so ware ", Web.
http://businessoutcomes.wikia.com/wiki/HP_SiteScope_so_ware)

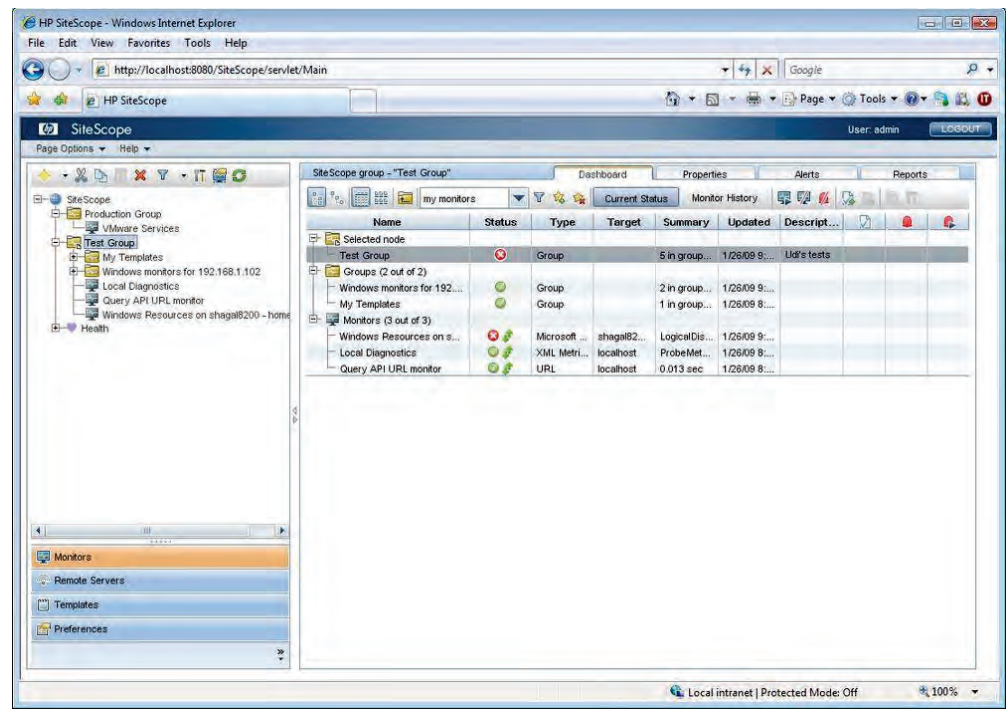


Fig 4.1.6: Screenshot of hp SiteScope so ware

- Further tell them about PING, NMP and syslog with the help of the following points:
 - PING: This is a system administrator tool that is used to test the reachability and accessibility of a host in an IP address range. The information from ping results can decide if a host in the system is dynamic or not. Besides, it can quantify the transmission time and packet misfortune when speaking with a host.
 - SNMP: Simple Network Management Protocol (SNMP) is an Internet-standard protocol for collecting and organizing information of managed devices on IP networks. It is also used for customizing the information to change device behavior. This is the most generally used convention for administration and observation of the system and incorporates the following components:
 - Managed device: The hub in the system that backs SNMP and provides access to particular data.
 - Agent: It is a software that runs on the managed devices.
 - Network Management System (NMS): An application on a framework that controls the managed devices through the operator, utilizing SNMP summons.
 - The MIB holds data about the structure of the information on a gadget for administration. The MIBs contain OID (object identifiers), which is the genuine identifier for the variable to be observed from the gadget or set on the device.
 - Syslog (not the Windows Eventlog), is a message logging framework. It allows separation of:
 - Software that generates messages,
 - System that stores them and
 - Software that reports and analyses them.
- Tell them that SNMP data is gathered and sent to a managed device using polling mechanism or traps. An agent can send information about the events on the device to an NMS through traps.
- MIB contains information related to the structure of the existing data on a device for management. It includes object identifiers, which is the actual identifier for the variable, to be read from the device or set on the device.
- In networks where an NMS is not available for monitoring, or the existing NMS does not support specific functions or even extend the functionality of the existing NMS tool, network admins can use scripts.
- Draw the following diagram on the white/black board:

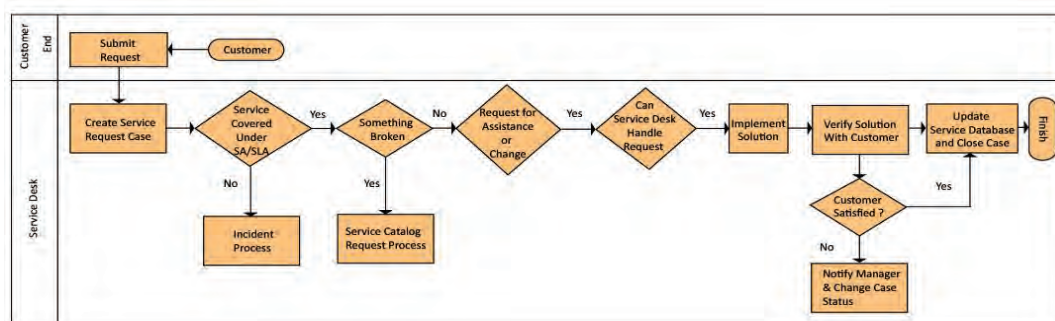


Fig 4.1.7: Flow diagram

- o Further, explain to them about the request resolution steps which are as shown in the following figure:

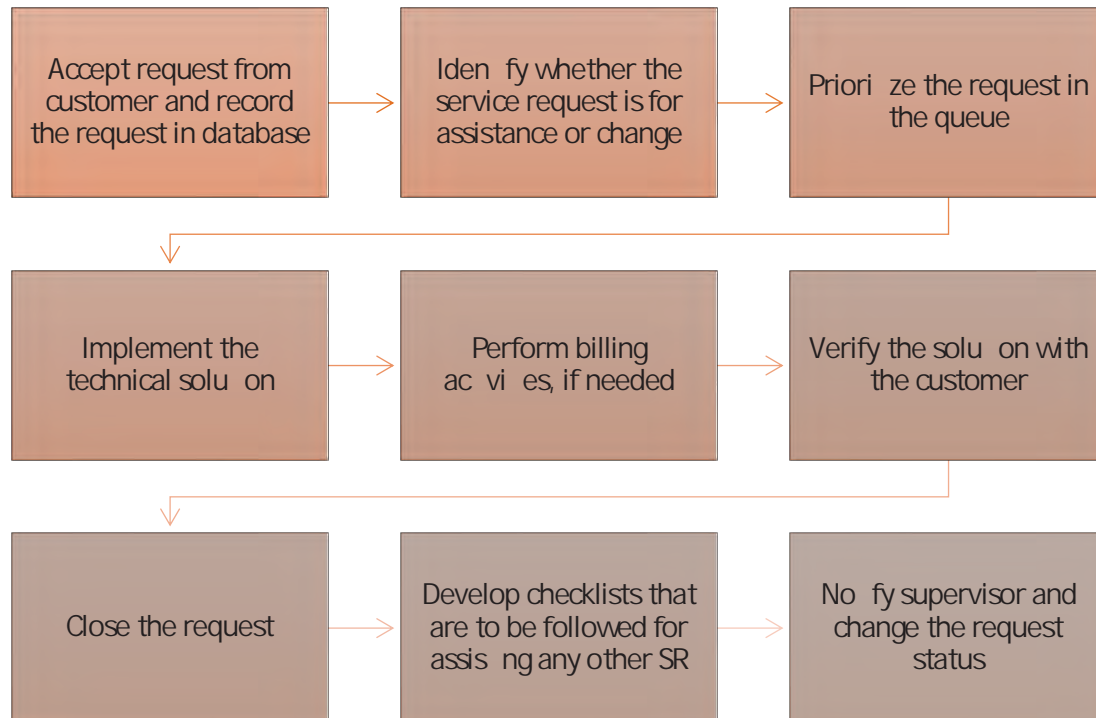


Fig 4.1.8: Request resolution steps

- Explain to the participants what is HDD S.M.A.R.T. and GPU monitoring or CPU throttling by saying that:
 - o S.M.A.R.T (Self-Monitoring Analysis and Reporting Technology) is an interface between a PC's start-up program or BIOS and the PC hard disk.
 - o It is a component of the Enhanced Integrated Drive Electronics (EIDE) innovation that controls access to the hard drive.
 - o On the occasion that S.M.A.R.T is empowered when a PC is set up, the BIOS can get an analytical data from the hard drive and decide whether to send to the client a notice message about conceivable future disappointment of the hard drive.
 - o In addition, tell them that:
 - o CPU throttling is a method in PC design whereby the recurrence of a microchip can be consequently balanced "on the fly", either to raise control or to decrease the measure of warmth produced by the chip.
 - o It is commonly used in laptops and other mobile devices, where energy comes from a battery and thus is limited.
 - o It is also used in quiet computing settings to decrease energy and cooling costs for lightly loaded machines. Less heat output, in turn, allows the system cooling fans to be throttled down or turned off, reducing noise levels and further decreasing power consumption.

Additionally, it is utilized for reducing warmth in deficiently cooled frameworks when the temperature reaches a specific limit, for example, in inadequately cooled overlocked frameworks.

- Activity Handling Strategy
 - Actual Problem: The browser's homepage automatically changes. This is a common symptom when a virus or a browser hijacker infects the computer.
 - Try the following steps to resolve the issue:
 1. Establish remote connection:
 - a. Open the remote administrator software.
 - b. Ask the software credentials from the customer to set up the connection.
 2. Reset the home page of the default web browser
 3. In Internet Explorer:
 - a. Click Tools menu.
 - b. Click Internet options.
 - c. Click the General tab.
 - d. In the Address box, type the Web address you want for your home page.
 - e. Click OK.
 4. In Mozilla Firefox:
 - a. Open the web site you want to set as your home page.
 - b. Click the icon to the left of the web address and drag it to the Home button.
 - c. Click Yes.
 - OR
 - a. Click the menu button.
 - b. Select Options>>Preferences and then choose the General panel.
 - c. From the drop-down menu, you can choose to have Firefox show a blank page on start-up or show all of your windows and tabs from your previous session.
 - d. You can also set multiple pages as your home page: Open each page in a separate tab and click on Use Current Pages.
 1. In Chrome:
 - a. On your computer, open Chrome.
 - b. At the top right, click More.
 - c. Select Settings.
 - d. Under "Appearance," check the box Show Home button.
 - e. Below "Show Home button," click Change to choose your homepage.
 2. Run a virus scan and remove the virus.
- Activity Handling Strategy
 - To resolve the problem, perform the following steps:
 1. Establish remote connection:
 - a. Open the remote administrator software.
 - b. Ask the software credentials from the customer to set up the connection.

2. Once the connection is completed start the utility.
 3. Note the error number and check the error number and resolution on the official documentation of the anti-virus.
 4. Ensure that the anti-virus is up to date.
- o In some cases, the software program may require an update before it can be successfully run on your computer.
 1. Make sure all the dependent programs are closed (if required) when you run the anti-virus.
 2. Ensure that the system has been rebooted at least once after the program has been installed.
 3. Ensure that the system has correct date, time and zone.
 - o In some cases, the program may be dependent on the date and if that date is incorrectly set it may cause issues.
 - o If following the above recommendations does not resolve your issues, reinstall the program or utility.
- Activity Handling Strategy
To resolve the problem, perform the following steps:
 1. Establish remote connection.
 - a. Open the remote administrator software.
 - b. Ask the software credentials from the customer to set up the connection.
 2. Remove or disable any background programs which is currently running and can affect the program.
 3. Delete all temporary files.
 4. Ensure that all the updates and patches of the software are done.
 5. Run the Windows utilities such as scandisk and hard drive defragmenter.
 6. Check if the applications are compatible with the hardware and system software.
 7. Check recently installed software or hardware and verify if it is not causing the issue.
 - 8. Problem in RAM
 - a. Corrupted RAM can cause illegal operations in the system.
 - b. If any of these were recently installed, ensure that the installation was properly done.

Unit 4.2: Reporting Performance Issues

Unit Objective

At the end of this unit, you will be able to:

- Describe incident management
- Use statistical tools to develop intelligence and spot potential areas of disruptions
- Record down the details

Notes for Facilitation

- Tell the participants that the principal objective of the Incident management (IM) process is to re-establish an ordinary service operation as fast as possible and to limit the effect on business operations. In this way it is guaranteed that the most ideal levels of service quality and accessibility are kept up. An ordinary service operation is an operation that is mentioned in the service level agreement.
- A service engineer needs to monitor and maintain a report of IT equipment in a network. Thus, it is imperative for the service engineer to comprehend the procedure of problem management.
- In problem management, an incidence is defined as any occasion which upsets, or which could disturb a service. On the other hand, it is a spontaneous intrusion to an IT Service or lessening the functioning of an IT Service. Failure of any product, device or application, utilized as a part of the support of a system that has not yet influenced the service is also an incident.
- The impact of an incident is used in determining the priority for resolution. There are three categories of impact as shown in the following table:

| Priority | Category | Description |
|----------|----------|---|
| 3 | Low | Affects one or two users. The systems are still functioning though service is degraded. |
| 2 | Medium | Affects many users at one location. The systems are still functioning but not operating as desired or expected and the service is degraded. |
| 1 | High | Affects all users. The service is non-functional. |

Fig 4.2.1: Priority for resolution

- For example, the System Monitor, as shown in the following image, is a tool used to monitor resources and performance in a Linux system.

(Note: The following image of a system monitor has been taken from the site:

<https://www.cyberciti.biz/ps/top-linux-monitoring-tools.html>.)

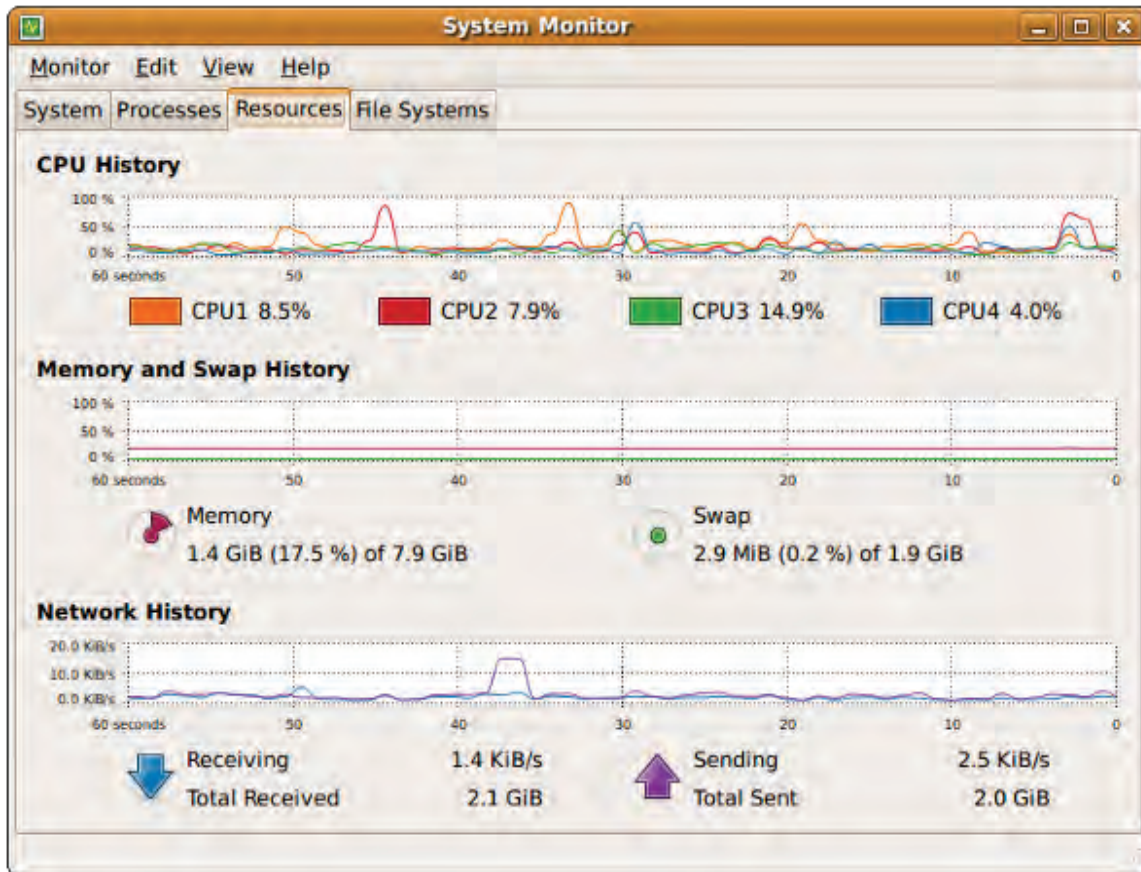


Fig 4.2.2 System monitor

- Implementing ITIL-based Service Desk can be useful for enabling a proactive approach to IT service management, thus reducing service time and effort.
- Consider a scenario of a bank with multiple teams of employees – managers, tellers, customer help desk executives and so on. Employees are spread across two floors and all employees have a desktop for their work functions. All employees share network printers to print out various documents such as loan papers, cheques or transaction reports. A system or printer failure can be critical for the bank.

- The following figure shows how IT Help Desk staff can implement an ITIL-based Help Desk solution to manage service requests and resolve issues:

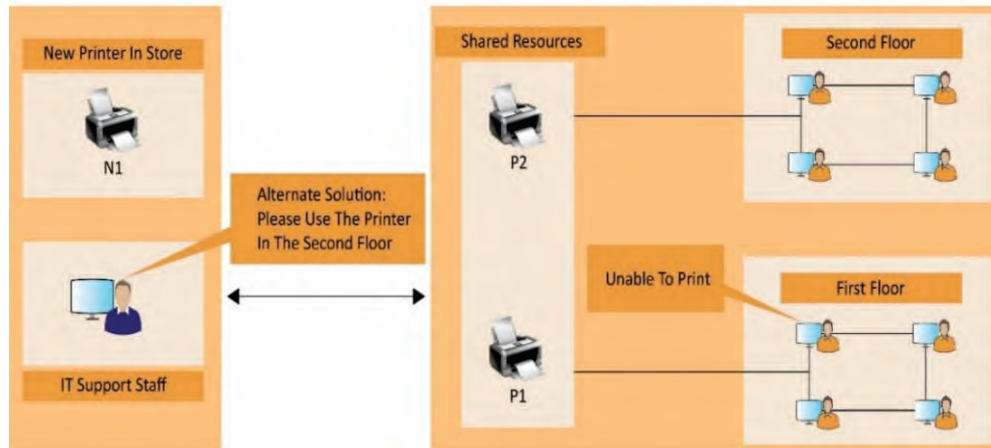


Fig 4.2.3: IT helpdesk staff

- Tell them that for Problem Management, there are some Key Performance Indicators (KPIs) that need to be considered for service engineers. These are as shown in the following table:

| Key Performance Indicator (KPI) | Definition |
|---------------------------------------|--|
| Number of Problems | Number of problems encountered |
| Resolution Time | Average time for fixing issues |
| Number of Unresolved Problems | Number of problems whose reason is not known at a specific time |
| Number of Incidents per Known Problem | Number of reported incidents linked to the same problem after problem identification |
| Time until Problem Identification | Average time between first occurrence of an incident and identification of the underlying root cause |
| Problem Resolution Effort and Time | Average work effort for resolving problems |

Fig 4.2.4: Key performance indicator

- In addition, tell them that the Service Help-Desk tools provide many contact points to customers such as chats, emails or phone calls, dashboards and detailed analysis. Some times, these tools may additionally provide a functionality that allows service engineers to escalate a problem to another level.
- Further, tell them that more advanced help work area applications highlight bits of knowledge and investment, robotic forms, numerous contact channels, detailing instruments, joint effort apparatuses and CRM.

Unit 4.3: Interacting with Customers, Vendor and Superior

Unit Objective

At the end of this unit, you will be able to:

- Prepare action plan and share with customer and/or vendor
- Interact with senior management of customer
- Recommend new solutions to customer
- Attend customer's IT meetings
- Escalate unresolved issues to superior

Notes for Facilitation

- Tell the participants to consider a situation where a customer complains that a computer lost network connectivity. There can be numerous explanations for the problem such as
 - Defect in physical component such as a cable break or a faulty router
or
 - A faulty configuration on the computer or a network device
or
 - Loss of network connectivity to one network resource such as email, which led the customer to assume that all network connectivity was lostA successful service engineer uses critical thinking skills to isolate the real cause of the issue by formulating questions, gathering information, and determining what is relevant.
- Tell the participants that when on a visit to a customer site, to ensure good service, the customer's requirement should be understood and a solution should be suggested.

- In addition, tell them a few points to be taken care of while communicating with a customer with the help of following figure:

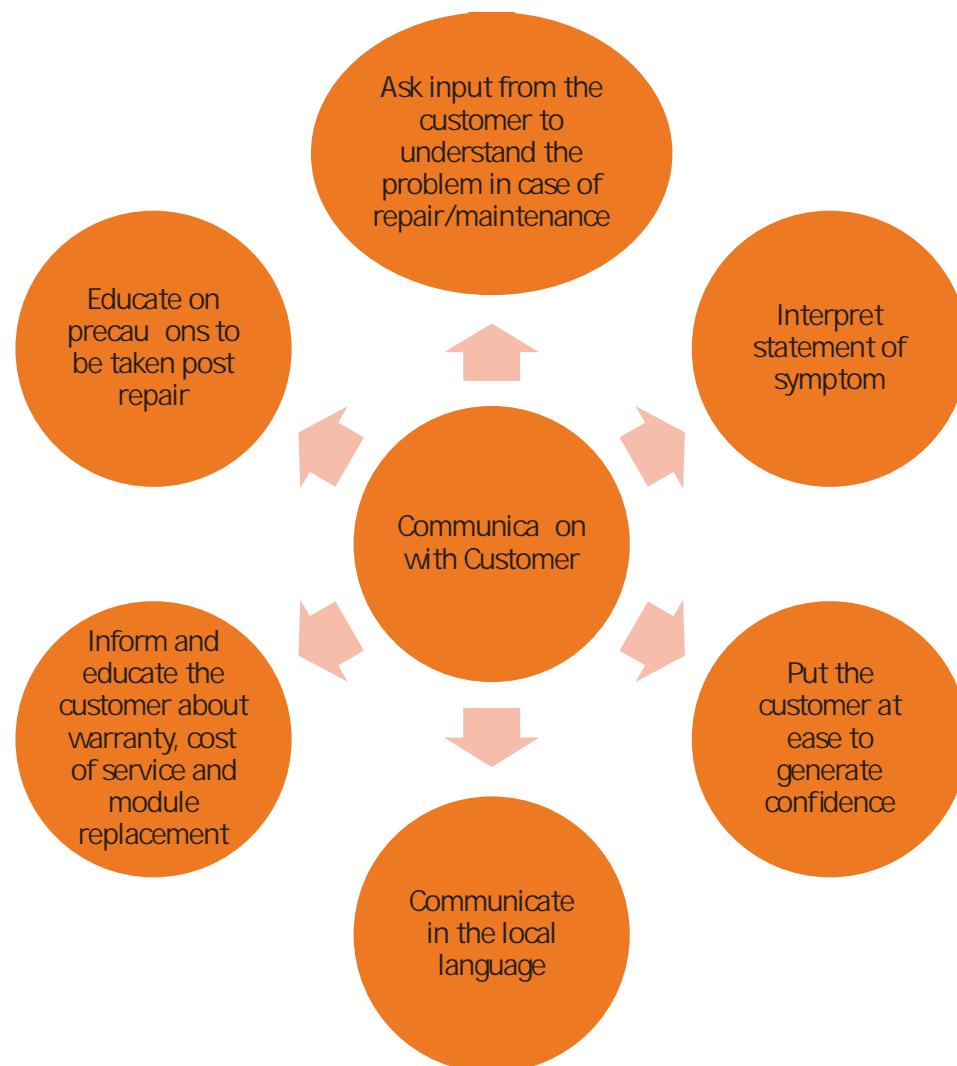


Fig 4.3.1: Communication with customer

- Tell the participants that feedback helps to understand problems and outlines the scope for further improvement. It helps to identify the areas of competency in the work which they have done. It also makes the customer feel happy that they can give feedback regarding the service. The feedback also helps the supervisor to monitor their work, efficiency, and other key performance aspects of their work that may relate to appraisals and further assignments.
- Tell them to remember that all the members of a team, whether a senior or a junior, may work together or may work on different projects to fulfil the organizational goals. Therefore, it is important to understand that the role of each team member is significant for the organization.

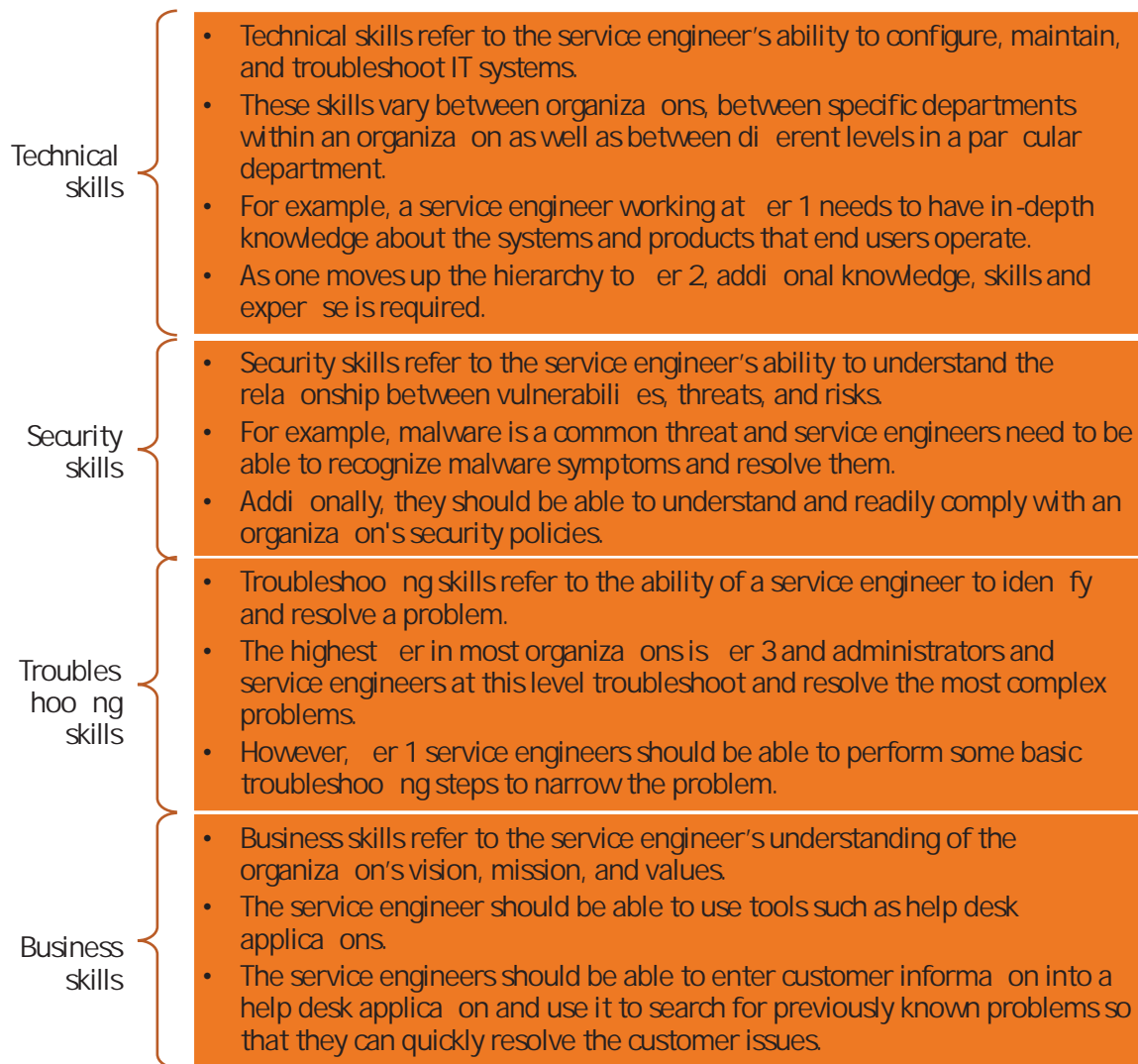
- Inform them that the process flow of the work that takes place in a day in the life of a service engineer includes
 - Issuing the tools from the stores. They must ensure that after issuing the tools, they use them properly and return after the work is done.
 - Attending to customer complaints.
 - Helping their colleagues, if it is required.
- Further, explain to them a few points which an employee, a service engineer, must abide by while interacting with the supervisor with the help of following figure:

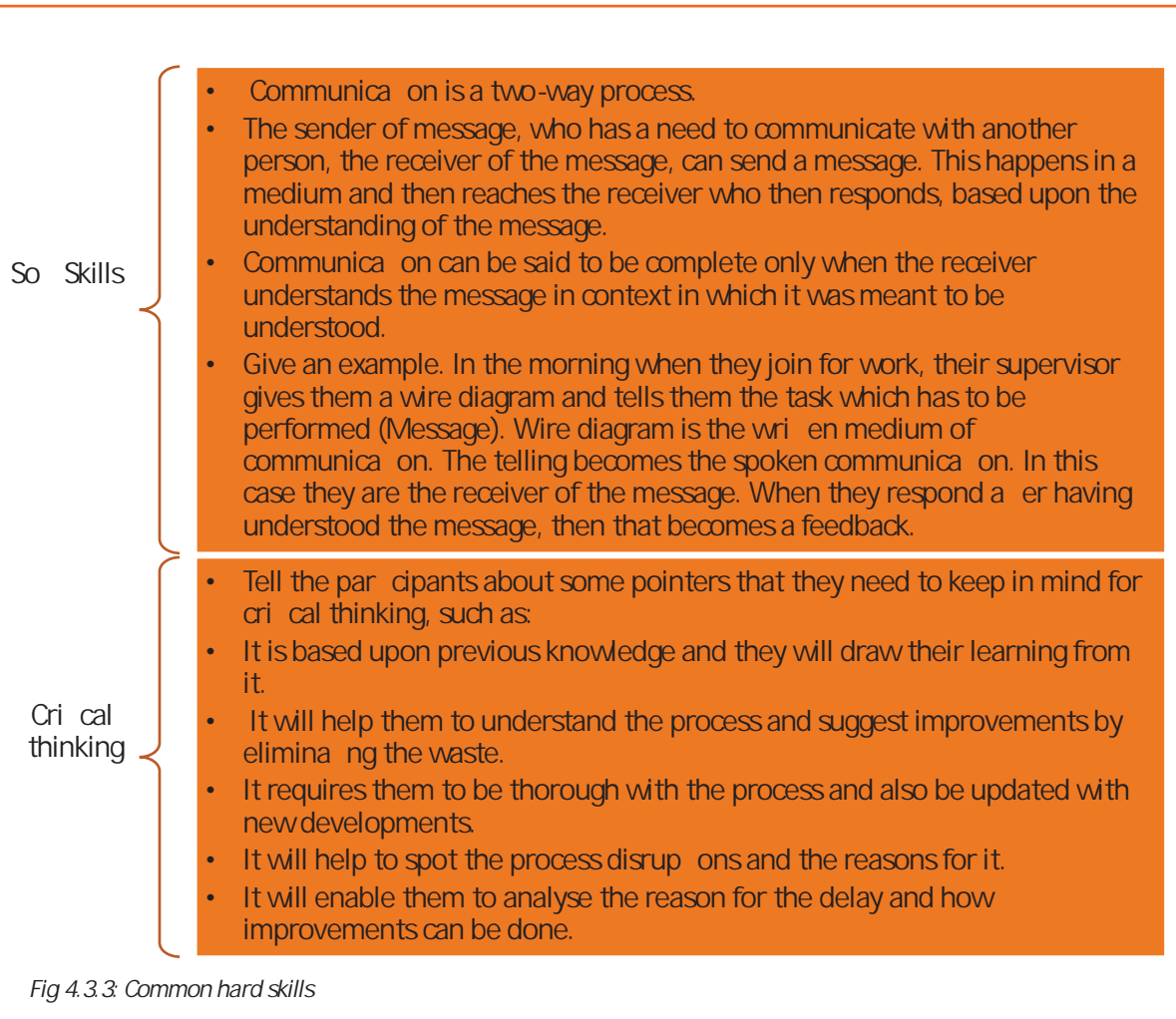


Fig 4.3.2 Interaction with supervisor

- Give tips on interacting with the supervisor:
 - Explain to the participants how to resolve issues in case of a discord with the supervisor.
 - Tell the importance of understanding the work requirements properly as it will enable them to deliver quality work.
 - Explain to the participants about what they would need to discuss with the supervisor so as to plan the approach of work accordingly.
 - Explain how the participants can learn by observing and considering the supervisor's preference.
 - Tell the participants that they should never delay the supervisor while on his/her way out.
 - Tell the participants that they should not drag a meeting after it is over.
- Explain to them the importance of interacting with the senior management of customer.
- Then, tell them that hard skills are specific abilities that can be taught and measured such as configuring and troubleshooting systems.

- In addition, explain to them some of the common hard skills needed by a service engineer with the help of the following figure:





- Lastly explain to them the importance of escalating the unresolved issues to superior/supervisor.
- Also, you may tell them that for organizations that have large number of systems and they require IT support, then you need a Virtual Private Network which connects the IT service engineer's remote computer to the systems in the organization securely. Inform them that it is required to use a secure private network to monitor and sometimes fix the systems remotely due to the following reasons:
 - Due to time restrictions
 - Due to urgency of work/fix required
 - Unavailability of a service engineer to visit the customer facility
- Sometimes, just to check the health of the organization's network and systems, as well as to maintain the computers, a service engineer needs to monitor the systems remotely.
- You may show the following diagram and explain the concept of an organization's virtual private network:



Fig 4.3.4: Virtual private network

Unit 4.4: Achieving Required Delivery Standards

Unit Objective

At the end of this unit, you will be able to:

- Adhere 100% to contracted standards of work
- Achieve down time of less than 1% or as contracted
- Escalate problems in time and as per criticality of work process
- Maintain 100% records of activity

Notes for Facilitation

- Tell the participants that to know the clear-cut expectations of the customer, customer service department could be of great help as they have a quantifiable and measurable set of standards which is desired by the customer. In addition, tell them that these standards ensure that the customer service is consistently at the highest possible level.
- Explain to them the features of customer service standards with the help of the following figure:

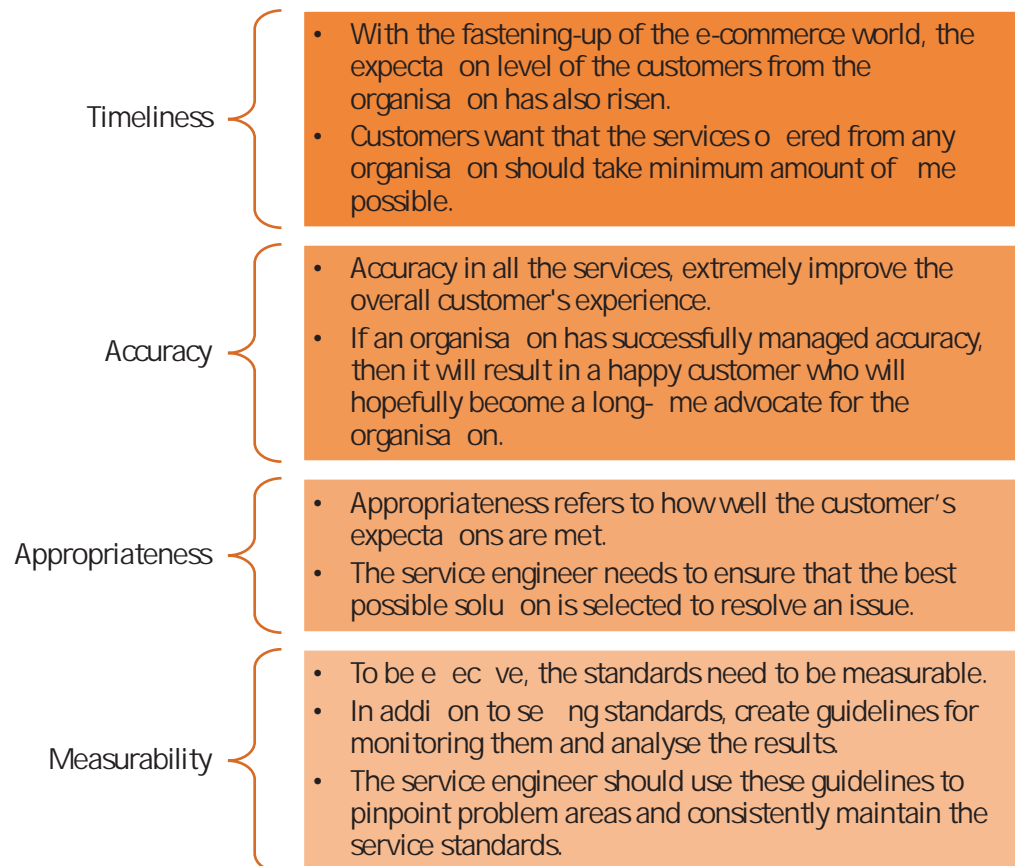


Fig 4.4.1: Features of customer service standards

- Explain to them the benefits of implementing standards in an organisation, with the help of the following points:
 - Irrespective of the size of the organisation, they gain many profits by adhering to these standards as they discover cost and efficiency savings.
 - The six main advantages of adhering to standards are listed below:
 - Improves the credibility and image of the organisation
 - Improves the customer satisfaction
 - Enables better process integration
 - Improves the decision making skills
 - Creates a continuous improvement in the work culture
 - Engages all the employees
- For main information, visit the following link:
<https://advisera.com/9001academy/knowledgebase/six-key-benefits-of-iso-9001-implementation/>
- Further, tell them that downtime or outage duration refers to a period of time when a system becomes unavailable and fails to perform its primary function. When this happens, it raises questions on the reliability, availability, recovery and unavailability of the system.
- Next, explain to them about the planned and unplanned downtime.
- Explain to them about the functional and hierarchical escalation with the help of the following points:
 - Functional and hierarchical type of escalations can regularly be found inside the IT Service Managed condition when incident and problem management orders are executed.
 - With functional escalations the incident/problem is routed to a more experienced entity that can deliver the next level of support.
 - With functional escalations, the occurrence/issue is directed to a more experienced substance that can convey the following level of support.
 - Hierarchical escalations then again act more as a correspondences intends to advise both care staff and administration in a proactive way of potential SLA (Service Level Agreements) breaches.
 - The two types of escalations are interlaced as administration would frequently utilize various levelled heightening correspondences to practically raise occurrences and issues to more talented bolster work force. The sort of demand and its need would decide the time notoriety in which these accelerations would happen.
- In addition, tell them the activities involved in the escalation management process such as initiating the escalation, logging the escalation and developing an escalation management action.
- Lastly, tell them about the importance of record keeping.
- Tell them that record keeping is very beneficial especially in case of conflicts and contradictions in the work committed and the work done. Record keeping provides several benefits.





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5. Coordinate with Colleagues and Co-workers

Unit 5.0- Introduction of the Module

Unit 5.1 - Interacting with Supervisor

Unit 5.2- Coordinating with Colleagues

Unit 5.3- Interaction with Customers and Superiors



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Key Learning Outcomes

At the end of this module, you will be able to:

- Explain the organizational goals and targets
- Use inter-personnel skills to resolve issues
- Interact with the supervisor
- Coordinate with colleagues
- Describe service level agreement (SLA)
- Interact with customers and superiors

UNIT 5.0: Introduction of the Module

Objective of the Module

The objective of this module is to make the participants familiar with the organizational goals and targets. The participants will be able to use inter-personnel skills to resolve issues. They will also be interacting efficiently with the supervisor, customers and the superiors. In addition, they would be told how to coordinate with colleagues. They will be able to describe SLA.

Ask

- Enquire if anybody knows what the major roles and responsibilities of a service engineer are.
- Ask the participants if they can tell some responsibilities of a service engineer.
- Ask if anyone knows to whom they should report any kind of problem.
- Ask them if they know anything about SLA.

UNIT 5.1: Interacting with Supervisor

Unit Objective

At the end of this unit, the participants will be able to:

- Explain the organizational goals and targets
- Use inter-personal skills to resolve issues
- Communicate with superior and subordinates
- Evaluate the feedback from the client regarding task completion
- Describe an IT hardware service engineer

Say

- Start the session by telling the participants that for any person to work, it is important to understand the work requirements.
- Tell them that work that is assigned to them will also have certain guidelines which they should follow. It is important to adhere to the targets and guidelines so that there is no conflict between the team members and there is no delay.

Notes for Facilitation

- Tell the participants that for an IT service engineer in any organization, one of the major roles and responsibilities is to understand the work requirements.
- Then tell them that while working in any organization, it is important to understand the work requirements. The work requirements include responsibilities as shown in the following figure:



Fig 5.1.1: Work requirements

- In addition, tell them about work ethics, by saying that work ethics means differentiating between the right and the wrong way of doing a job and adopting the right conduct. Work ethics involve certain principles as shown in the following figure:



Fig 5.1.2 Work ethics

- In addition, tell them that since IT industry evolves at a very fast pace, service engineers need to be updated with the latest products, their software ecosystem and methods to operate the technologically advanced machines. New tech savvy hardware comes with a specific set of rules and operating methods.
- Further, tell them that a service engineer may come across a situation that may require escalation of the situation to the supervisor, as shown in the following figure:

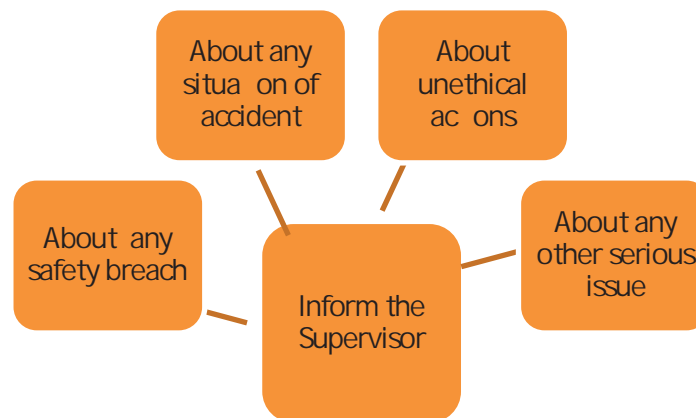


Fig 5.1.3 Escalation of situation to supervisor

- Tell them that an IT service engineer should get in touch with the higher management if the raised concerns are not being addressed. There can be unnecessary bottlenecks created by supervisors and such behavioural anomalies can hamper the productivity of a facility.
- Next, tell them about the importance of feedback with the help of the following points:
 - Tell the participants that feedback helps to understand problems and outlines the scope for further improvement.
 - It helps to identify the areas of competency in the work which they have done. It also makes the customer feel happy that they can give feedback regarding the service.

- The feedback also helps the supervisor to monitor their work efficiency, and other key performance aspects of their work that may relate to appraisals and further assignments.
- Explain to the participants about the importance of interpersonal skills by saying communication is a skill which is the key to success in today's world.
- Tell them that:
 - There is an ever-increasing importance being given to the ability to communicate and work with others.
 - The nature of work has also changed. It demands faster communication, prompt action and good interpersonal relations.
 - Excellent communication skills are required to climb up the career ladder.
- Next, tell them that it is important to understand that all the possible hazards that can happen in a facility are the responsibilities of a service engineer. One possible cause of a hazard could be the lack of clear understanding about the company's code of conduct or reference handbook which puts constraints on the use of equipment for purpose that is against the code of conduct.
- Then explain to them about the systematic approach for handling hazards.
- Tell the participants that it is a good practice to report any kind of problem (hardware or software) to the supervisors.
- Further tell them about the importance of resolving interpersonal issues.
- Inform the participants that just like any other job profile in an organization, meeting the targets set down by the management is very important. An IT service engineer needs to be clear about the goals and visions of the organization to achieve all the designated targets.
- Then explain to them about the key points which will help them to meet the targets.
- Tell the participants that the customer is always special and the customer's feedback is the most important thing for an organization. Always do the procedure as shown in the following figure:

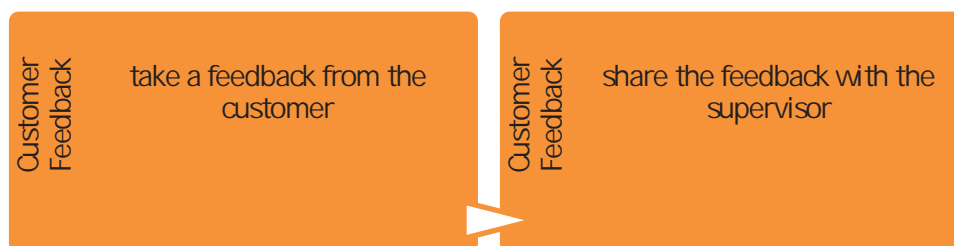


Fig 5.1.4: Customer feedback

- Inform them that an excellent service leads to a happy and loyal customer.

UNIT 5.2 Coordinating with Colleagues

Unit Objective

At the end of this unit, the participants will be able to:

- Explain how to achieve inter-personnel communication in an organization
- Manage cross-functional interaction to accomplish productivity

Explain

Explain to the participants that:

- Work that is assigned to them will also have certain guidelines which they should follow. It is important to adhere to the targets and guidelines so that there is no conflict between the team members and there is no delay.
- Work done should always match to the company delivery standards. There are incentives for commendable work. Be aware of such incentives and perform to achieve them. This leads to having a sense of satisfaction and achievement.
- The manager has certain duties and responsibilities. It is the duty of the manager to get the task done, which may not involve working directly on the computer hardware.
- Similarly, a supervisor may direct about the work which is to be done. The task could involve getting all the service engineers to perform the work as per the allocation and to maintain healthy and safe working conditions.
- The service engineers should be able to work in harmony with the other colleagues or members in the team. In case of any conflict, the objective should be to resolve it by communicating with each other. Sometimes an intervention by a senior may be required to resolve the conflict. At such times, the matter should be reported to the supervisor.
- While performing work or any other interaction related to work, the interest of the organization should be kept at the forefront.
- All the members may work together or may work on different projects to fulfil the organizational goals.
- It is important to understand the role and the responsibility of each one of the team members and the task being performed by that person.

Notes for Facilitation

- Tell the participants that every worker works towards a common goal in an organization, still all of them are divided by certain roles and activities and the way they accomplish that objective.

- Draw the following figure on the black/white board which represents the key points to consider while interacting with colleagues:



Fig 5.2.1: Key points for interacting with colleagues

- Tell them that getting the job done in a process depends on information communication. Furthermore, accuracy of the end result entirely depends on effective inter-personnel communication.
- Further, tell them that to maintain a healthy interpersonal relationship, it is important to adhere to the points shown in the following figure:

| | |
|-----------------------------|--|
| Inter-Personal Relationship | Resolve interpersonal conflict and ensure smooth flow of work |
| | Pass on customer complaints to colleagues in respective geographical locations |
| | Assist colleagues to resolve field problems |

Fig 5.2.2 Interpersonal relationship

- Then explain to them about each point in detail.
- Next, explain to them about cross functional interaction by saying that the success of an organizational plan depends on effectiveness of training, goal-oriented action planning and motivation. However, another key element that deserves a special consideration is cross-functional communication. Cross-functional communication is a method of understanding the importance of liaising and collaborating with other key departments of an organization.
- Lastly, explain to them about team work with the help of the following points:
 - Teamwork is defined as coming together of people to achieve a common goal.
 - The goal here are the organizational goals.
 - The daily tasks which are assigned are a part of the organizational goals. Team work means that each member in the team is contributing their bit to the overall tasks.
 - In a team, all the members are important and might be dependent on each other for work. Sometimes the members do the work individually.

- However, the collective result is a team effort, similar to what will be seen in a game of cricket, or during the construction of a building or building an aircraft. It is also important to understand that the progress of work may depend on the completion of the tasks.
- Therefore, for smooth progress of work, the tasks should be completed on time.

UNIT 5.3: Interaction with Customers and Superiors

Unit Objective

At the end of this unit, the participants will be able to:

- Explain the importance of an SLA
- Communicate with customers and superiors
- Develop rapport with customers
- Develop interpersonal and decision-making skills

Ask

- Ask the participants if they know what the major responsibilities of a service engineer are.
- Ask the participants to tell what according to them are the skills required while dealing with a customer.
- Ask them if they know anything about SLA.
- Ask them to tell some importance of communication skills.

Notes for Facilitation

- Tell the participants about the major responsibilities of a service engineer.
- Tell them that they must always interact politely with the customer. The customer's feedback should always be shared with the supervisor.
- Tell the participants that there will be various types of customers whom they will meet. Some may be calm and polite while others may be angry and impatient. However, the technician should always be patient and polite. They should not fight with the customer or reply back in the same rude tone as of the customer.
- Explain to them about SLA by saying that a Service Level Agreement is a formal contract between the service provider and the customer defining services, responsibilities, scope and duties of both the parties.
- Then tell them about the importance of an SLA.
- Inform them that the service engineer should know the line of communication to communicate the customer concerns.
- Further explain to them the line of communication.
- Then explain to them about communication skills with the help of the following points:
 - Communication is a skill which is the key to success in today's world. There is ever-increasing importance being given to the ability to communicate and work with others. The nature of work has also changed.
 - It demands faster communication, prompt action and good interpersonal relations. Excellent communication skills are required to climb up the career ladder.

- Communication is the exchange of thoughts, ideas, opinions, suggestions, feedback and so on. For any communication to be complete, it is important to get a feedback or response to whatever is communicated.
- In communication, the sender of a message sends it through a medium. The message reaches the receiver who then replies to the message.
- In addition, also tell them about the different types of communication which are:
 - Verbal Communication – it mainly consists of spoken words.
 - Non-verbal communication – it mainly consists of gestures, facial expressions and hand movements.
 - Written communication – it is mainly a written form of communication such as, reports, analysis and e-mails.
- Further, tell them how to assist and educate customers about warranty and precautions.
- Tell them the importance of building rapport with customers.
- Next, explain to the participants about the importance of personal grooming.
- Tell the participants that they represent the company in front of the customer and therefore they should take care of personal grooming.
- Explain to the participants the importance of personal hygiene, for e.g. when they visit the customer their clothes should be neat and tidy. Their hair should be trimmed. They must not smell of sweat as this creates an unhealthy impression in front of the customer.
- Explain to the participants about the importance of following workplace etiquette. Workplace etiquette is the accepted social behaviour when we work along with others in a team. It includes the norms as shown in the following figure:

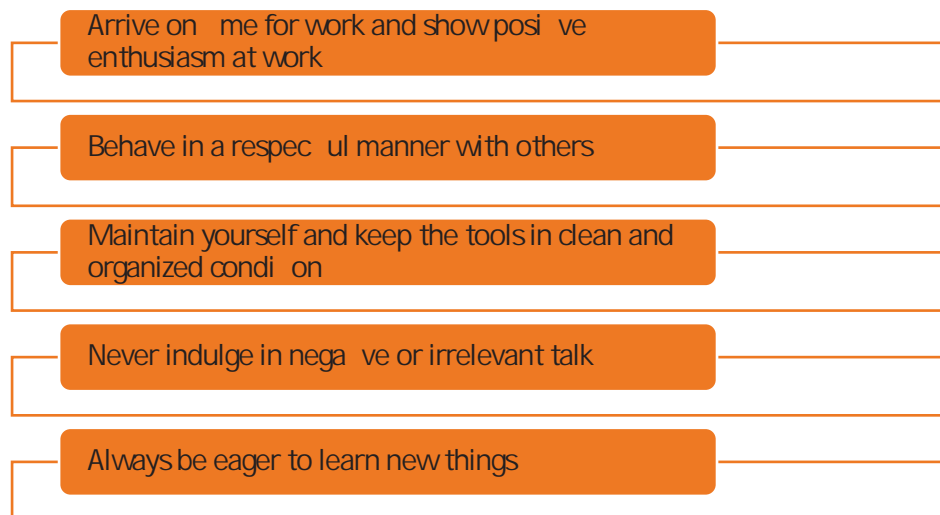


Fig 5.3.1: Workplace etiquette norms

- Lastly explain to them about decision making skills.
- Activity handling strategy: Role Play 1

- The role-play requires three people. Ravi – the service engineer, subordinate who is not able to understand functionality of a new server machine embedded with the latest hardware technology and the manager of facility who needs to confirm that the issue is actually troublesome.
- Further tell them:
 - Role of the service engineer: To prepare a private counselling session for the subordinate
 - Role of the subordinate: To make the service engineer understand how the new machine's operation
 - Role of facility manager: To confirm that the machine is slightly complicated to understand initially for people without prior experience
- Give the participants a time of 15 minutes for preparation to understand the roles.
- At last give them a possible solution which is as follows:
 - The service engineer will be approached by the subordinate regarding his inability to understand the operations of the new server bay.
 - Subordinate to Ravi: Hi Sir, I'm really sorry to bring this to your notice that the current server installed in this facility is technically complicated for my understanding.
 - Ravi pondering over the issue: Ok, I'll look into the matter and see what can be done.
 - Ravi to the facility manager: The new server bay is slightly technical, complicated to be operated by people with little experience in this facility. Is it true in your view?
 - Manager to Ravi: Yes, the machine is a little complicated, but with a small demonstration session the machine will be easy to operate.
 - Ravi to the subordinate: Don't worry I'll organize a personal session in the afternoon, on how to operate the machine with ease.
- Activity handling strategy: Role Play 2
 - The role play requires three people, a manager, Ravi - the service engineer, and third an angry customer.
 - Further tell them:
 - Role of the manager: To look into the problem and suggest a solution
 - Role of the service engineer: To detail the manager with the customer's problem and influence the manager to make a value decision
 - Role of the customer: To inform the service engineer of the problem with his system and request him for a remedy
 - The three participants can take 15 minutes to understand their roles and prepare for it.
 - At last give them a possible solution which is as follows:
 - The Service engineer will receive a call from the customer.
 - Customer in a scolding voice: I have called you a number of times before, my computer is facing an overheating problem and I need a solution.

Ravi: Trying to pacify the customer.

Customer: The system is responding poorly and my business is being affected. Please make replacement or else I will speak to your superiors that you don't want to help me.

Ravi: Trying to explain that it is the fan's problem and it is not covered under replacement and you would have to incur charges.

Customer: Angry! It is not my problem, I need a replacement; this is system under warranty.

Ravi: Assuring the customer a quick response. Keeps phone down.

Ravi to manager

Ravi presents the overall background to the manager, when the system was sold, the terms of repair and replacement and the issue at hand.

Ravi influences the manager that it is a fault at the organization's end and the customer should not be hassled for it.

Ravi: It looks like we need to replace fan in the particular machine since the fan itself is faulty.

Manager: What is the customer's take on the issue?

Ravi: The customer is hassled because of deteriorating computer performance. Even though it is not covered in the contract, the system is in warranty, and it could be a good gesture to go ahead and replace the fan.

Manager: Okay, on your behest, we shall negotiate the contract.

- Activity handling strategy: Role Play 2
 - The assignment requires 12 people, a grieved customer, Ravi - the service engineer, and a gathering of 10 odd customers.
 - Further tell them:
 - Role of the service engineer: To understand the urgency of the issue and address it by taking it up with the manager or addressing it directly to the vendor
 - Role of the customer: To inform the service engineer of the problem very staunchly
 - The two main participants can take 15 minutes to understand their roles and prepare for it.
 - At last give them a possible solution which is as follows:
 - Ravi is addressing issues of customers one by one in a queue. A grieved customer breaks the queue and begins to yell at Ravi.
 - Customer: You promised and charged me for a TB Hard disk, but what you have given me is only 500GB
 - Ravi: Startled! A little ashamed of being scolded in front of people. But he is composed and willing to help the customer
 - Ravi: Sir, very sorry for the inconvenience, please be seated and I will take up the issue for you
 - Customer: Obligated

Ravi thinks how to address the issue.

Even though he is convinced, it is an error on the vendors end, Ravi takes the issue to the manager.

He believes the manager will be in a better position to take the issue to the vendor with authority and if need arises, even questions legally with organization's contract vendor as basis.



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6. Employability & Entrepreneurship Skills

Unit 6.1 – Personal Strengths & Value Systems

Unit 6.2 – Digital Literacy: A Recap

Unit 6.3 – Money Matters

Unit 6.4 – Preparing for Employment & Self-Employment

Unit 6.5 – Understanding Entrepreneurship

Unit 6.6 – Preparing to be an Entrepreneur



Introduction: Employability and Entrepreneurship Skills

This Facilitator's guide includes various activities which will help you as a facilitator to make the sessions participative and interactive.

Icebreaker

- You can begin the module with the following icebreaker:

Five of Anything Ice Breaker Steps:

- Divide the participants into groups of four or five by having them number off. (You do this because people generally begin a meeting by sitting with the people they already know best.)
- Tell the newly formed groups that their assignment is to share their five favourite movies of all time, their five favorite novels or their five least liked films. The topic can be five of anything - most liked or disliked.
- This ice breaker helps the group explore shared interests more broadly and sparks lots of discussion about why each person likes or dislikes their selected five.
- Tell the groups that one person must take notes and be ready to share the highlights of their group discussion with the class upon completion of the assignment.

Expectation Mapping

During the first session and after ice breaker session, ask the participants to answer the following question: "What do I expect to learn from this training?"

- Have one of the participants write their contribution on a flip chart sheet.
- Write down your own list of covered material in the training on another flip chart sheet.
- Compare the two sheets, commenting on what will and what will not be covered during the training.
- Set some ground rules for the training sessions. Ask the participants to put these rules on a flip chart and display it in the class.
- You may get back to those sheets once again at the end of the last session of the training.
- Benefits of doing this activity:
 - Participants feel better as their opinions are heard.
 - Participants get to know what they should expect from the training.
 - The facilitator gets to know which points to emphasize, which to leave out, and which to add during the training.
- Expectations from the participants:
 - Must sign the attendance sheet when they arrive for class.
 - Conduct themselves in a positive manner
 - Be punctual, attentive, and participative
- Explain the contents that are going to get covered one by one and connect it with the expectation mapping done earlier.
- By the end of this exercise, the participants should have a clear understanding of what to

expect from the session and what are the areas that will not get covered.

Defining Objectives

1. Defining the objectives in the beginning of the unit sets the mood for the unit.
2. To begin with the end in mind sets the expectations of the participants as what could be the important takeaways from the session.
3. It is also a way of making participants take responsibility of their own learning process.
4. For the facilitator, the objectives decide a designed path to progress on so that the learning stays aligned and on track.
5. Read the objectives slowly, one by one, and ask the participants to explain what they think it means.
6. At the end of the session, you could again revisit the objectives to find out from the participants about how many objectives have been achieved.

In order to effectively facilitate this workshop:

1. You must have thorough knowledge of the material in the Participant Handbook, and be prepared to answer questions about it.
2. You may also wish to read other material to enhance your knowledge of the subject.
3. There may be issues raised with which you are not able to deal, either because of lack of time or knowledge.
You can either state that you will obtain answers and get back to the participants with the information. In case the query can be turned to an assignment to the class, do so. You can work with the participants on the assignment.
4. You must have a very clear understanding of what the participants want to accomplish by the end of the workshop and the means to guide the participants.
5. As the facilitator, it is your responsibility to make sure that all logistical arrangements are made for the workshop. This may involve doing it yourself or confirming that someone else has made all necessary arrangements associated with the workshop. Assume nothing and check everything before the workshop begins.
6. To break the monotony and boredom during sessions, introduce mini breaks in the form of stretching exercises, jokes, some group songs or games.
7. Invite discussion from the participants.
8. Probe the participants further and lead them to come to affirmative conclusions.
9. Let the participants answer. No answer is incorrect.
10. Ask one participant to write all the points on the whiteboard.
11. Build the sessions from the answers provided by the class.
12. Prepare for the sessions in advance so that the resources like flipcharts, handouts, blank sheets of paper, marker pens, etc. can be kept ready.
13. Ensure that resources like board, markers, duster etc. is available before your session starts.

General instructions for role playing:

1. You are not being asked to be an actor or to entertain. The purpose of the role play is to

provide a situation in which you can practice certain skills.

2. When you read the brief, try to imagine yourself in the situation described and behave in a way you feel to be natural – but be conscious of the fact that your role may require a different approach from that which you might normally use.
3. You (and others) may benefit from the change in approach and behavior. Therefore, try to use the approach you feel to be most appropriate for the circumstances described in your brief.
4. The brief is just the starting point. It simply sets the scene and the tone of session or activity. Try not to keep referring to the brief as this will affect the spontaneity of the meeting. Allow the role play to develop as you think it might in real life and change your reactions in line with the behavior and responses of others involved.
5. If you find that you have too little information to answer questions or to describe what has happened in the situation, do feel free to add your own thoughts and ideas. Try to keep these within the framework of the role you are taking and try to make your improvisations as realistic as possible.

UNIT 6.1: Personal Strengths & Value Systems

Key Learning Outcomes

At the end of this unit, participants will be able to:

1. Explain the meaning of health
2. List common health issues
3. Discuss steps to prevent common health issues
4. Explain the meaning of hygiene
5. Discuss the purpose of Swachh Bharat Abhiyan
6. Explain the meaning of habit
7. Discuss ways to set up a safe work environment
8. Discuss critical safety habits to be followed by employees
9. Explain the importance of self-analysis
10. Discuss motivation with the help of Maslow's Hierarchy of Needs
11. Discuss the meaning of achievement motivation
12. List the characteristics of entrepreneurs with achievement motivation
13. List the different factors that motivate you
14. Discuss the role of attitude in self-analysis
15. Discuss how to maintain a positive attitude
16. List your strengths and weaknesses
17. Discuss the qualities of honest people
18. Describe the importance of honesty in entrepreneurs
19. Discuss the elements of a strong work ethic
20. Discuss how to foster a good work ethic
21. List the characteristics of highly creative people
22. List the characteristics of highly innovative people
23. Discuss the benefits of time management
24. List the traits of effective time managers
25. Describe effective time management technique
26. Discuss the importance of anger management
27. Describe anger management strategies
28. Discuss steps for anger management
29. Discuss the causes of stress
30. Discuss the symptoms of stress
31. Discuss steps for stress management

UNIT 6.1.1: Health, Habits, Hygiene: What is Health?

Unit Objectives

At the end of this unit, the participants will be able to:

- Explain the meaning of health
- List common health issues
- Discuss steps to prevent common health issues
- Explain the meaning of hygiene
- Discuss the purpose of Swachh Bharat Abhiyan
- Explain the meaning of habit

Resources to be Used

- Participant Handbook

Ask

- What do you understand by the term "Health?"
- According to you, who is a healthy person?

Say

- Discuss the meaning of health and a healthy person as given in the Participant Handbook.

Ask

- When did you visit the doctor last? Was it for you or for a family member?

Say

- Discuss the common health issues like common cold, allergies etc. Refer to the Participant Handbook.
- Let us do a small activity. I will need some volunteers.

Role Play

- Conduct a small skit with volunteers from the class. Consider one of the villagers has been appointed as a health representative of the village, what measures will you as a health representative suggest to the common villagers to prevent common health issues discussed.
- You will need at least 4 volunteers (Narrator, Health Representative, Head of the Village,

Doctor).

- Explain the health concerns of the village to the Narrator. The Narrator will brief the class about the skit.
- Give the group of volunteers, 5 minutes to do discuss.
- At the end of 5 minutes, ask the group to present the skit to the class assuming them as the villagers.
- The class can ask questions to the group as a common villager.

Summarize

- Through this activity we got some person how can we prevent these common health issues.

Say

- Let us now see how many of these health standards we follow in our daily life.

Activity

- Health Standard Checklist from the Participant Handbook.

Ask

- How many of you think that you are healthy? How many of you follow healthy habits?

Say

- Let's do an exercise to find out how healthy you are.
- Open your Participant Handbook section 'Health, Habits, Hygiene: What is Health?', and read through the health standards given.
- Tick the points which you think are true for you.
- Try to be as honest as possible as this test is for your own learning.

Do

- Ensure that all the participants have opened the right page in the Participant Handbook.
- Read aloud the points for the participants and explain if required.
- Give them 5 minutes to do the exercise.
- At the end of 5 minutes, ask the participants to check how many ticks have they got.

Summarize

- Tell them that they need to follow all the steps given in this checklist regularly in order to remain healthy and fit.

Ask

Discuss:

- Is it necessary to practice personal hygiene every day? Why?
- How does a person feel when they do not practice good personal hygiene? Why?
- Can good personal hygiene help a person feel good about his/her self? How?

Say

- Discuss the meaning of hygiene as given in the Participant Handbook.

Activity

- Health Standard Checklist: Hygiene

Say

- Let's do an exercise to find out if we maintain good hygiene habits or not.
- Open the Participant Handbook and read through the Health Standard checklist given.
- Tick the points which you think are true for you.
- Try to be as honest as possible as this test is for your own learning.

Do

- Ensure that all the participants have opened the right page in the Participant Handbook.
- Read aloud the points for the participants and explain if required.
- Give them 5 minutes to do the exercise.
- At the end of 5 minutes, ask the participants to check how many ticks have they got.
- Ask them to calculate their score.
- Tell them what each score indicates by reading aloud what has been mentioned in the Participant Handbook.

Ask

- How many of you have heard about "Swachh Bharat Abhiyan"?
- Can you tell the class what it is about?

Summarize

- Tell them about Swachh Bharat Abhiyan as given in the Participant Handbook and request them to take a pledge to keep our country clean.

Ask

- What is a habit?

Say

- Discuss some good habits which can become a way of life.

Summarize

- Tell them about good and bad habits and the reasons to make good habits a way of life.

UNIT 6.1.2: Safety

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss ways to set up a safe work environment
- Discuss critical safety habits to be followed by employees

Resources to be Used

- Participant Handbook
- Safety signs and symbols
- Safety equipments
- Blank papers
- Pens

Say

- There are many common safety hazards present in most workplaces at one time or another. They include unsafe conditions that can cause injury, illness and death.
- Safety Hazards include:
 - Spills on floors or tripping hazards, such as blocked aisles or cords running across the floor. Working from heights, including ladders, scaffolds, roofs, or any raised work area.
 - Unguarded machinery and moving machinery parts; guards removed or moving parts that a worker can accidentally touch.
 - Electrical hazards like cords, missing ground pins, improper wiring.
 - Machinery-related hazards (lockout/tag out, boiler safety, forklifts, etc.)

Team Activity

Safety Hazards

- There are two parts to this activity.
- First part will cover the potential safety hazards at work place.
- Second part will cover a few safety signs, symbols and equipments at work place.
- Use this format for the first part of the activity.

| PART 1 | | |
|--------|--------------------|-----------------|
| Hazard | What could happen? | How could it be |
| | | |
| | | |

Ask

- How could you or your employees get hurt at work?

Say

- Let's understand it better with the help of an activity. You will be given a handout within your groups. You have to think about the possible hazards of your workplace, what damage these hazards could cause and about the corrective action.

Do

- Divide the class into five to six groups of four participants each.
- Put the format on the board for the activity.
- Give blank papers and pens to each group.
- The group is expected to think and discuss the potential safety hazards in the workplace.
- Ask the group to discuss and fill the format using the blank sheet.
- Give the groups 5 minutes for the activity.
- For the second part of the activity, show the class some pictures of safety signs, symbols and equipments.
- Now they will put down a few safety symbols, signs or equipment against the safety hazards identified.
- Give them 5 to 10 minutes to discuss and draw/note it.
- At the end of 10 minutes the groups will present their answers to the class.

Say

- Now, let's discuss the answers with the class.
- All the groups will briefly present their answers.

Do

- Ask the audience to applaud for the group presentation.
- Ask de-brief questions to cull out the information from each group.
- Keep a check on time.
- Tell the group to wind up the discussion quickly if they go beyond the given time limit.

Ask

De-briefing

- What did you learn from the exercise?
- As an entrepreneur, is it important to ensure the safety of your employees from possible hazards? Why?

Summarize

- Ask the participants what they have learnt so far.
- Ask if they have any questions related to what they have talked about so far.
- Close the discussion by summarizing the steps to design a safe workplace and non-negotiable employee safety habits.

UNIT 6.1.3: Self-Analysis- Attitude, Achievement Motivation: What is Self-Analysis?

Unit Objectives

At the end of this unit, participants will be able to:

- Explain the importance of self-analysis
- Discuss motivation with the help of Maslow's Hierarchy of Needs
- Discuss the meaning of achievement motivation
- List the characteristics of entrepreneurs with achievement motivation
- List the different factors that motivate you
- Discuss the role of attitude in self-analysis
- Discuss how to maintain a positive attitude.
- List your strengths and weaknesses

Resources to be Used

- Participant Handbook
- Old newspapers
- Blank papers
- Pencils/pens

Activity

This is a paper pencil activity.

| |
|--|
| What are the three sentences that describe you the best? |
|--|

| |
|-----------------------------------|
| What do you need to live happily? |
|-----------------------------------|

| |
|---|
| What are your strengths and weaknesses? |
|---|

Do

- Write the three questions on the board/ flipchart before the session begins.
- Give plain papers and pencils/pens to each participant.
- Tell participants to write the answer for the three questions on the paper.
- Tell them the purpose of this activity is not to judge anyone but to understand more about self.

Say 

- Discuss the concept of Self-Analysis and motivation with reference to Maslow's Hierarchy of Needs as discussed in the Participant Handbook.

Team Activity 

Tower building

- Each group which will create tower using the old newspapers.

Do 

- Divide the class into groups.
- Give them some old newspapers.
- The task is to create a tower out of the newspapers.
- The group which will create the highest tower standing on its own will be considered the winning group.
- Groups can use as many newspapers as they want to and in any way, they want.

Ask 

- What did the winning group do differently?
- If you were given a chance, how would you have made the tower differently?
- How did you feel while making the tower?
- Did you feel motivated?

Say 

- Discuss the concept of achievement motivation and characteristics of entrepreneurs with achievement motivation as discussed in the Participant Handbook.

Ask 

- Is your attitude positive or negative?

Say 

- Let me tell you a story:

It's Little Things that Make a Big Difference.

There was a man taking a morning walk at the beach. He saw that along with the morning tide came hundreds of starfish and when the tide receded, they were left behind and with the morning sun rays, they would die. The tide was fresh and the starfish were alive. The

man took a few steps, picked one and threw it into the water. He did that repeatedly. Right behind him there was another person who couldn't understand what this man was doing. He caught up with him and asked, "What are you doing? There are hundreds of starfish. How many can you help? What difference does it make?" This man did not reply, took two more steps, picked up another one, threw it into the water, and said, "It makes a difference to this one." What difference are we making? Big or small, it does not matter. If everyone made a small difference, we'd end up with a big difference, wouldn't we?

Ask

- What did you learn from this story?

Activity

What Motivates You?

- This is an individual activity.
- It is an exercise given in the Participant Handbook.

Do

- Ask the class to open their Participant Handbook and complete the exercise given in the section What Motivates You?
- Ensure that the participants have opened the correct page for the activity.
- Give the class 5 minutes to complete the activity.

Say

- Discuss the concept of attitude and how to cultivate a positive attitude as discussed in the Participant Handbook.

Summarize

- Close the discussion by summarizing how self-analysis, knowledge about what motivates you and your positive attitude can help in your business as well in life.

UNIT 10.1.4: Honesty & Work Ethics

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the qualities of honest people
- Describe the importance of honesty in entrepreneurs
- Discuss the elements of a strong work ethic
- Discuss how to foster a good work ethic

Resources to be Used

- Participant Handbook

Ask

- What do you understand by honesty?
- Why is it important for entrepreneurs to be honest?
- Do you remember any incident where your honesty helped you in gaining confidence?
- Do you remember any incident where someone lost business due to dishonesty?

Say

- Discussed in the Participant Handbook.
- “Let’s understand it better with the help of some case scenarios. You will be given some cases within your groups. You have to analyse the case scenario that has been given to you and then find an appropriate solution to the problem.
- Keep your discussion focussed around the following:
 - What went wrong?
 - Who was at fault?
 - Whom did it impact- the customer or the businessman?
 - How would it impact the business immediately? What would be the long term impact?
 - What could be done?
 - What did you learn from the exercise?

Do

- Divide the class into four groups of maximum six participants depending on the batch size.
- Give one case study to each group.
- Instruct them to read the case carefully.

- Put down the de-brief questions on the board and ask the groups to focus their discussion around these questions.
- The group is expected to analyse and discuss the case amongst them and find a solution to the given problem.
- Give the class 5-10 minutes to discuss the case and note down their solutions.
- At the end of 10 minutes the team should present their case solution to the class. The presentation can be a narration or a role play.
- Ask the group to select a group leader for their group. The group leader to discuss and assign roles to the group members for the presentation.

Team Activity

Case Study Analysis

Scenario 1

Aakash has a small mobile retail sales and repair shop in Allahabad. He has one of the most popular outlets and has great rapport with his customers. It's around 11 AM when a customer barges in to the shop and starts shouting at Aakash for giving her a faulty instrument. The screen of her mobile is cracked from one side. Aakash remembered thoroughly checking the handset before handing it over to the customer. The customer threatens to sue him and to go to Consumer Court for cheating her. Now, the problem occurred somewhere outside the shop but as other customers were listening to the conversation, it might impact his business. The situation needs to be managed very sensitively. What would you do if you were in Aakash's place?

Scenario 2

Rajni does beautiful Phulkari embroidery on suits and sarees. She has a small home-based business. She has a huge list of customers on Facebook and WhatsApp who give her orders regularly. Smita is one of her old and regular customers. As her sister-in-law's wedding was around the corner, Smita wanted to buy few handcrafted Phulkari duppatta. She placed an order for three duppattas via WhatsApp and requested Rajni to send them as soon as possible. When the parcel reached Smita through courier she found that out of the three duppattas, only one was hand embroidered and the other two had machine embroidery on them. Even the length and the quality of the material was not as desired. Smita was heartbroken. It was a complete waste of money and moreover she couldn't wear what she had planned to during the wedding functions. She sent a message to Rajni on WhatsApp, expressing her anger and disappointment.

Smita has also sent a feedback and expressed her disappointment on the social media... this will directly affect Rajni's business. What would you do if you were in Rajni's place?

Scenario 3

Shankar is a tattoo artist who has a small tattoo showroom in a big, reputed mall in New Delhi. Mr Saksham had an appointment for today, at 11:00 am but he reached at 11:50 am. Meanwhile, Shankar had to reschedule his next appointment. After availing Shankar's services, Mr Saksham started yelling in an abusive language, refusing to pay the requisite amount, and finding faults in the services provided by him. Who was at fault in this case? What should Shankar do? Should he confront Saksham or give in to the demands of the client?

Scenario 4

Shailender is an online cloth reseller who does business through social networking sites such as Facebook and WhatsApp. Priyanka made online payment for a dress to Shailender. But she did not receive the dress for a month. When she asked for a cancellation, Shailender started misleading her. For almost 45 days, he kept promising her that he will pay the amount today, tomorrow, day after etc. Even after repeated calls and messages when she did not receive the payment or the dress, she decided to write a post against him on a popular social media platform. As a result, Shailender lost lots of customers and his flourishing business faced a major crisis. How could this situation have been managed?

Say 

- Now, let's discuss the problem and solution with the larger group.
- The group will first briefly describe the case to the class.
- Then discuss the issue identified and the proposed solution.
- Once the presentation is over, the class can ask their questions.

Do 

- Congratulate each group for the group presentation.
- Ask the audience to applaud for them.
- Ask de-brief questions to cull out the information from each group.
- Keep a check on time. Tell the group to wind up the discussion quickly if they go beyond the given time limit.

Summarize 

- Ask the participants what they have learnt from the exercise/activity.
- Ask if they have any questions related to what they have talked about so far.
- Close the discussion by summarizing the importance of honesty and work ethics for entrepreneurs.

UNIT 6.1.5: Creativity and Innovation

Unit Objectives

At the end of this unit, participants will be able to:

- List the characteristics of highly creative people
- List the characteristics of highly innovative people

Resources to be Used

- Participant Handbook
- Chart papers
- Marker pens

Ask

- You must be aware of the term 'Rags to riches' and heard stories related to the term.
- What do these stories tell us?
- What was so special about these people?

Say

- Let's have a look at these stories.
- There are some inspiring stories about people which I would like to share with you.
- Narrate these stories to the class.

A.P.J. Abdul Kalam

Who has not heard of A.P.J. Abdul Kalam: Avul Pakir Jainulabdeen Abdul Kalam hailed from a very humble background. His father was a boat owner. To help his family, Kalam would work as a newspaper vendor. With limited resources, he graduated in Physics and studied aerospace engineering. He was instrumental in India's step towards nuclear energy. In 2002, he became the 11th President of India.

Water filter/purifier at source

Two young boys studying in classes 4 and 5, from Lingzya Junior High School, Sikkim designed a simple innovative low cost water purifier.

Inspiration behind the idea: Most people today prefer to use a water filter/purifier at their home. Both the children have given idea to have filter/purifier at the source of water so that everyone has access to clean water without having to make an investment in purchasing a filter/purifier. Spring's idea is to have a centralized purification system at the point of distribution like water tank while Subash's idea is to have such purifiers attached to public taps.

Source: <http://www.rediff.com/getahead/report/achievers-top-31-amazing-innovations-from-young-Indians/20151208.htm>

Solar seeder

This is a story of a innovative solar seeder and developed by Subash Chandra Bose, a class 8 student from St Sebasthian Matriculation School, Pudukkottai, Tamil Nadu. Subash has developed a solar powered seed drill, which can undertake plantation for different size of seeds at variable depth and space between two seeds.

Source: <http://www.rediff.com/getahead/report/achievers-top-31-amazing-innovations-from-young-Indians/20151208.htm>

Looms for physically challenged

Now this is really inspiring of two sisters, Elakkiya a Class 6 student and Pavithra a Class 9 student of SRC Memorial Matriculation, Erode, Tamil Nadu.

The two sisters have come up with loom for lower limbed physically challenged. In their loom, they have replaced the pedal operated system with a motor and a gearbox attached to a pulley mechanism.

Source: <http://www.rediff.com/getahead/report/achievers-top-31-amazing-innovations-from-young-Indians/20151208.htm>

Ask 

- If they can, why can't you?
- Discuss concepts related to 'Creativity and Innovation' with the participants as given in the Participant Handbook.

Say 

- Recall the stories on motivation.
- What is the inner drive that motivates people to succeed?
- Let's learn more about such creative and innovative entrepreneurs with the help of an activity.

Team Activity 

- This is a group activity.

- Think of any one famous entrepreneur and write a few lines about him or her.

Activity De-brief

- Why did you choose this particular entrepreneur?
- What is his/her brand name?
- What creativity does he/she possess?
- What was innovative about their ideas?

Do

- Instruct the participants that this is group work.
- Divide the class into small groups of 4 or 6 depending on the batch size.
- Give each group a chart paper.
- Tell the participants they have to write a few lines about any one famous entrepreneur.
- Give the participants 10 minutes to discuss and write.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.
- Ask each group to read out what they have written.
- Ask the de-brief questions.

Summarize

- Summarize the unit by asking participants if they know of some people who are highly creative and innovative in their approach.
- Ask them to share some experiences about these people with the class.

Notes for Facilitation

- Source for stories on innovations:
<http://www.rediff.com/getahead/report/achievers-top-31-amazing-innovations-from-young-Indians/20151208.htm>

UNIT 6.1.6: Time Management

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the benefits of time management
- List the traits of effective time managers
- Describe effective time management techniques

Resources to be Used

- Participant Handbook

Ask

Does this sound like you?

- I can never get enough time to finish what I am doing in a day.
- I have so many things to do that I get confused.
- I want to go for a walk and exercise, but I just do not have the time.
- I had so much to do, so I could not deliver that order on time.
- I would love to start my dream business; but, I just do not have the time.

Example

- Let's look at these two examples:

Example 1:

Ankita works from home as a freelance writer. She says she can easily put in 8 hours of dedicated work in a day. Because she works from home, she saves money on travel and has a comfortable work routine. But there is a challenge and it is distraction. As she works from home, she can easily just get up and sit down on the sofa to watch TV, wasting valuable time. She may have chores to do, errands to run and bills to pay. She ends up working only two to three hours a day and the result is, her work gets piled up. She is unable to take on more work due to this. Even though her quality of work is appreciated her clients are not very happy about the delay in submission.

Example 2:

Javed has started a successful online selling company from home and makes a good living from his sales. He has set up a small office space in his living room. As both his parents are working full-time, he also has the role of taking care of his two younger siblings. He almost spends half of his day with the younger kids. He does not mind it but it means taking time away from the work. He is still able to manage his online business with these commitments. He wants to spend some more dedicated hours so as to increase his profits. He also wants to look into new business avenues. What should he be doing?

Ask

- Does this happen with you too?
- Do you find it difficult to prioritize your work?
- Are you able to manage your time effectively?

Activity

- Conduct a group discussion based on the above examples.
- Direct the discussion on how to prioritize work and manage time effectively.

Say

- Time management is not only about how hard you work but also about how smart you work.
- Discuss "What is Time Management" with the participants as given in the Participant Handbook.

Ask

- Why is it important to manage time? How does it help?
- What happens when you don't manage your time effectively?
- Do you find it difficult to prioritize your work?

Say

- Discuss the benefits of time management given in the Participant Handbook.
- Let's learn effective time management with the help of an activity.

Activity

Effective Time Management

- This activity has two parts:

Part 1 To Do List

- You have to make a to-do list.
- List all of the activities/ tasks that you have to do.
- Try to include everything that takes up your time, however unimportant it may be.
- If they are large tasks, break them into action steps, and write this down with the larger task.
- You can make one list for all your tasks or have separate to-do lists for personal and professional tasks.

PART 2
URGENT-IMPORTANT GRID

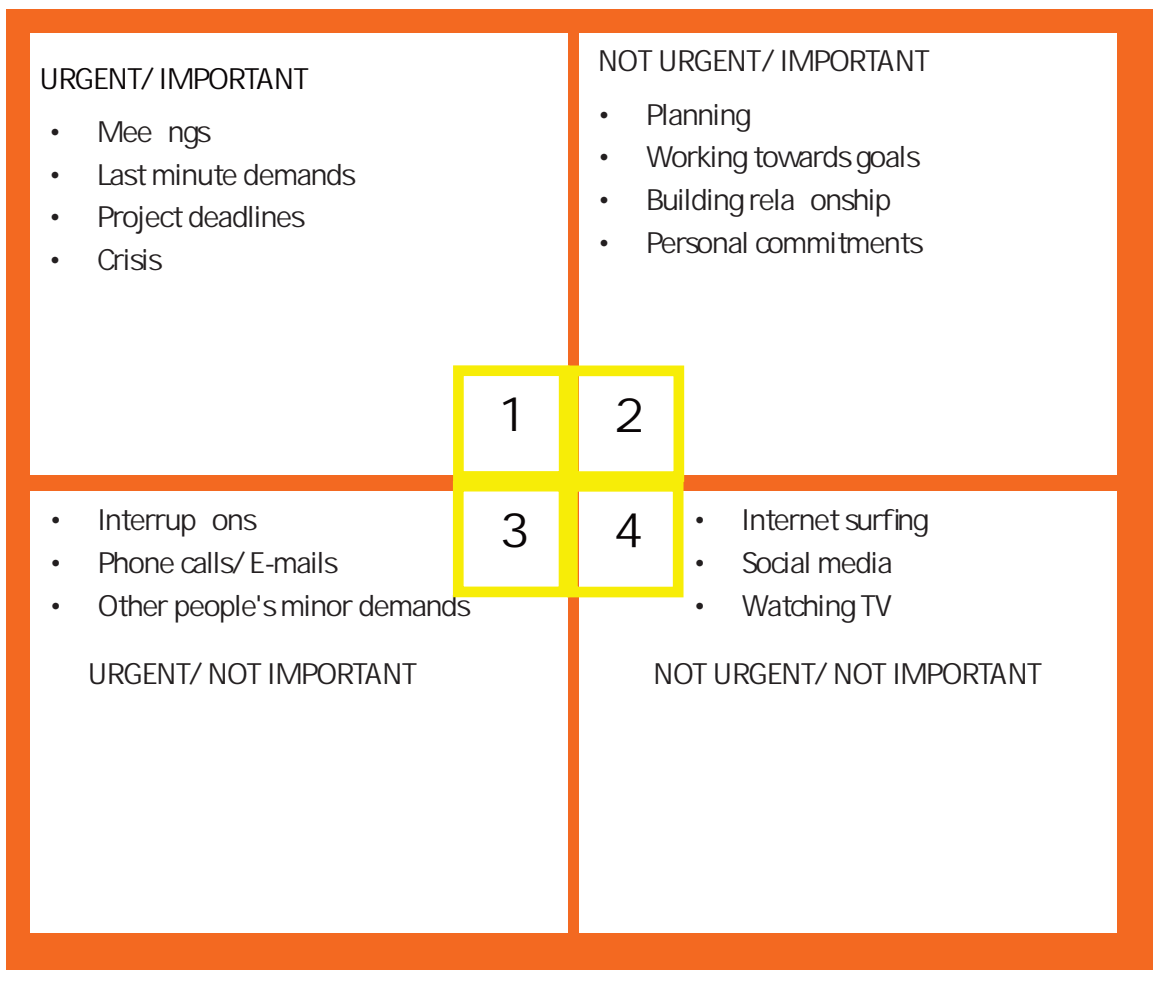
- You have to make a grid as shown on the board here.
- This grid has four boxes. As you can see, each box has a different heading.
- At the heart of the urgent-important grid, are these two questions:
 - Is this task important?
 - Is this task urgent?
- Now, you have to think about each activity that you have written in your to-do list and put it into one of the four categories.
- What do these categories depict?
- Category 1: Urgent/Important
 - This category is for the highest priority tasks. They need to get done now.
- Category 2: Not Urgent/Important
 - This is where you want to spend most of your time.
 - This category allows you to work on something important and have the time to do it properly.
 - This will help you produce high quality work in an efficient manner.
 - The tasks in this category are probably the most neglected ones, but also the most crucial ones for success.
 - The tasks in this category can include strategic thinking, deciding on goals or general direction and planning – all vital parts of running a successful business.
- Category 3: Urgent/Not Important
 - This is where you are busy but not productive. These tasks are often mistaken to be important, when they're most often busywork.
 - Urgent but not important tasks are things that prevent you from achieving your goals.
 - However, some may be activities that other people want you to do.
- Category 4: Not Important and Not Urgent
 - This category doesn't really include tasks, but rather habits that provide comfort, and a refuge from being disciplined and rigorous with your time management.
 - Some may be activities that other people want you to do.
 - These might include unplanned leisure activities as well.

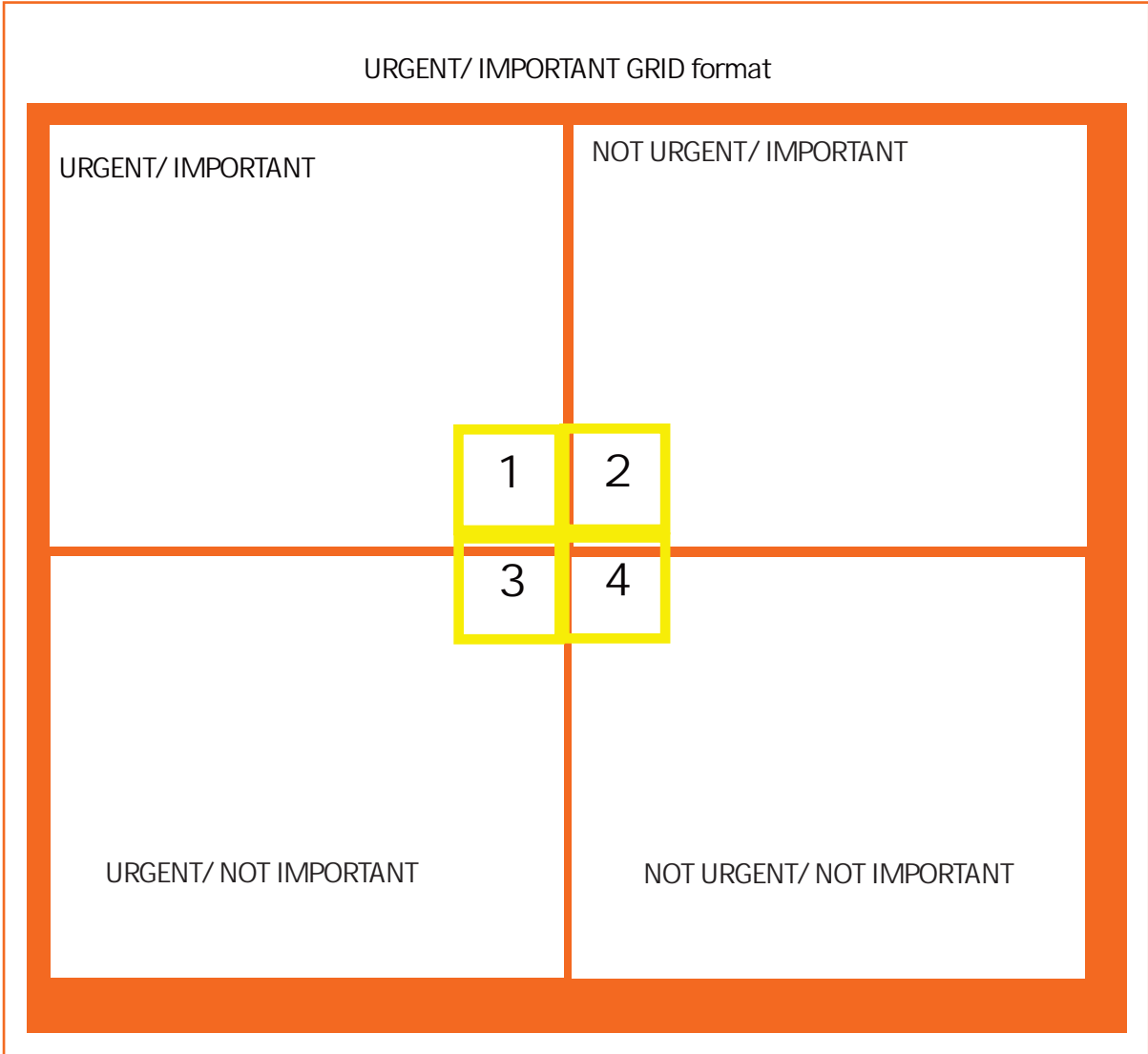
To - Do List Format

| | |
|---|--|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |

| | |
|----|--|
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |

URGENT-IMPORTANT GRID





Do 

- Put down the formats for the to-do list and the urgent/ important grid on the board.
- Instruct the participants to prepare their to-do list first.
- Give the participants 10 minutes to prepare the list.
- Once done, instruct them to divide the tasks in to-do list into the four categories.
- Explain the four categories to the participants giving examples specific to their context.
- As you explain the categories fill the grid with the type of tasks.
- Give the participants 40 minutes to fill the grid.
- Then explain how to balance the tasks between the four categories.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Say 

Activity De-brief:

How can we balance tasks between the four categories? How to manage time through this grid?

- Category 1: Urgent/Important
 - Try to keep as few tasks as possible here, with the aim to eliminate.
 - If you spend too much of your time in this category, you are working solely as a trouble shooter, and never finding time to work on longer-term plans.
- Category 2: Not Urgent/Important
 - Plan these tasks carefully and efficiently as they are most crucial ones for success.
 - If necessary, also plan where you will do these tasks, so that you're free from interruptions.
 - Include strategic thinking, deciding on goals or general direction and planning in your planning process.
- Category 3: Urgent/Not Important
 - Ask yourself whether you can reschedule or delegate them.
 - A common source of such activities is other people. Sometimes it's appropriate to say "no" to people politely, or to encourage them to solve the problem themselves.
- Category 4: Not Important and Not Urgent
 - You also want to minimize the tasks that you have in this category.
 - These activities are just a distraction – avoid them if possible.
 - You can simply ignore or cancel many of them.
 - Politely say "no" to work assigned by others, if you can, and explain why you cannot do it.
 - Schedule your leisure activities carefully so that they don't have an impact on other important tasks.
- Discuss the traits of effective time managers and effective time management techniques as given in the Participant Handbook.

Summarize

- Discuss the traits of effective managers and effective management techniques as given in the Participant Handbook.

Notes for Facilitation

- Here is a short story. You can conclude the session narrating the story. To make it more interesting you can perform the demonstration described and discuss the short story.
 - One day an expert in time management was speaking to a group of students. As he stood in front of the group, he pulled out a large wide-mouthed glass jar and set it on the table in front of him. Then he took out a bag of about a dozen rocks and placed them, one at a time, into the jar. When the jar was filled to the top and no more rocks would fit inside, he asked, "Is this jar full?" Everyone in the class said, "Yes." Then he said, "Really?"
 - He reached under the table and pulled out a bucket of gravel (small stones). He dumped some gravel in and shook the jar causing pieces of gravel to work themselves down into the space between the rocks. Then he asked the group once more, "Is the jar full?" By this time, the class began to understand. "Probably not," one of them answered. "Good!" he replied.
 - He reached under the table and brought out a bucket of sand. He started dumping the sand in the jar and it went into all of the spaces left between the rocks and the gravel. Once more he asked the question, "Is this jar full?" "No!" the class shouted. Once again he said, "Good." Then he grabbed a jug of water and began to pour it in until the jar was filled to the brim. Then he looked at the class and asked, "What is the point of this illustration?" One student raised his hand and said, "No matter how full your schedule is, if you try really hard you can always fit some more things in it!" "No," the speaker replied, "that's not the point. The truth this illustration teaches us is: If you don't put the big rocks in first, you'll never get them in at all." What are the 'big rocks' in your life? Your children; your loved ones; your education; your dreams; a worthy cause; teaching or mentoring others; doing things that you love; time for yourself; your health; your mate (or significant other). Remember to put these BIG ROCKS in first or you'll never get them in at all. If you sweat about the little stuff (the gravel, sand, and water) then you'll fill your life with little things you worry about that don't really matter, and you'll never have the time you need to spend on the big, important stuff (the big rocks).
- End the story with these lines...
So, tonight, or in the morning tomorrow, when you are reflecting on this short story, ask yourself this question: What are the 'big rocks' in my life? Then, put those in your jar first.

UNIT 6.1.7: Anger Management

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the importance of anger management
- Describe anger management strategies
- Discuss tips for anger management

Resources to be Used

- Participant Handbook

Ask

- What is anger? Is anger good or bad?
- Is anger normal or an abnormal behaviour? How can anger harm you?
- Why is it important for entrepreneurs to manage their anger?

Say

- Talk about anger and the importance of anger management in entrepreneurs as discussed in the Participant Handbook.
- Let us do a small activity. This is an individual activity.
- Think of the incidents and situations that angered you and hurt you.

Do

- Instruct them to note down these situations under different categories (as given in the Activity).
- Give the class 3-5 minutes to think and note down their answers.
- At the end of 5 minutes, ask some participants to volunteer and present their answers.
- They can also share these situations with their fellow participants if they do not wish to share it with the entire class.

Activity

- Do you remember any incident which has hurt?
 - you physically
 - you mentally
 - your career
 - your relationships.

Ask

- Do you ever get angry?
- What are the things that make you angry?
- Do you remember any incident where your anger management helped you in maintaining healthy relationship?
- Do you remember any incident where someone lost business/ friend/ relationship due to temper (anger)?

Say

- There are a few strategies which can help in controlling your anger. Let's do an activity to understand the anger management process better.
- This is an individual activity.
- Think of the incidents/ situations which trigger your anger (the cause).
- Then think what happened as a result of your anger (the effect).
- You need to come up with some techniques to manage your anger.

Do

- Give the class the anger triggers (the cause) as listed in the activity.
- Put down the activity format (Anger Triggers, Result of your Anger, Anger Management Techniques) on the board and instruct the class to write the answers under different categories.
- Give the class 3-5 minutes to think and note down their answers.
- At the end of 5 minutes, ask the participants who wish to volunteer and present their answers.

Activity

Trigger points and Anger Management Techniques Activity

Anger Triggers

| |
|---|
| List of triggers that make you angry: |
| Someone says you did something wrong. |
| You want something you can't have now. |
| You get caught doing something you shouldn't have been doing. |
| You are accused of doing something you didn't do. |
| You are told that you can't do something. |

Someone doesn't agree with you.

Someone doesn't do what you tell him to do.

Someone unexpected happens that messes up your schedule.

Result of your anger:

Write the techniques that you use to manage your anger:

Anger Management Techniques

Say

- Now, let's discuss the problems and solution with all.
- The individual will first briefly describe trigger points to the class.
- Then discuss the result of the anger. Other participants are requested to remain quiet while one is making the presentation.
- Post presentation, other participants may ask questions.

Do

- Congratulate each individual for sharing their points.
- Ask the audience to applaud for them.
- Ask de-brief questions after the presentation to the class.
- Keep a check on the time. Ask the participants to wind up the activity quickly if they go beyond the given time limit.

Ask

De-brief questions:

- In the situation described by the presenter, who was at fault?
- How could you have handled this situation alternatively?

Summarize

- Close the discussion by summarizing the strategies and tips of anger management for entrepreneurs.
- Ask the participants what have they learnt from this exercise/ activity.
- Ask if they have any questions related to what they have talked about so far.

Notes for Facilitation

- Encourage the participants to share information about them while presenting the situations to the class.
- Keep the format of the Activity prepared in a chart paper so that it can be displayed during the session.

UNIT 6.1.8: Stress Management: What is stress?

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the causes of stress
- Discuss the symptoms of stress
- Discuss tips for stress management

Resources to be Used

- Participant Handbook

Ask

- You are waiting in the reception for an interview or a very important meeting, suddenly your legs are shaky, your hands are cold, you are feeling nervous. Have you ever been in this kind of situation?
- Have you had days when you had trouble sleeping?
- Have you ever been so worried about something that you ended up with a terrible headache?

Say

- You've probably heard people say, "I'm really stressed out" or "This is making me totally stressed."

Ask

- What do you understand by stress?
- What gives you stress?
- How do you feel when you are stressed or what are the symptoms of stress?
- How can stress harm you?
- Why is it important for entrepreneurs to manage stress?

Say

- When we feel overloaded or unsure of our ability to deal with certain challenges, we feel stressed.
- Discuss about stress, causes of stress, and symptoms of stress as discussed in the Participant Handbook.
- Let's understand the causes of stress and how to deal with them with the help of some case scenarios.

- You will be given some cases.
- You have to analyse the case scenario and then find an appropriate solution to the problem.
- This will be a group activity.

Do

- Divide the class into four groups of 5- 6 participants (depending on the batch size).
- Assign one case scenario to each group.
- Instruct them to read the case carefully.
- The group is expected to analyse and discuss the case amongst them and find a solution to the given problem.
- Explain their discussion should result in getting answers for the following questions:
 - What was/were the cause(s) of stress?
 - Was the stress avoidable or manageable under the given circumstances?
 - If yes, how do you think that the stress could be avoided (managed)?
 - If no, then why not?
- Give the class 10-12 minutes to discuss the case and note down their solutions.
- At the end of 12 minutes, the team should present their case solution to the larger group.
- Ask the group to select a group leader for their group.
- The group leader to discuss and assign roles to the group members for the presentation.

Team Activity

Case Study Analysis

Scenario 1

Akash's alarm doesn't go off and he gets late getting out of the house. He hits traffic and ends up 15 minutes late to work, which his boss notices. He gets to his desk and finds he has to complete 2 reports in next one hour. Just when he is about to begin work, a message pops up "Telecon with the client begins in 10 minutes. Please be in the conference room in 5 minutes." He is not prepared for the call. He is stressed. He does not want to speak to his boss about this. He is stressed, feeling uncomfortable and sick. Not in a position to attend the call or finish the reports on time.

Scenario 2

While paying his overdue bills, Rahul realised that it's the middle of the month and he has only Rs 500 left in his account. He has already asked all of his friends, and family for loans, which he hasn't paid back yet. He is still contemplating over the issue when his phone rings. His sister's birthday is due next week and she has seen a beautiful dress which she wants to buy but cannot tell the parents as it is a bit expensive. She wishes if Rahul could buy the dress for her. Rahul has promised to buy her the dress for her birthday.

Rahul is stressed, does not understand what to do. He is unable to concentrate on his work and unable to complete the tasks assigned. His team leader has already warned him of the delay.

Scenario 3

Sheela calls the cable company as she has unknown charges on her bill. She has to go through the automated voice mail menu three times and still can't get through to a customer care executive. After 15 minutes of repeated efforts, her call is answered. She explains the entire issue to the customer care executive but before the person could suggest a way out, the call drops.

Now Sheela has to call back and repeat the whole process all over again with a new customer care executive. She is very angry and calls again but cannot connect this time.

She has to leave to office so she decides to call from office and check. When she connects this time, she is angry and argues with the executive on the call. All her co-workers around are looking at her as her volume has suddenly increased. She bangs the phone and ends the call.

Her co-worker Neelam enquires what has happened to her. She ignores her and just walks off. She has become irritable and her behaviour and tone with other co-workers is not acceptable.

Scenario 4

Arpit is a young entrepreneur who started doing business through Facebook few weeks back. He had always been into a job. Although Arpit has very few financial liabilities, it wasn't an easy decision to leave a comfortable job at once and look for newer pastures. Arpit's boss warned him of the consequences and the challenges of starting a business when nobody ever in his family had been in business.

He has not been able to get a good deal till now. This is an important life shift for him which comes with unknown variables. Arpit is nervous and is wondering if he has what it takes to fulfill the requirement of his new role, or the new experiences he's likely to face.

Ask

De-brief questions:

- What was/ were the cause(s) of stress?
- Was the stress avoidable or manageable under the given circumstances?
- If yes, how do you think that the stress could be avoided (managed)?
- If no, then why not?

Say

- Now, let's discuss the problem and solution with the larger group.
- The group will first briefly describe the case to the class.

- Then discuss the issue identified and the proposed solution.
- Post presentation, the other groups may ask questions to the group that has presented.

Do

- Congratulate each group for sharing their points.
- Ask the audience to applaud for them.
- Ask de-brief questions to cull out the information from each group.
- Keep a check on time. Tell participants to wind up the discussion quickly if they go beyond the given time limit.

Say

- While it is common and normal to feel some tension. This feeling nervous and tensed can interfere with your thinking process and can have a negative impact on your performance.
- Stress can deplete the most vibrant of souls. It can have a negative effect on every aspect of a person's life including their health, emotional well-being, relationships, and career. However, one needs to understand the causes and types of stress before looking for ways to manage it.

De-brief:

Scenario 1

The cause of stress was lack of time management and the habit of procrastinating. If Akash would have managed his time well, planned alternate ways to get up on time, finished prior tasks on time and planned for client meetings in advance then he wouldn't have faced stress.

Scenario 2

The cause of stress was lack of financial planning. Rahul should have planned his financial resources well in advance and saved some money for the rainy day. Also, differentiating between needs and wants and keeping a check on non-essential expenditure would have saved Rahul from this situation.

Scenario 3

Sometimes, stress is caused due to external factors instead of internal ones. In this case, the stress was unavoidable because we have no control over this customer care system. Every time, you will get in touch with a new executive and will have to explain all over again. This might cause stress but despite being frustrated and angry there is little that we can do about it. All Sheela could do was to find ways to calm herself down through some breathing exercises and meditation, reading some good book or listening to music and then start afresh.

Scenario 4

A positive, major life change can be a source of good stress. Regardless of how good the change is, it can be stressful. Stress caused by a positive and major life change can be beneficial because it causes a person to step out of their comfort zone and learn new skills. Here, Arpit may become a successful entrepreneur or learn new ways to do things differently. Now let us see this scenario, can I have a volunteer to read out this case to the class

Do 

- Ask one of the participant who can volunteer and read out this scenario to the class.

Scenario 5

Rakesh lives in Kathmandu with his wife and two beautiful daughters Sarah and Sanya. Nepal was hit by a massive earthquake and Rakesh's building collapsed during the earthquake. During evacuation, Rakesh realised that though his wife and Sarah were fine and suffered only minor bruises, Sanya was nowhere in the scene. Panic stricken, he started calling her name and searching her frantically. A little later, he heard a meek voice from beneath the debris. He quickly removed the rubble to find a huge bed. Rakesh was pretty sure that Sanya was trapped underneath. Though he was badly bruised, he gathered all his courage and with all his might, he lifted the several-ton bed to save Sanya's life. Everyone was relieved to see Sanya alive and also extremely surprised to see this father's ability to access superhuman strength.

- Ask the audience to applaud for the participant after the scenario is read completely.
- Discuss the scenario, ask de-brief questions:
 - What kind of stress was Rakesh undergoing in this case?
 - Was the stress avoidable or manageable under the given circumstances?
 - What was the result of the stress?

Say 

De-brief:

- Not all stress is harmful; good stress is actually energizing. This was a case of lifesaving stress, or hero stress, which is an important example of good stress. You may have heard stories in which a person performs an impossible feat of physical strength in order to save their life or the life of someone they love. This type of stress causing a surge of adrenaline is good for us.

Summarize 

- Close the discussion by summarizing the tips to manage stress as given in the Participant Handbook.
- Ask the participants what they have learnt from this exercise/ activity.
- Ask if they have any questions related to what they have talked about so far.

Notes for Facilitation

- Keep printed copies of the activities/scenarios ready for the session.
- Put down the de-brief questions on a flip chart so that it can be displayed in the class during the activity.
- Encourage participation and make the discussions interactive.

UNIT 6.2: Digital Literacy: A Recap

Key Learning Outcomes

At the end of this unit, participants will be able to:

1. Identify the basic parts of a computer
2. Identify the basic parts of a keyboard
3. Recall basic computer terminology
4. Recall the functions of basic computer keys
5. Discuss the main applications of MS Office
6. Discuss the benefits of Microsoft Outlook
7. Identify different types of e-commerce
8. List the benefits of e-commerce for retailers and customers
9. Discuss Digital India campaign will help boost e-commerce in India
10. Describe how you will sell a product or service on an e-commerce platform

UNIT 6.2.1: Computer and Internet Basics: Basic Parts of a Computer

Unit Objectives

At the end of this unit, participants will be able to:

- Identify the basic parts of a computer
- Identify the basic parts of a keyboard
- Recall basic computer terminology
- Recall the functions of basic computer keys

Resources to be Used

- Participant Handbook
- Computer Systems with the required applications

Say

- Let's take a quick recap of the basic computer parts.
- Discuss 'Basic Parts of Computer' and 'Basic Parts of a Keyboard' with the class as given in the Participant Handbook.

Explain

- Explain all the parts of the computer and the keyboard by demonstrating on the real system.

Ask

- Do you know about internet?
- Have you ever used internet?
- Why do you think internet is useful?
- What was the last task you performed on internet?

Say

- Let's look at some basic internet terms.
- Discuss 'Basic Internet Terms' with the participants as given in the Participant Handbook.

Summarize

- Ask the participants what they have learnt from this exercise/ activity.
- Ask if they have any questions related to what they have talked about so far.

- Close the discussion by summarizing the importance of computer and internet for entrepreneurs.

Practical

- Conduct a practical session.
- Ask the participants to assemble in the computer lab.
- Give some hands-on practice exercises.

Do

- Group the participants for the activity depending on the batch size and the number of computer systems available in the lab.
- Explain the purpose and duration of the activity.
- Ensure the participants complete the practical exercises assigned.

UNIT 6.2.2: MS Office and Email: About MS Office

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the main applications of MS Office
- Discuss the benefits of Microsoft Outlook

Resources to be Used

- Participant Handbook
- Computer Systems with the required applications

Ask

- What is the most frequent activity that you do on the computer?
- Do you know how to make presentations on the computer?

Say

- Give a brief introduction of MS Office as given in the Participant Handbook.
- Discuss the most popular office products. Explain in brief their application, benefits and working.
- Microsoft Word is a word processing program that allows for the creation of documents. The program is equipped with templates for quick formatting. There are also features that allow you to add graphics, tables, etc.
- Microsoft Excel is a tool for accounting and managing large sets of data. It can also simplify analysing data. It is also used to create charts based from data, and perform complex calculations. A Cell is an individual data box which will have a corresponding Column and Row heading. This gives the cell a name, referred to as the Cell Reference. There can be multiple pages in each workbook. Each page, or sheet, is called a Worksheet. When you open a new Excel file, it automatically starts you with three worksheets, but you can add more.

Explain

- Explain the working and frequently used features of Office on a real system.

Ask

- What do you know about e-mails?
- Do you have an email id?
- How often do you check your e-mails?

Say

- Communication is vital for every business. The fastest and the safest way to communicate these days are through emails. MS Outlook helps to manage your emails in a better way and also offers a host of other benefits.
- Discuss “Why Choose Microsoft Outlook?” with the participants as given in the Participant Handbook.

Do

- Ask the participants to assemble in the computer lab.
- Explain the working of Outlook on a real system.

Demonstrate

- Demonstrate how to create email id.
- Demonstrate how to write new mails, send mails.
- Demonstrate how to use MS Office application to create a letter and send it as an attachment in an email.
- Demonstrate how to use other MS Office applications.

Practical

- Give some hands-on practice exercises.
- Group the participants for the activity depending on the batch size and the number of computer systems available in the lab.
- Explain the purpose and duration of the activity.

Summarize

- Ask the participants what they have learnt from this exercise/activity.
- Ask if they have

UNIT 6.2.3: E-Commerce

Unit Objective

At the end of this unit, participants will be able to:

- Identify different types of e-commerce
- List the benefits of e-commerce for retailers and customers
- Discuss Digital India campaign will help boost e-commerce in India
- Describe how you will sell a product or service on an e-commerce platform

Resources to be Used

- Computer Systems with internet connection
- Participant Handbook

Ask

- How many of you have done shopping online?
- Can you name at least five shopping websites?
- What is the product that you most frequently buy online?
- Why do you do shopping online instead of going to the market?

Say

- Give a brief introduction of "What is E-commerce". Refer to the Participant Handbook.
- E-commerce emerged in the early 1990s, and its use has increased at a rapid rate. Today, many companies sell their products online. Everything from food, clothes, entertainment, furniture and many other items can be purchased online.

Ask

- What other types of transactions have you performed on the internet other than buying products?

Say

- Give examples of e-commerce activities from Participant Handbook.

Team Activity

E-commerce examples

- Instruct the participants to list some of the payment gateways that they have used for e-commerce activities.

- Give them 5 minutes to make this list.
- Discuss payment gateways and transaction through payment gateways.
- Conclude the discussion by mentioning how important e-commerce has become in our day to day transactions.

Say

- E-commerce activities can be classified based on the types of participants in the transaction.
- Discuss "Types of E-commerce" from the Participant Handbook.

Do

- Discuss all types of E-commerce by giving examples and names of some popular websites which use them.
- Make the discussion interactive by asking the class to share some popular e-commerce sites of each type.

Say

- E-commerce activities bring a host of benefits for both, retailers and customers.
- Discuss benefits of E-commerce from the Participant Handbook.

Explain

- The majority of the population that uses E-commerce activities lives in tier-1 and tier-2 cities. To encourage the use of digital money in tier-3 and 4 areas, PM Mr. Modi launched the "Digital India Campaign".
- Discuss "Digital India Campaign" from the Participant Handbook.
- By Digital India project the government will deliver services via mobile connectivity and in doing so, is expected to bring the internet and broadband to remote corners of the country. This connectivity will in turn enhance e-commerce activities also. Furthermore, the Indian Government is also modernizing India Post and aims to develop it as a distribution channel for e-commerce related services.

Say

- Now let us discuss how to sell a product using E-commerce.
- Every product has to be sold on a platform on the internet. Think of it as a shop that you have to sell your product. Now this shop can be your own or shared or rented. If the shop is your own or rented there will be only your products in that shop. If the shop is shared, there will be products of multiple sellers in that shop. A common example is a departmental store which has products from multiple brands in the shop.

- Similarly, in E-commerce the shop is the website where your products are displayed. If it is your own website it will exclusively showcase your products. In this case the cost that you will incur will be:
 - Developing the website
 - Hosting the website
 - Maintenance of the website
- If you rent a website it will also showcase your own products but the development, hosting and maintenance parts goes to the owner. This saves time and the cost to manage these activities.
- Smaller companies usually go for renting a website and the bigger ones develop their own website.
- The concept of shared platforms has become very popular in recent times. In this platform, the sellers have to register and then they can sell their goods on a common platform. Among the most popular of these are Amazon, Myntra, Flipkart, etc.

Role Play

- Tell the participants to choose a product or service that they want to sell online.
- Tell them to write a brief note explaining how they will use existing e-commerce platforms, or create a new e-commerce platform to sell their product or service.

Ask

- How much money are you carrying in your wallet?
- Do you have a credit/debit card?
- How do you make payments while doing online shopping?

Say

- Demonetization has made carrying cash in the wallet very difficult. People either shop through cards or some other form of digital money.
- So, what do you think is digital money?
- In this form, the money is both paid and received digitally. There is no hard cash involved. It is an instant and convenient way to make payments.
- There are various types of digital payments. Let us discuss some of them in brief here.
- The first one is the most commonly used system i.e. the cards. Debit card, credit card, prepaid card, all fall under this category.
- Then is the e-wallet or the mobile wallet. This has become the most used form of digital money after demonetization. Examples are Paytm, state bank buddy, Freecharge, etc.
- Many other forms of digital money are also coming up in market like mobile apps, Aadhar card based payment, etc.

Do 

- Demonstrate how to make and receive payments through digital models like Paytm and state bank buddy.

Ask 

- Why do you think people have started using digital money instead of hard cash? Is demonetisation the only reason?

Say 

- Digital money gives a lot of advantages over the conventional hard cash. Some of them are:
 - Digital payments are easy and convenient. You do not need to take loads of cash with you, a mobile phone or a card will suffice.
 - With digital payment modes, you can pay from anywhere anytime.
 - Digital payments have less risk.

Summarize 

- Ask the participants what they have learnt from this exercise/activity.
- Ask if they have any questions related to what they have talked about so far.
- Close the discussion by summarizing the importance of e-commerce and digital money.

UNIT 6.3: Money Matters

Key Learning Outcomes



At the end of this unit, participants will be able to:

1. Discuss the importance of saving money
2. Discuss the benefits of saving money
3. Discuss the main types of bank accounts
4. Describe the process of opening a bank account
5. Differentiate between fixed and variable costs
6. Describe the main types of investment options
7. Describe the different types of insurance products
8. Describe the different types of taxes
9. Discuss the uses of online banking
10. Discuss the main types of electronic funds transfer

UNIT 6.3.1: Personal Finance – Why to Save?

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the importance of saving money
- Discuss the benefits of saving money

Resources to be Used

- Participant Handbook

Ask

- How many of you save money?
- Why do you feel the need to save it?
- Do you plan your savings?
- Where do you keep the money you save?
- How do you use the money that you have saved?

Example

- Let's look at these two examples:

Example 1:

Suhani works in a good company and earns Rs. 30,000 month. She always saves 5000 per month and keeps it aside as a personal saving. She keeps the money at home and has saved quite a lot. One day her mother has a medical emergency and has to be taken to the hospital. Her family is worried about the amount they have to spend for the treatment. It will cost them atleast 40,000.

Suhani says tells her family not to worry and that she has about 50,000, which she has saved over the months.

Example 2:

Jasmeet works in the same company and earns the same as Suhani. She is very fond of shopping and spends most of her money on buying new clothes. At the end of the month, she is always asking her father for money as her pay is finished.

Ask

- Who do you identify with –Suhani or Jasmeet?
- How do you think Suhani manages to save money which Jasmeet is unable to do?

Say 

- We should always set aside some and save some money from our monthly pay. The future is unpredictable. Saving money not only gives you a sense of financial security but it can be used in case of emergencies.
- Discuss “Importance of Saving” with the participants as given in the Participant Handbook.

Ask 

- What are the benefits of saving money?
- What does being financially independent mean to you?

Say 

- Discuss “Benefits of Saving” with the participants as given in the Participant Handbook.
- Now let us continue with Suhani's story. Suhani has told her family not to worry and that she has about 50,000, which she has saved over the months. The family is happy about Suhani's decision of saving money, which will be of great help for them now. Suhani is going to the hospital today to pay the first instalment for the treatment. Suddenly finds only 35,000 in her cash box when she counts and does not remember using it. She has not kept any record and now she is upset.

Ask 

- Was it a good decision by Suhani to save a part of her earnings every month?
- Was it a wise decision to keep all her savings as cash in a cash box?
- Could she have managed to save money in a better and more effective manner?
- Do you want to learn how to save money and use it effectively?

Say 

- Let's learn personal saving with the help of a group activity.

Team Activity

Personal Finance-Why to save

- This activity has two parts:

PART 1

WAYS TO SAVE MONEY

- You are earning 30,000/- per month. You have recently changed your job and have to move to a metropolitan city. You are now living as a paying guest paying 8,000/- per month. Your other estimated expenditures like travel, food, recreation would be around Rs. 17,000 per month.
- Make a list of different ways to save money.

PART 2

HOW WILL YOU USE THE MONEY?

- After a year how much have you been able to save?
- How will you use the money that you have saved?

Do

- Divide the class into groups of four.
- Instruct the participants to think and prepare a list of the various ways they can save money.
- Give the participants 10 minutes to prepare the list.
- Once done, instruct them to think of how they could use the money they have saved.
- Give the participants 10 minutes to prepare the list.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Activity De-brief

- What were the different ways you could save money?
- How much money were you able to save?
- How will you use the money you have saved in one year?

Say

- Discuss the importance of personal finance and why it is important to save money.

Summarize

You can summarize the session by discussing:

- The importance of saving money.
- Ways to save money.
- How the money saved can be used for different purposes.

UNIT 6.3.2: Types of Bank Accounts, Opening a Bank Account

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the main types of bank accounts
- Describe the process of opening a bank account

Resources to be Used

- Account opening sample forms
- Participant Handbook

Ask

- How many of you save money?
- Where do you keep the money you save?
- How many of you have a bank account?
- What type of account do you have?

Example

- Let's look at the given example:

Reena is in the third year of college but in the evening, she gives tuition for children living in her colony. She earns 15,000/- per month. As her students stay in different parts of the city, she has to walk a lot.

To save time, she decides to buy a second hand scooter for herself. But she has to save money for it. Her class mate advises her to open a recurring deposit account in the bank.

She goes to the bank close to her home. The personal manager gives her some forms to fill. She is confused as she has never done this before. Her elder sister has an account in the same bank. She asks for help from her sister. She goes to the bank the next day with her sister. The personal banker gives her a list of documents that she will need to submit with the form for opening an account. The banker advises her to open a 6 months recurring deposit.

Ask

- Do you try to save money monthly but have to spend it on unforeseen expenditure?
- Have you ever thought of depositing your savings in a bank?

Say 

- Before opening a bank account, you need to know the types of accounts we have in India.
- Discuss “Types of Bank Accounts” with the participants as given in the Participant Handbook.

Ask 

- Can someone say what are the different types of bank accounts?

Say 

- Let's learn about the different types of bank accounts through an activity.

Team Activity 

- Divide the class in four groups.
- Label the groups as savings account, current account, recurring account and fixed deposit.
- On a chart paper, ask them to write the key points of their account.

Activity De-brief

- Ask each group to present the key points of their account.

Say 

- Now that you know about the four different types of accounts, let's learn how to open a bank account.
- Discuss “Opening a Bank Account” with the participants as given in the Participant Handbook.
- Discuss “Tips” that the participants should keep in mind while opening a bank account as given in the Participant Handbook.

Ask 

- What are the main documents required for opening a bank account?
- What are some important points to ask the bank personnel while opening an account?

Say 

- Mention officially valid KYC documents (refer to the Participant Handbook)
- Now, let's understand the procedure of opening a bank account through an activity.

Team Activity

Opening a Bank Account

- This activity is done in groups.
- Divide the class in groups of four or six.

PART 1

FILLING A BANK ACCOUNT OPENING FORM

- You have to fill a bank opening form.
- You can refer to the section "Opening a Bank Account" of your Handbook for reference.
- List all the steps that you will be required to fill in the form.
- List the documents that you need for filling the form.
- Now fill in the form.

Activity De-brief

How did you design the form?

- What all details did you fill in the form?
- What were your KYC documents?
- How would this activity help you in future?

Do

- Instruct the participants to read the section "Opening a Bank Account" of the Participant Handbook.
- Give each group one sample account opening form.
- Give the participants 5 minutes to read the form.
- Give them 15 minutes to fill it.
- Assist them by explaining each category and how to fill it.
- Keep a check on time.
- Tell the group to wind up quickly if they go beyond the given time limit.

Summarize

Note:

- You can summarize the unit through a role play.
 - A person wanting to open an account in the bank.
 - What is the procedure that he will go through?
 - Discuss the key points of different types of bank accounts.
 - How to select the type of account.
 - How to fill the account opening form.

- A sample account opening form is given in the following page for reference. Use it for the activity in the class.

Sample Bank Account Opening form.

Photograph

XXX Bank

SAVING BANK ACCOUNT OPENING FORM

Account No.: _____ Date: _____

| | | | |
|--------------------------|--|------------------------|--|
| Name of the Branch | | | |
| Village/Town | | | |
| Sub District / Block | | | |
| District | | | |
| State | | | |
| SSA Code / Ward No. | | | |
| Village Code / Town Code | | Name of Village / Town | |

Applicant Details:

| Full Name | Mr./Mrs./Ms. | First | Middle | Last Name |
|-----------------------|--------------|-------|---------------|-----------|
| Marital Status | | | | |
| Name of Spouse/Father | | | | |
| Address | | | | |
| Pin Code | | | | |
| Tel No. Mobile | | | Date of Birth | |
| Aadhaar No. | | | Pan No. | |
| MNREGA Job Card No. | | | | |
| Occupation/Profession | | | | |
| Annual Income | | | | |
| No. of Dependents | | | | |

| | | | | |
|---|--------------------|-------------------------------------|--------------------------------|---|
| Detail of Assets | Owning House : Y/N | Owning Farm : | | |
| | Y/N | | | |
| | No. of Animals : | Any other : | | |
| Existing Bank A/c. of family members / household | Y / N | If yes, No. of A/cs. _____ | | |
| Kisan Credit Card | Whether Eligible | Y / N | | |
| I request you to issue me a Rupay Card . | | | | |
| I also understand that I am eligible for an Overdraft after satisfactory operation of my account after 6 months of opening my account for meeting my emergency/ family needs subject to the condition that only one member from the household will be eligible for overdraft facility. I shall abide by the terms and conditions stipulated by the Bank in this regard. | | | | |
| Declaration: | | | | |
| I hereby apply for opening of a Bank Account. I declare that the information provided by me in this application form is true and correct. The terms and conditions applicable have been read over and explained to me and have understood the same. I shall abide by all the terms and conditions as may be in force from time to time. I declare that I have not availed any Overdraft or Credit facility from any other bank. | | | | |
| Place: | | | | |
| Date: | | Signature / LTI of Applicant | | |
| Nomination: | | | | |
| I want to nominate as under | | | | |
| Name of Nominee | Relationship | Age | Date of Birth in case of minor | Person authorised in case to receive the amount of deposit on behalf of the nominee in the event of my /minor(s) death. |
| | | | | |
| Place: | | | | |
| Date: | | | | |
| Signature / LTI of Applicant | | | | |
| Witness(es)* | | | | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| *Witness is requires only for thumb impression and not for signature | | | | |

UNIT 6.3.3: Costs: Fixed vs. Variables: What are Fixed and Variable Costs?

Unit Objective

At the end of this unit, participants will be able to:

- Differentiate between fixed and variable costs

Resources to be Used

- Participant Handbook
- Blank sheets of paper
- Pens

Ask

- What is cost?
- Will a telephone bill fall under the category of a fixed or variable cost?

Say

- Discuss: Fixed and Variable cost with examples. Let us do a small activity.

Team Activity

Identify the type of cost

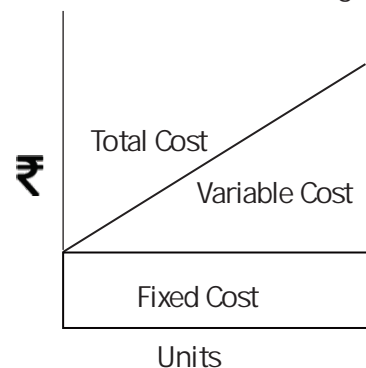
1. Rent
2. Telephone bill
3. Electricity bill
4. Machinery
5. Insurance
6. Office supplies/Raw materials
7. Employee salaries
8. Commission percentage given to salesperson for every unit sold
9. Credit card fees
10. Vendor bills

Do 

- Divide the class into two groups. Read out the list of costs given in the activity.
- Read out each item from the cost list and ask the groups in turns to identify whether it is a fixed or variable cost.

Say 

- We saw that your utility bills like rent, electricity, telephone etc. are all fixed costs because you have to pay it every month.
- Variable costs is an expense which varies with production output or volume. For example, commission, raw material etc.
- Discuss "Cost: Fixed vs. variables" with the participants as given in the Participant Handbook.
- Illustrate the relation between the costs with a graph.



- Let's learn the difference between fixed and variable cost with the help of an activity.

Team Activity 

Fixed vs. Variable Costs

- This is a group activity.

- You want to start your own entrepreneur business.
- State the type of business you want to start.
- List down all the cost or requirements for your business.
- How will you differentiate between the fixed and variable cost.

Activity De-brief

- What is the total cost of your business?
- What are the fixed costs?
- What are the variable costs?
- How did you differentiate between the fixed and variable costs?

Do 

- Instruct the participants that this is group work.
- Divide the class into small groups of 4 or 6.
- Give each group a sheet of paper.
- Tell the participants that they have to start their own entrepreneur business.
- Ask them the type of business they want to start.
- Instruct them to differentiate between the fixed and the variable costs of the business they want to start.
- Give the participants 15 minutes to discuss and write.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Summarize 

- Note: You can summarize the unit either by having a role play between a consultant and a budding entrepreneur explaining the differences between fixed and variable costs or by discussing the key points of the unit.

Notes for Facilitation 

Answers for the activity - Identify the type of cost

- | | |
|--|------------|
| 1. Rent | (Fixed) |
| 2. Telephone bill | (Fixed) |
| 3. Electricity bill | (Fixed) |
| 4. Machinery | (Fixed) |
| 5. Insurance | (Fixed) |
| 6. Office supplies/ Raw materials | (Variable) |
| 7. Employee salaries | (Fixed) |
| 8. Commission percentage given to sales person for every unit sold | (Variable) |
| 9. Credit card fees | (Variable) |
| 10. Vendor bills | (Variable) |

UNIT 6.3.4: Investments, Insurance and Taxes

Unit Objective

At the end of this unit, participants will be able to:

- Describe the main types of investment options
- Describe the different types of insurance products
- Describe the different types of taxes

Resources to be Used

- Participant Handbook

Ask

- Ask the participants- "What do you see first thing in when you get your mobile bill? Apart from the amount and due date do you have a look at the taxes you are being billed for?"
- Why do you think people get their cars insured or have a medical insurance?
- You have saved money and want to invest it; how would you decide what is the best investment for your money?

Example

- Let's have a look at a few scenarios.

Ranbir has sold his house and deposited the money in his bank. His Chartered Accountant tells him that he will have to re-invest the money otherwise he will have to pay capital tax. What is capital tax and how is it different from income tax?

Jasmeet and Anup are blessed with a baby girl. They decide to have an insurance policy that will mature when their daughter is ready to higher education.

Shivani is working in a corporate office and getting good pay. She will have to pay income tax so she decides to invest her money in tax saving schemes. She goes to the bank manager to discuss the best products in which she can invest.

Say

- Discuss the Investment, Insurance and Taxes as given in the Participant Handbook.

Ask 

- How do investments, insurances and taxes differ from each other?

Say 

- Let's learn the differences between the three by having an activity.

Say 

- We will have a quiz today.

Team Activity 

- The activity is a quiz.

Do 

- Divide the class into groups of three and give a name to each group
- Explain the rules of the quiz. For each correct answer, the group gets 1 mark. If the group is unable to answer the question is rolled over to the next group.
- Explain the purpose and duration of the activity.
- On the blackboard write the names of the groups.
- Ask the questions of the quiz.
- Keep a score for the groups.
- Set guidelines pertaining to discipline and expected tasks.

Summarize 

- Summarize the unit by discussing the key points and answering questions

Notes for Facilitation 

Questions for the quiz

1. Mr. Das gets monthly return on one of his insurance policies. Name the policy?
Money Back Life Insurance
2. What are bonds?
Bonds are instruments used by public and private companies to raise large sums of money.
3. Who issues the bonds?
Private and public companies issue the bonds

4. Why are bonds issued?
To raise large amount of money as it cannot be borrowed from the bank.
5. Who is the buyer of stocks and equities?
The general public is the buyer.
6. What types of scheme is the Sukanya Samriddhi Scheme?
Small Saving Scheme
7. What is the difference between mutual and hedge funds?
Mutual funds are professionally managed financial instruments that invest the money in different securities on behalf of investors. Hedge funds invest in both financial derivatives and/or publicly traded securities.
8. Why is a loan taken from the bank to purchase real estate?
To lease or sell to make profit on appreciated property price.
9. Name the two types of insurances?
Life Insurance and Non-life or general insurance
10. Which insurance product offers financial protection for 15-20 years?
Term Insurance
11. What is the benefit of taking an endowment policy?
It offers the dual benefit of investment and insurance.
12. What are the two benefits of a Whole Life Insurance?
It offers the dual benefit of investment and insurance
13. Which policy covers loss or damage of goods during transit?
Marine Insurance
14. After what duration is the income tax levied?
One financial year
15. What is long term capital gain tax?
It is the tax payable for investments held for more than 36 months.
16. Name the tax that is added while buying shares?
Securities Transaction Tax
17. What is the source of corporate tax?
The revenue earned by a company.
18. Name the tax whose amount is decided by the state?
VAT or Value Added Tax
19. You have bought a T.V. What tax will you pay?
Sales Tax
20. What is the difference between custom duty and OCTROI?
Custom duty is the charges payable when importing or purchasing goods from another country. OCTROI is levied on goods that cross borders within India.

UNIT 6.3.5: Online Banking, NEFT, RTGS, etc.

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the uses of online banking
- Discuss the main types of electronic funds transfer

Resources to be Used

- Participant Handbook
- Computer System with internet connection
- Debit card

Ask

- When was the last time you visited a bank?
- How do you pay your bill for electricity and telephone?
- Have you ever tried to transfer money from one bank account to another bank account using the online banking facility?

Say

- Most of us lead a busy life. Time has become more important than money. In this busy schedule, no one has time to stand in bank queues. That's where Online Banking comes in. Online banking or internet banking means accessing your bank account and carrying out financial transactions through the internet.
- Discuss "What is online banking?" from the Participant Handbook.
- There are various advantages of online banking:
 - It saves time, as you need to visit the branch.
 - You can conduct your banking transactions safely and securely without leaving the comfort of your home.
 - Online Banking also gives you round the clock access.
 - Online Banking makes it possible for you to pay your bills electronically.

Do

- Show them how they can use the internet banking.
- Use the computer system and show the demo videos on how to use internet banking provided on most banking sites. the computer system.
- Tell the class the various features of online banking:
 - Through their website set-up your online account.

- Choose a secure username and password.
- Set-up your contact information.
- Once your information is verified, you are good to go.
- Once you enter the portal explore all the features and learn your way through the portal.

Say

- One of the biggest advantage that online banking offers, as discussed earlier, is transferring money from one account to another. This transaction is called electronic funds transfer. Electronic transfers are processed immediately with the transferred amount being deducted from one account and credited to the other in real time, thus saving time and effort involved in physically transferring a sum of money.
- Discuss “Electronic Funds Transfer” from the Participant Handbook.

Do

- Discuss how to transfer money from one account to another using online banking (NEFT/RTGS, etc.).
- Illustrate with an example.

Summarize

- Close the discussion by summarizing the about online banking.
- Ask the participants if they have any questions related to what they have talked about so far.

UNIT 6.4: Preparing for Employment & Self-Employment

Key Learning Outcomes



At the end of this unit, participants will be able to:

1. Discuss the steps to follow to prepare for an interview
2. Discuss the steps to create an effective Resume
3. Discuss the most frequently asked interview questions
4. Discuss how to answer the most frequently asked interview questions
5. Identify basic workplace terminology

UNIT 6.4.1: Interview Preparation: How to Prepare for an Interview?

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the steps to follow to prepare for an interview

Resources to be Used

- Participant Handbook

Ask

- Have you ever attended an interview?
- How did you prepare before going for an interview?

Say

- An interview is a conversation between two or more people (the interviewer(s) and interviewee) where questions are asked by the interviewer to obtain information from the interviewee.
- It provides the employer with an opportunity to gather sufficient information about a candidate and help them select the ideal candidate.
- It also provides the interviewee with an opportunity to present their true potential to the employer, build confidence and help make a decision about the job by asking questions regarding designation, salary, perks, benefits, promotions, transfers, etc.
- Let's do an activity to understand how to prepare for interviews better.

Activity 1

- Introducing Yourself

Do

- Select a participant and ask him/her to answer the following questions: "What can you tell me about yourself?"
- Give the participant at least one minute to speak.
- Once he/she is done, ask the rest of the participant what they gathered about the participant who was providing information.
- Now repeat the exercise with five other participants.

Ask

- What information you should include when you are describing or introducing yourself in an interview?
- What information you should not include when you are describing or introducing yourself in an interview?

Say

- Tell the participants that when an interviewer asks you to say something about yourself, he/she is not asking you to present your life history.
- Introduction should be short and crisp, and should present you in a positive light. It should include the following points:
 - Any work experience that you might have
 - A brief summary of your educational qualifications
 - Your strengths and achievements
 - Any special projects that you might have been part of
- The following topics should be avoided during an introduction:
 - Detailed description of your family (unless you are specifically asked to do so)
 - Too much information about your weaknesses
 - Information that is not true

Do

- Congratulate each participant for sharing their points.
- Ask the audience to applaud for them.
- Ask de-brief questions to cull out the information from each group.
- Keep a check on time.

Activity 2

- Planning the right attire

Do

- Describe 2 individuals to the participants. One is wearing a casual t-shirt, jeans, and slippers. He has not combed his hair and neither has he trimmed or shaved his beard. The other individual is dressed formally with a shirt and pants, and is well-groomed. He has also worn formal shoes and a belt. Ask the participants which person would they prefer to hire in their organization and why?

Summarize

- Close the discussion by discussing 'how to prepare for an interview' as discussed in the Participant Handbook.
- You can add the following points to it:
 - Tell the participants to create a positive and good impression in an interview. It is important for them to prepare for an interview beforehand.
 - The interviewer analyses not only your technical knowledge in relation to the job, but also whether or not you are a fit for the organization.
 - Every employer looks at the whole package and not just one or two things in isolation. Therefore, the way you dress and the way you present yourself is also important along with your skills and talents.
 - The participants will get only one chance to create a good first impression.

UNIT 6.4.2: Preparing an Effective Resume: How to Create an Effective Resume?

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the steps to create an effective Resume

Resources to be Used

- Participant Handbook
- Blank Papers
- Pens

Ask

- When preparing for an interview, what are the most important things that you need to do?
- What documents do you carry with you, when you go for an interview?
- What is a resume?
- Why do you need a resume?

Say

- Resume is not just a sheet of paper with your qualifications printed on it.
- It is a selling tool that will help the employer to see how and what you can contribute for company.
- Talk about the steps involved in creating an effective/a attractive resume discussed in the Participant Handbook.
- Now let's prepare a resume to understand the process in a better way.

Do

- This is an individual activity.
- Give the details of the activity.
- Instruct them to read the activity carefully.
- The participant is expected to make an attractive resume based on the information provided.
- Give the class 25-30 minutes to study the case and create a resume.
- At the end of 30 minutes, the participants should exchange the resume with the person sitting next to him or her.
- Every participant will evaluate the resume prepared with their fellow participants.

Say

- Do you think the candidate should apply for the job position described in the advertisement?
- We have already discussed the steps involved in creating an effective/ attractive resume.
- Now let's prepare a resume for the candidate details given in the activity.

Activity

Case Study Analysis

- In the first section of the activity, you are being given the information about a candidate who is applying for a particular job.
- In the second section, you are being given the detailed description of the job position. Create a resume for the candidate to apply for the job position.
- Use the information that has been provided about the candidate to create this resume

Candidate Details

Nipesh Singla was born on 20th April, 1988 in Chandigarh, India. He currently resides at 1XX7, Sector XX D, Chandigarh -160018. His mobile number is 988XXXXX01, and e-mail address is nxxxxxxxla@gmail.com. Nipesh attended middle and senior school at Government Boys Senior Secondary School, Sector 15, Chandigarh. He has been a very talented boy since school. He was fond of painting and watching old Hindi movies. As part of a school charity program, he volunteered at the children's hospital during his senior years.

In July 2007, he joined Westwood School of Hotel Management, Zirakpur to pursue a diploma course in Hotel Management and Catering. After completing this course, he joined XYZ Group of Hotels as a Housekeeping intern in June 2010 for six months. In this role, he was responsible for cleanliness and maintenance of one floor in the hotel. Taking advantage of his strong interpersonal skills, he also got opportunities to make housekeeping arrangements for corporate meetings. While pursuing education, he gained working knowledge of Microsoft Word, Excel, Access and PowerPoint.

Nipesh is detail-oriented, flexible and adaptable. He has successfully worked with a diverse workforce. He gelled well with his peers, both in college and during his internship. After completing the internship, his objective has been to find a job opportunity where he can use his skills and experience. Backed by experience, he is confident about his skills as housekeeping assistant.

Job Position

*Do you see yourself as a HOUSEKEEPING SUPERVISOR?

What's your passion? Whether you're into cricket, reading or hiking, at IHG we are interested in YOU. At IHG, we employ people who apply the same amount of care and passion to their jobs as they do in their hobbies people who put our guests at the heart of everything they do. And we're looking for more people like this to join our friendly and professional team.

THE LOCATION:

At the moment, we are looking for HOUSEKEEPING SUPERVISOR to join our youthful and dynamic team at Holiday Inn Amritsar, Ranjit Avenue in Amritsar, Punjab (India). Holiday Inn Amritsar is ideally located in Amritsar's commercial district on Ranjit Avenue with the world famous Golden Temple located only a short distance away. Sparkling chandeliers mark an incomparable arrival experience as you escape to the welcoming environment that is, Holiday Inn Amritsar. The fresh international brand to celebrate and explore Amritsar.

Salary: Negotiable

Industry: Travel / Hotels / Restaurants / Airlines / Railways

Functional Area: Hotels, Restaurants

Role Category: Housekeeping

Role: Housekeeping Executive/Assistant.

Desired Candidate Profile

Friendly, pleasant personality, Service-oriented.

You should ideally be Graduate/ Diploma holder in HIM and at least 2 years of experience as a supervisor in good brand with good communication skills, English is a must.

In return we'll give you a competitive financial and benefits package. Hotel discounts worldwide are available as well as access to wide variety of discount schemes and the chance to work with a great team of people. Most importantly, we'll give you the room to be yourself.

*Please get in touch and tell us how you could bring your individual skills to IHG. Education-

UG: Any Graduate/Diploma holder

PG: Post Graduation Not Required

Say 

- Now, let's share the resume with the fellow participant sitting next to you and evaluate each other's effort.

Do

- Congratulate each participant for making their first attempt towards creating an effective resume.
- As a follow-up activity, you can suggest them to prepare their own resume and show it to you the next day.

Summarize

- Close the discussion by showing some effective resume samples to the candidates.
- Ask the participants what they have learnt from this activity.
- Ask if they have any questions related to what they have talked about so far.

Notes for Facilitation

- Keep printed copies of the activity ready for the session.
- Put down the suggested format of the resume on the board while explaining the steps in preparing a resume.
- Do check the participants' resume and suggest necessary changes.
- Suggested example for the case presented:

Nipesh Singla
 #1XX7, Sector XX-D
 Chandigarh-160018
 Mobile No: 91-988XXXXX01
 E-mail: nxxxxxxxxla@gmail.com

Objective: Seeking an opportunity to use my interpersonal skills and experience to contribute to your company's growth, profitability and objectives.

Professional strengths:

- Proficient in housekeeping
- Experienced in and capable of working with a diverse work force
- Team player and friendly in nature
- Successful working in a multi-cultural environment
- Detail oriented, flexible, and adaptable
- Knowledge of Microsoft Word, Excel, Access and PowerPoint

Educational background

- Diploma in Hotel Management and Catering, Westwood School of Hotel Management, Zirakpur
- High School, Government Boys Senior Secondary School, Sector 15, Chandigarh

Professional internships:

- Housekeeping Intern, XYZ Group of Hotels, New Delhi (June 2010– August 2010)
 - Responsible for cleanliness and maintenance of one floor in the hotel.
 - Got opportunities to make housekeeping arrangements for corporate meetings.

Volunteer Work:

- Student volunteer at children's hospital in Chandigarh.

Nipesh Singla

UNIT 6.4.3: Interview FAQs

Unit Objective

At the end of this unit, participants will be able to:

- Discuss the most frequently asked interview questions
- Discuss how to answer the most frequently asked interview questions

Resources to be Used

- Participant Handbook

Say

- Tell the participants you will provide them with interview situations and questions and they have to try to answer them.
- Tell them you will also explain the different ways to approach these questions.

Do

- Divide the class in pairs and ask the participants to perform a role play.
- One partner will play the role of the interviewer while the other will play the role of the interviewee.
- Tell them the interviewer can start the interview by asking the interviewee to introduce himself/herself.
- Call all the pairs one by one in front of the class to enact the role play.
- Follow the same pattern for all other situations.
- Time allowed for each situation is 8-10 minutes.
- Congratulate each participant for giving their input.
- Ask the class to applaud each time a team has completed their role play.
- Keep a check on time.

Role Play

Conduct a role play for the situation given.

Situation 1

- The interviewer will start by asking the interviewee a few generic questions such as:
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?

- Then, the interviewer will bluntly ask the following questions:
 - How do you explain this huge time gap in your resume?
 - What is the reason for this?
 - Weren't you looking for a job or is it that no one selected you?

Say

De-brief:

- When you put information on your resume, you should be prepared to answer any questions about it.
- Be present and focused on the questions being asked to you.
- One way of tackling the blunt questions is to tell the interviewer you did not come across an opportunity where you were sufficiently satisfied with both the remuneration offered as well as the profile. Therefore, you waited for the right opportunity to come along while looking for an ideal job.

Role Play

Conduct a role play for the situation given.

Role Play – Situation 2

- The interviewer will start by asking the interviewee a few generic questions such as:
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?
- Then, at the end of the interview, ask the interviewee:
 - There are over 200 people who have applied for this job, some with excellent work experience. Why should I hire you?

Say

De-brief:

- There is nothing wrong with stating your strengths and achievements. However, do not come across as arrogant or too boastful.
- You need show the interviewee that you have unique skills or talents to contribute to the company. The interviewer needs to know how you stand apart from the rest of the crowd.
- Tell the interviewer you are looking forward to working with the company and that you are a hard-working individual.

Role Play

Conduct a role play for the situation given.

Role Play – Situation 3

- The interviewer will start by asking the interviewee a few generic questions such as
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?
- Then, lean forward, clasp your hands on the table and in a soft voice ask the interviewee:
 - Did you ever experience any neglect or disregard from your previous office? In other words, did you ever suffer because your office or team displayed favouritism?

Say

De-brief:

- Keep this in mind: Do not criticize anyone during an interview
- You are free to express your opinion, however, your language, answers, body language, and the tone of your voice should remain constructive and neutral.
- Since criticism will show you in negative light, you should keep your answers honest yet diplomatic.
- You can tackle such questions by saying, “I got along well with most of my faculty and peers.”

Role Play

Conduct a role play for the situation given.

Role Play – Situation 4

- The interviewer will start by asking the interviewee a few generic questions such as
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?
- Then very bluntly ask the interviewee:
 - How long do you plan to stay with this company if you are selected?
- After the candidate responds, ask sarcastically:
 - Do you seriously mean that?

Say

De-brief:

- Don't provide unreal and idealistic answers.
- Your answers should be honest yet diplomatic. In a situation like this, the interviewer does not expect you to provide a specific timeline.

- You can say something like, “I would like to stay with the company as long as I can contribute constructively and develop as an employee, within the organization, professionally and financially.”

Role Play

Conduct a role play for the situation given.

Role Play – Situation 5

- The interviewer will start by asking the interviewee a few generic questions such as
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?
- Ask him/her how important he/she thinks it is to be punctual in the corporate world.
- After he/she answers, look up sternly at the interviewee and in a crisp voice, say:
 - You were late for this interview by 10 minutes. That surely does not seem to be in line with what you just said?

Say

De-brief:

- Politely apologize for being late.
- You can add something such as, “I assure you this is not a habit”. All your future actions should be in line with this statement.
- Avoid giving any excuses.
- You might feel obligated to provide a justification for your tardiness, but the interviewer is not interested in that.
- Do not over apologize. Once this response is out of the way, turn your focus back to the interview.

Role Play

Conduct a role play for the situation given.

Role Play – Situation 6

- The interviewer will start by asking the interviewee a few generic questions such as
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?
- After asking a few academic or job-related questions, ask the interviewee:
 - If you get this job, what salary package do you expect us to give you?

Say

De-brief:

- If there is no way for you to avoid this question, respond to the interviewer by providing a reasonable and well-thought-out salary range.

Role Play

Conduct a role play for the situation given.

Role Play – Situation 7

- The interviewer will start by asking the interviewee a few generic questions such as
 - What is your name?
 - Tell me something about yourself?
 - Can you tell me something about your family?
- Then, bringing the interview to a close, ask the interviewee:
 - Do you have any questions for me?

Say

De-brief:

- Ask relevant questions.
- Don't bombard the interviewer with questions.
- If you have questions about the result of the interview, you can limit your questions to 1 or 2. Keep them short and relevant like:
 - When will I be informed about the results of the interview?
 - What are the working hours?
 - Will the job require me to travel?

Explain

- Tell the participants to be prepared for answering different types of questions in an interview.
- Stay calm and focused, and take a moment to think about how you should respond. Always maintain a confident tone.
- Even if you don't intend to, your body language conveys your level of discomfort with a particular question.
- Try to keep your actions, tone, and gestures neutral.
- Maintain your composure while answering personal questions.

Do

- Tell all the participants to form pairs again.
- Tell them to use the following list of frequently asked interview questions to conduct mock interviews.

- They will use all or some of these questions to conduct mock interviews with their partners.
- One partner will play the role of the interviewer while the other will play the role of the interviewee.
- After they are through asking and answering the questions, the roles will be reversed.
- The same list of questions will be used again.
- After each mock interview ask the interviewer to provide feedback and clear any doubts that may arise.
- Time allowed for each situation is 30-35 minutes.

Activity

Mock Interview Questions

| |
|---|
| Mock Interview Questions |
| Tell me something about your family. |
| What qualities would you look for in a Manager or a Supervisor? |
| Why did you apply for this job? |
| What do you know about this company? |
| How do you deal with criticism? |
| How do you plan to strike a good work-life balance? |
| Where do you see yourself five years from now? |
| Have you applied for jobs in other companies? |
| What kind of salary do you expect from this job? |
| Do you have any questions for me? |

Summarize

- Close the discussion by discussing the questions in the both activities.
- Ask the participants what they have learned from this activity.
- Ask if they have any questions related to what they have talked about so far.

UNIT 6.4.4: Work Readiness – Terms and Terminology

Unit Objective

At the end of this unit, participants will be able to:

- Identify basic workplace terminology

Resources to be Used

- Participant Handbook
- Chart papers
- Blank sheets of paper
- Pens

Ask

- What do you understand by workplace terminology?
- Are offer letter and contract of employment the same?

Say

- Let's start this unit with an activity.

Team Activity

Workplace terminology

- This is a group activity conducted in three parts.

Part 1

Sheila received a call from the recruiter of MND Company. Before she is recruited by the company, think of the recruitment process she will have to go through. Start from the telephone call to signing her letter of acceptance. Write down all the words that come to your mind.

Activity De-brief

- Have the participants read out the words they have written
- Encourage all the participants to participate in the activity

Do 

- Divide the class into small groups of 4 or 6.
- Instruct the participants that they will be doing a brainstorming activity.
- Give them one chart paper each. Tell them to divide the chart in two parts.
- Instruct them that they have to use one half of the chart paper now. The other half will be used later.
- The participants have to write all the words that come to their mind related to the recruitment process.
- Give them 10 minutes to do the activity.
- Tell them that there are no right or wrong answers.
- Keep a track of the time.

Say 

- You all know quite a few words related to the terms used in the office.
- Let us talk about some new terms that have been missed out.
- Discuss “Work Readiness – Terms and Terminology” with the participants as given in the Participant Handbook.

Ask 

- Why is it important to know the workplace terms?
- How do they help?
- Can the words be categorised further?

Say 

- Let's now continue the activity.

Team Activity 

Terms and Terminology

- This is again a group activity. The members of the group remain the same as in Activity 1.

Part 2

- With the help of the new terms you have learned, make a flowchart of the hiring process of MND Company.

Activity De-brief

- Ask the groups to share the flowcharts and the new terms they added while preparing the flowchart.

Do 

- Instruct the participants that they have to use the 2nd half of the same chart they had used before.
- Using the new terminology and the terms they had previously written on the chart, they have to make a flow chart of the hiring process of the MND Company.
- Give them 10 minutes for this activity.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Say 

- Let's go ahead with the activity.

Team Activity 

Terms and Terminology

- The activity continues with the same group members.

Part 3

Sheila now works for the MND Company. She is not aware of the company culture and policies. She goes to the HR Department to get her doubts clarified. Can you think of the terms for which she wants clarity? Make a list of those words.

Activity De-brief

- Ask the groups to share their list of words. Some of the words are benefits, compensation, deduction, employee training, holidays, lay-off, leave, maternity leave, mentor, notice, paternity leave, and time sheet.

Do 

- Instruct the participants to identify the key terms an employee of a company should know. They can use the same chart paper for this activity.
- Give them 5 minutes for this activity.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Summarize 

- Note: You can either summarize the key points of the unit or have a role play where an employee has just joined a company and the HR Manager explains the terms of employment.

UNIT 6.5: Understanding Entrepreneurship

Key Learning Outcomes

At the end of this unit, participants will be able to:

1. Discuss the concept of entrepreneurship
2. Discuss the importance of entrepreneurship
3. Describe the characteristics of an entrepreneur
4. Describe the different types of enterprises
5. List the qualities of an effective leader
6. Discuss the benefits of effective leadership
7. List the traits of an effective team
8. Discuss the importance of listening effectively
9. Discuss how to listen effectively
10. Discuss the importance of speaking effectively
11. Discuss how to speak effectively
12. Discuss how to solve problems
13. List important problem-solving traits
14. Discuss ways to assess problem-solving skills
15. Discuss the importance of negotiation
16. Discuss how to negotiate
17. Discuss how to identify new business opportunities
18. Discuss how to identify business opportunities within your business
19. Explain the meaning of entrepreneur
20. Describe the different types of entrepreneurs
21. List the characteristics of entrepreneurs
22. Recall entrepreneur success stories
23. Discuss the entrepreneurial process
24. Describe the entrepreneurship ecosystem
25. Discuss the purpose of the Make in India campaign
26. Discuss key schemes to promote entrepreneurs
27. Discuss the relationship between entrepreneurship and risk appetite
28. Discuss the relationship between entrepreneurship and resilience
29. Describe the characteristics of a resilient entrepreneur
30. Discuss how to deal with failure

UNIT 6.5.1: Concept Introduction (Characteristics of an Entrepreneur, types of firms/ types of enterprises)

Unit Objectives

At the end of this unit, the participants will be able to:

- Discuss the concept of entrepreneurship
- Discuss the importance of entrepreneurship
- Discuss the characteristics of an entrepreneur
- Describe the different types of enterprises

Resources to be Used

- Participant Handbook

Say

- Let's start this session with some interesting questions about Indian entrepreneurs

Team Activity

Quiz Questions

1. Who is the founder of Reliance Industries?
Dhirubhai Ambani
2. Who is the Chairman of Wipro Limited?
Azim Premji
3. Who launched e-commerce website Flipkart?
Sachin Bansal and Binny Bansal
4. Who is the founder of Paytm?
Vijay Shekhar Sharma
5. Who is CEO of OLA Cabs?
Bhavish Aggarwal
6. Who is the founder of Jugnoo?
Samar Singla (autorickshaw aggregator)
7. Who is the founder of OYO Rooms?
Bhavish Aggarwal

Do

- Tell them that you will ask them few questions about a few entrepreneurs.

- Divide the class in to two groups.
- In turns ask the quiz questions to the groups.
- If the answer is incorrect pass the question to the other group.
- Share the answer if the groups are not able to answer.
- Congratulate the participants who answered correctly.

Ask

- What do you understand by entrepreneurs?
- What is the importance of entrepreneurship in today's scenario?
- What do you think are the characteristics of successful entrepreneurs?
- What are different types of enterprises that an entrepreneur in India can own and run?

Say

- Talk about entrepreneurs, importance of entrepreneurship, characteristics of successful entrepreneurs, and different types of enterprises in India as discussed in the Participant Handbook.
- Tell the participants, stories of successful Indian entrepreneurs- their struggles, the moments of heartbreak, the perseverance and triumph.
- Ask them if they know of any such entrepreneur.

Summarize

- Close the discussion by summarizing about the opportunities for entrepreneurs in India.

Notes for Facilitation

- Check out different Government schemes for small entrepreneurs. Share the information with the participants
- You can tell them about the government websites like Start Up India, mudra.org.in etc.
- Discuss about various schemes and policies by the Government of India for entrepreneurs.

UNIT 6.5.2: Leadership and Teamwork

Unit Objectives

At the end of this unit, participants will be able to:

- List the qualities of an effective leader
- Discuss the benefits of effective leadership
- List the traits of an effective team

Resources to be Used

- Participant Handbook
- Blank sheets of paper
- Pens

Do

- Show the picture given below to the class.
- Ask them to quickly write on a piece of paper what comes to their mind after seeing the picture.
- Now ask them, "What do you understand from this picture?"
- Encourage participants to share their thoughts.



Fig 6.5.1: Sharing thoughts

Say

- This picture depicts the qualities of a leader and the difference between a leader and a boss.
- A boss focuses on structure and inspires fear whereas a leader follows vision and generates enthusiasm.
- A boss blames employee for the breakdown whereas a leader fixes breakdowns.
- A boss depends on authority whereas a leader depends on goodwill.
- A boss says "I" and a leader says "We."
- A boss drives employee whereas a leader coaches them.
- A boss takes credit whereas a leader gives credit.

Say 

- Talk about leadership and leadership qualities for an entrepreneur as discussed in the Participant Handbook.

Ask 

- Why is it important for a leader to be effective? How does it help the organization?

Say 

- Let us discuss benefits of effective leadership as discussed in the Participant Handbook.
- “Out-of-the-box thinking” is one of the new leadership styles. It means thinking differently and from a new perspective.

Ask 

- Do you consider yourself a team player?

Team Activity 

Long Chain

- This is a group activity.

Do 

- Divide the class into 2 teams.
- Ask each team to create a chain using materials they have in class such as shoe laces, belts, paper, handkerchief, ribbons, etc.
- The team that creates the longest chain wins the game.
- Observe if the participants are interacting with their team or working in isolation.
- Share your observations with the class.

Say 

De-brief:

- What did the winning team do differently?
- Who was responsible for the winning team's success?
- How does this activity explain the role of teamwork in entrepreneurial success?

Say 

- Tell the class that both the teams performed well.

- Discuss that the objective of this activity was to open communication channels and how this has been achieved.
- The participants should aim to keep the communication channels open when interacting with their peers and team members.
- It will set the pace and enthusiasm required for all the ensuing teamwork activities.
- Talk about teamwork and importance of teamwork in entrepreneurial success as discussed in the Participant Handbook.

Summarize

- Close the discussion by summarizing about the importance of teamwork for employees.
 - Teamwork helps in reducing stress for the employees.
 - Teamwork helps employers in generating more number of solutions to a problem and developing improved communication amongst employees.
- Ask the participants what they have learned from these exercises.
- Ask if they have any questions related to what they have talked about so far.

UNIT 6.5.3: Communication Skills: Listening & Speaking: The Importance of Listening Effectively

Unit Objectives

At the end of this unit, the participants will be able to:

- Discuss the importance of listening effectively
- Discuss how to listen effectively
- Discuss the importance of speaking effectively
- Discuss how to speak effectively

Resources to be Used

- Participant Handbook

Activity

Activity – Chinese Whisper

Step 1: Form a circle.

Step 2: Start a whisper chain. Anyone participant will whisper a message into his/her neighbour's ear. No one else must hear the message. The message can be serious or downright silly.

Step 3: The next person who first heard the message should whisper the message very quickly to the person sitting next to them.

Step 4: The game goes on until the last person says whatever they heard out loud and the first person reveals the real message.

Compare them and have a great laugh!

Ask

De-brief questions:

- Was the original message the same as the message that is communicated at the end of the game?
- Why do you think there was a difference in the messages?

Say

- No, the original message was not same at the end of game.
- The barriers to communication like language, disturbance and noise, poor listening skills, boredom, poor speaking skills, etc. are the potential reasons this happens.

- There are various aspects to communication. Speaking skills and listening skills are two major components to any communication. There is always some room for improvement in the way we communicate.
- It is important to accept the reality of miscommunication and work to minimise its negative impacts.

Say

- Communication is a two-way process where people exchange information or express their thoughts and feelings
- It involves effective speaking and effective listening.
- If I go to the store to get bread, I exchange money for the bread. I give something and get something in return.
- Communication takes place in the same manner. You have to provide and receive information for communication to take place.

Ask

- How often do you hear these statements?
 - "You're not listening to me!"
 - "Why don't you let me finish what I'm saying?"
 - "You just don't understand!"
- What do you think the other person is trying to convey to you through these sentences?
- We will not talk about the importance of listening effectively as discussed in the Participant Handbook.

Say

- Let's play a game to understand effective listening process better.

Do

- This is a class activity.
- The participants need to answer the questions they hear.
- Instruct them to listen carefully.
- You will read it at a stretch and if need be repeat it once more.
- Tell the participants to raise their hand if they know the answer to the question asked.
- Keep a check on me.

Activity

Riddles:

Is there any law against a man marrying his widow's sister?

If you went to bed at eight o'clock at night and set the clock's alarm to ring at nine o'clock, how many hours of sleep would you get?

Do they have a 26th of January in England?

If you had only one match and entered a dark room that had a kerosene lamp, oil heater, and a wood stove, what would you light first?

The Delhi Daredevils and the Chennai Super Kings play five IPL matches. Each wins three matches. No match was a tie or dispute. How is this possible?

There was an airplane crash. Every single person died, but two people survived. How is this possible?

If an airplane crashes on the border of two countries, would unidentified survivors be buried in the country they were travelling to or the country they were travelling from?

A man builds an ordinary house with four sides except that each side has a southern exposure. A bear comes to the door and rings the doorbell. What is the colour of the bear?

Answers:

There's no law against a man marrying his widow's sister, but it would be the neatest trick in the book since to have a widow, the man would have to be dead.

You'd get one hour's sleep since alarm clocks do not know the difference between morning and night.

Oh, yes. They have a 26th of January in England. They also have a 27th, a 28th, and so on.

First of all, you would light the match.

Who said the Delhi Daredevils and the Chennai Super Kings were playing against each other in those games?

Every SINGLE person died, but those two were married.

You can't bury survivors under any law especially if they still have enough strength to object.

The bear that rang the doorbell would have to be a white bear. The only place you could build a house with four southern exposures is at the North Pole where every direction is in South.

Ask

De-brief questions:

- What were the barriers that came into your way of listening?
- How can you overcome barriers to listening?

Say

- There is a difference between hearing and listening.
- If you don't listen properly, the message may be misunderstood.
- Be open-minded while listening to someone.
- It is important to listen effectively and carefully without making assumptions.

Activity

Elevator Pitch:

You are in the lobby of a hotel and you bumped into your former client who is a famous businessman. He has financed a lot of small business ventures and can finance your new start-up too. After exchanging pleasantries, he asks you what your new company does. You open your mouth, and then pause. Where do you even begin?

Then, as you try to organize your thoughts, his meeting is called, and he is on his way. If you would have been better prepared, you're sure that he would have stayed long enough to schedule a meeting with you too.

If you were given another chance, what would you have said to this person?

Do

- Start off the task by providing a beginning sentence to get the story started, and then go around the classroom getting each one to add a new sentence to keep the story going.
- This task should be done spontaneously allowing only a little time to think (30 seconds).
- For example: There was once a student who was looking for a job after graduation.

Notes for Facilitation

- Tell the participants to follow these steps to create a great pitch, but bear in mind that you'll need to vary your approach depending on what your pitch is about.
 1. **Identify Your Goal:** Start by thinking about the objective of your pitch. For instance, do you want to tell the potential clients about your organization? Do you have a great new product idea that you want to pitch to an executive or do you want a simple and engaging speech to explain what you do for a living?
 2. **Explain What You Do:** Start your pitch by describing what your organization does. Focus on the problems that you solve and how you help people. Ask yourself this question as you start writing: what do you want your audience to remember most about you? Keep in mind that your pitch should excite you first. After all, if you don't get excited about what you're saying neither will your audience. People may not remember everything that you say, but they will likely remember your enthusiasm.
 3. **Communicate Your USP:** Your elevator pitch also needs to communicate your unique selling proposition or USP. Identify what makes you, your organization or

your idea unique. You'll want to communicate your USP after you've talked about what you do.

4. Engage with a Question: After you communicate your USP, you need to engage your audience. To do this, prepare open-ended questions (questions that can't be answered with a "yes" or "no" answer) to involve them in the conversation. Make sure that you're able to answer any questions that he or she may have.
5. Put it all Together: When you've completed each section of your pitch, put it all together. Then, read it aloud and use a stopwatch to time how long it takes. It should be no longer than 20-30 seconds. Remember, the shorter it is, the better!

Example:

Here's show your pitch could come together:

"My company deals with cloth retail online business and we use various e-commerce platforms to sell our products. This means that you can do shopping with ease and spend time on other important tasks. Unlike other similar companies, we have a strong feedback mechanism to find out exactly what people need. This means that, on average, 95 percent of our clients are happy with our products. So, how can you help us in creating our own web portal?"

6. Practice: Like anything else, practice makes perfect. Remember, how you say it is just as important as what you say. If you don't practice, it's likely that you'll talk too fast, sound unnatural or forget important elements of your pitch. Set a goal to practice your pitch regularly. The more you practice, the more natural your pitch will become. Practice in front of a mirror or in front of colleagues until the pitch feels natural.

Summarize

- Close the discussion by summarizing how to speak effectively as discussed in the Participant Handbook.

UNIT 6.5.4: Problem Solving & Negotiation Skills

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss how to solve problems
- List the important problem-solving traits
- Discuss ways to assess problem solving skills
- Discuss the importance of negotiation
- Discuss how to negotiate

Resources to be Used

- Participant Handbook

Ask

- What is a 'problem'?
- What do you think are the problems you may face in the process of becoming a successful entrepreneur?

Say

- Discuss the definition of problem as given in the Participant Handbook.
- In a hurdle race the hurdles are the obstacles on the way to reach your goal.
- Similarly, obstacles are the hurdles you may face while reaching your goal i.e. to set-up your own business.
- Your goal will be to reach the finishing line after crossing these hurdles.

Ask

- What do you do when you face a problem?
- How do you resolve it? You can pick examples from the questions asked previously 'the problems they are likely to face in the process of becoming a successful entrepreneur'.

Say

- Discuss how to solve problems as given in the Participant Handbook.

Team Activity

- This is a group activity.
- The groups will solve the problem and come up with the best solution in each case.

1. Unable to arrange for some extra finance for setting up a beauty parlour. The loan sanctioned and disbursed is not enough. You have tried all your contacts, friends and relatives. But unable to manage the extra amount. Bank will not sanction more amount as you have used up the complete sanction limit.
2. You have rented a space for your business and all arrangements are done. You will be operating from the office space rented in two days. Now the owner comes up to you and says he wants to sell the place and wants you to vacate in 15 days.
3. You have just set up your business and need extra human resource. You have tried interviewing a few also tied up with an agency for getting the right candidate. But you are unable to get the right candidate. If the candidate is good, you cannot offer the salary demanded. If the candidate agrees to the salary, he/she has other demands like working hours to be reduced, leaves etc. which may not work for your set up.

Do

- Divide the class into three groups. Give one scenario to each group.
- Explain the purpose and duration of the activity.
- Ask the groups to build on the scenario and present their solution as a role play.

Say

De-brief questions:

1. What was the problem?
2. Is there any other alternative solution?
3. Is this the best solution presented?

Ask

- Try to think of some people around you who are able to solve problems very easily. Even you or your friends might be approaching them when there is a problem. What qualities do they have? What personality traits do such people possess?

Say

- Discuss the important traits for problem-solving as given in the Participant Handbook.

Ask

- In order to build a successful organization, you need to hire people who possess good problem-solving skills.
- How would you assess the level of problem solving skills of potential candidates before hiring them?

Say

- Discuss how to assess for problem-solving skills as given in the Participant Handbook.

Summarize

- Ask the participants the things that they have learnt so far.
- Ask if they have any questions related to what they have talked about so far.
- Summarize the discussion on problem solving.

Activity

- The activity is to organise an election event. Select three volunteers from the group. They have to give a speech on their election manifesto to the class. They have to negotiate with the fellow participants and convince them to vote for them. The best negotiator will win the election.

Do

- Ask three participants to volunteer for the activity.
- Explain the purpose and duration of the activity.
- Set guidelines pertaining to discipline and expected tasks.

Ask

- Out of the three contestants, whom would you support? Why? What did they say or do which convinced you to make your decision?
- Have you ever tried to negotiate in your personal or professional life?
- Ask the class to share some of their experiences where they have been able to strike a deal by negotiating.

Say

- Discuss "What is Negotiation?" as given in the Participant Handbook.

Ask

- Why is it important to negotiate? As an entrepreneur, where do you think that negotiation skills will be needed?

Say

Discuss the importance of negotiation while starting a business as given in the Participant Handbook.

Say

- Discuss the important steps to negotiate as given in the Participant Handbook.

Role Play

- Conduct a role play activity.
- Ask the participants to assemble together.
- Explain the purpose and duration of the activity.
- Set guidelines pertaining to discipline and expected tasks.

Do

- Divide them into groups of four (4) (depending on the batch size).
- Give them the hand-outs for role play scenarios.
- Two groups to be given scenarios on problem solving.
- Other two groups to be given scenarios on negotiation.
- The groups will build on the scenarios and prepare for the role play.
- Give the groups at least 5 mins to discuss and be ready with the role play.
- Invite each group one by one to come and present their role play.

Problem solving Scenario 1

Avinash has a Mobile Repair Store in Allahabad. His outlet is one of the most popular one in the vicinity and he has great rapport with his customers. He is always well-dressed, jovial and full of energy.

It's around 11 AM, when a customer barges in to the shop and starts shouting at Avinash for giving her back the instrument which is still not working. The screen of her mobile is also cracked from one side. Avinash remembered thoroughly checking the handset before handing it over to the customer. The customer threatens to sue the company and to go to Consumer Court for cheating her.

Problem solving Scenario 2

You are running a successful small scale business, Shreeji Aggarbatts. Your staff members do door to door selling and organise marketing campaigns in local markets. Your brand has established its name in last few years.

Recently, lot of customers have been coming to you and lodging complaints that your staff members indulge in malpractices. Few of them informed you that a staff member engaged them in a friendly conversation. In the meanwhile, the other gave them lesser packets of aggarbatts than they paid for.

Another set of customers lodged complaint about the misconduct and rude behaviour of a particular staff member. You often hear from your customers that the orders don't get delivered on time or wrong products get delivered. You have already been struggling with shortage of staff and such complaints are a serious concern as it is hampering your brand image. What strategies will you adopt to solve this problem?

Negotiation Scenario 1

You have interviewed a prospective new employee who could be a key member of your new entrepreneurial venture. The new person is demanding a salary that is 20% higher than you thought based on your business plan. Finances are tight, yet you believe this person could make a significant impact on future profits. If you paid the required salary for the new person, then you would have to restructure your entire business plan. You've been searching for an individual with this skill level for three months. The candidate is waiting for your response. Now you have to call him in to make the final negotiations.

Negotiation Scenario 2

You are a young entrepreneur who has just registered his start up project and applied for a bank loan accordingly. You receive a letter saying that your loan application has been rejected as your start up idea did not appeal to the bank and they think that it is not a revenue generating model. You have taken an appointment to meet the manager and show your negotiation skills to get your loan approved.

Notes for Facilitation

Facilitating Role Plays**Preparing for the activity**

1. Carefully review the details of the scenario and the character descriptions.
2. Become familiar with the key issues being addressed in the scenario.
3. Study the provided material so that you are ready to address issues related to the situations depicted in the role-plays.
4. Anticipate and know how to address issues participants might raise during the activity.

Conducting the activity

1. Introduce the activity. Emphasize that role-playing provides participants with an opportunity to apply their new knowledge, skills, and tools in situations that simulate actual interactions with customers.
2. Ask participants to form pairs. Direct the members of each group to choose who will play the roles. Remind the groups that each participant should be given the opportunity to play/practice the different roles.
3. Conduct a demonstration so that participants become familiar with the expectations related to the roles and support materials.
4. Give the pairs/groups 10 to 15 minutes to conduct the role-play (depending on the duration of the session).
5. After all the groups have finished with the role-play, conduct a debriefing session on each role-play.
6. Ask the groups to take five minutes to talk about what happened during the role-play. The groups should discuss the questions given in the debriefing for each role-play.

Encourage participants to provide constructive criticism during their discussions.

Summarize

- Wrap the unit up after summarizing the key points and answering questions.

UNIT 6.5.5: Business Opportunity Identification: Entrepreneurs and Opportunities

Unit Objectives

At the end of this unit, the participants will be able to:

- Discuss how to identify new business opportunities
- Discuss how to identify business opportunities within their business

Resources to be Used

- Participant Handbook
- Blank sheets of paper
- Pens

Ask

- How does an entrepreneur identify an opportunity?
- What do you think are the common queries or concerns faced by entrepreneurs?
- How can you identify new business opportunity?

Say

- Let's talk about opportunity, common queries or concerns faced by entrepreneurs, idea as an opportunity, factors to consider when looking for opportunities, ways to identify new business, and opportunity analysis as discussed in Participant Handbook.
- Let's do an activity to understand ways to identify business opportunities within your business.

Do

- Tell the class that this is an individual activity.
- Tell the participants to create a matrix on their notebooks.
- There will be four boxes in your matrix.
- Strength, Weakness, Opportunity and Threats will be the four headings of the matrix. This is called the SWOT matrix.
- Read out the questions to them and tell the participants they need to answer the questions asked in each matrix.
- Tell them they can also use their own understanding of themselves to fill the SWOT matrix.

Activity

Do your SWOT analysis

| | |
|--|--|
| <p>Strength What are your strengths? What unique capabilities do you possess? What do you do better than others? What do others perceive as your strengths?</p> | <p>Weakness What are your weaknesses? What do your competitors do better than you?</p> |
| <p>Opportunity What trends may positively impact you? What opportunities are available to you?</p> | <p>Threat Do you have solid financial support? What trends may negatively impact you?</p> |

Do

- Congratulate everyone for the class activity.
- Ask the audience to applaud for themselves.
- Allot the participants sufficient time to complete this activity, but do keep a check on time.
- Ask de-brief questions to cull out information from the participants.

Ask

De-brief questions:

- What are your weaknesses according to your SWOT analysis?
- Do you think you can change your weakness into strength? How?
- Do you think you can work on your threats? How?

Summarize

- Close the discussion by summarizing ways to identify business opportunities within your business.
- Ask the participants what they have learned from this exercise.
- Ask if they have any questions related to what they have talked about so far.

UNIT 6.5.6: Entrepreneurship Support Eco-System

Unit Objectives

At the end of this unit, participants will be able to:

- Explain the meaning of entrepreneur
- Describe the different types of entrepreneurs
- List the characteristics of entrepreneurs
- Recall entrepreneur success stories
- Discuss the entrepreneurial process
- Describe the entrepreneurship ecosystem
- Discuss the purpose of the 'Make in India' campaign
- Discuss the key schemes to promote entrepreneurs

Resources to be Used

- Participant Handbook
- Chart papers
- Marker pens
- Pencils
- Colour pencils
- Scale
- Eraser
- Other requisite stationery material

Ask

- Do you think that entrepreneurs need support?
- What do you think is an eco-system?
- What do you think 'entrepreneurship support eco-system' means?

Say

- Let's learn what entrepreneurship support eco-system means.
- Discuss 'Entrepreneurship Support Eco-System' as given in the Participant Handbook

Ask

- Can you define entrepreneurship support eco-system?
- What are the key domains of the support eco-system?

Say 

- Let's learn more about these domains by conducting an activity.
- You have to make a poster showing the components of the six main domains of entrepreneurship support eco-system.

Team Activity 

- Making a poster showing the entrepreneurship support eco-system.

Do 

- Divide the class into groups of four or six.
- Hand out chart paper and coloured pens.
- Explain the purpose and duration of the activity.
- Go around checking the progress of each group.
- Set guidelines pertaining to discipline and expected tasks.

Activity De-brief

Ask each group to display their poster and explain the key domains of entrepreneurship support eco-system.

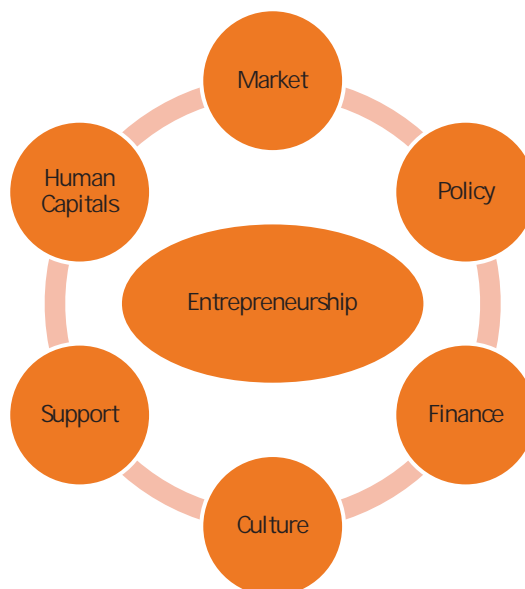


Fig 6.5.2 Key domains of entrepreneurship support eco-system

Ask 

- What kind of government support eco-system is available for entrepreneurs in India?

Say 

- Discuss 'Make in India' campaign as given in the Participant Handbook.

Team Activity

- Presentation on key schemes to promote entrepreneurs

Do

- Divide the class into pairs.
- Number each pair from 1-15.
- Assign a scheme, same as their group number, to each group.
- Ask them to read the scheme carefully and present it to the class.
- Explain the purpose and duration of the activity.
- Go around checking the progress of each group.
- Set guidelines pertaining to discipline and expected tasks.

Activity De-brief

- Ask each group to explain the scheme offered by government to promote entrepreneurs.

Summarize

- Summarize the unit by discussing the key points and answering questions the participants may have.

UNIT 6.5.7: Risk Appete & Resilience



Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the relationship between entrepreneurship and risk appete
- Discuss the relationship between entrepreneurship and resilience
- Describe the characteristics of a resilient entrepreneur

Resources to be Used

- Participant Handbook
- Chart papers
- Blank sheets of paper
- Pens
- Marker pens

Ask

- Can you define risk or explain what constitutes a risk?
- What do you people mean when they say, "This may be a risky proposition"?
- What risks are they talking about?

Example

- Let's have a look at these two examples:

Rohit and his family were travelling by car from Delhi to Nainital. It was their second trip there. Rohit was familiar with the road. His friends told him that the highway after Rampur was in a bad condition. They advised him to take a shortcut and turn left from Moradabad and take the Kaladhungi road. This road is in a better condition.

Since he was going with his family, and did not want to take the risk of getting lost, he left early. He took the Kaladhungi road and reached Nainital well in time.

Suresh and his family too were travelling by car from Delhi to Nainital. It was their second trip there. His friends too advised him to take a shortcut and turn left from Moradabad and take the Kaladhungi road as this road was in a better condition.

Suresh too decided to take the Kaladhungi road but he left Delhi in the afternoon. It was dark by the time he reached Kaladhungi, and he was sure that he was taking the correct turn. As it was late, he could not find anyone to give him directions. He ended up being in an unknown place that was scarcely inhabited.

Say

- Let's see what type of risks Rohit and Suresh took.
- Discuss 'Risk Appetite and Resilience' with the participants as given in the Participant Handbook.

Say

- Let's learn more about risk appetite and resilience with the help of an activity.

Team Activity

Risk Appetite

- This is a group activity.
- In the previous unit, you read success stories of Mr Dhirubhai Ambani and Dr Karsanbhai Patel.
 - Mr Ambani left his job and started his company Reliance with just Rs. 50,000/-.
 - Dr Patel kept his job, went door-to-door to sell Nirma, and only when the brand started gaining popularity did he start his own company.
 - What types of risk did both of them take?
 - What risk factors, do you think, did they keep in mind before launching their company?
 - Write the Risk Appetite Statement of both the companies.

Activity De-brief

- Who took a greater risk?
- What are the differences between the Risk Appetite Statement of both the companies?

Do

- Instruct the participants that this is group work.
- Divide the class into small groups of 4.
- Give each group a chart paper.
- Tell the participants that they have to evaluate the risks taken by Mr Dhirubhai Ambani and Dr Karsanbhai Patel.
- Give the participants 15 minutes to discuss and write.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Ask

- Do you think all entrepreneurial ventures are successful?
- What happens if the first venture is not successful?

- Should the entrepreneur stop when faced with challenges or face them?

Example

- Let's have a look at the following example:

Vijay Shekhar Sharma is the founder of Paytm, which is a giant Indian e-commerce. He was born in a middle-class family in Uttar Pradesh. He started his first job at an MNC. He quit after six months and built a company One97 with his friends. As One97 grew bigger, it needed more money because it was running more servers, bigger teams, and had to pay royalty. At that time, the tech bubble popped and technology companies were running in losses. Finally, money ran out. So One97 took loans and then more loans at higher rates of interest, as high as 24 per cent, and became caught in a vicious cycle.

In 2014, Paytm was launched with online wallet services after which, the company enabled online payment transactions. The company got licenses from RBI in 2016 to launch India's first ever payment bank. Moreover, the main motive of Paytm was to transform India into a cashless economy.

After demonetization came into effect, Vijay Shekhar Sharma started promoting online and digital transactions to deal with the cash crunch. In fact, the service of the company's mobile wallet is accepted across India. The logo of Paytm is now popular almost everywhere from tea stalls to major companies.

Say

- Let's see what qualities made Vijay Shekhar Sharma a resilient entrepreneur.
- Discuss Entrepreneurship and Resilience with the participants as given in the Participant Handbook.

Say

- Let's learn more about entrepreneurship and resilience with the help of an activity.

Team Activity

Entrepreneurship and Resilience

- This is a group activity.
- Think of some entrepreneurship ventures that faced challenging times, but later resulted in success stories.
 - Who is the founder of that company?
 - What challenging times did it face?
 - How did it overcome those challenges?
 - List the resilient characteristics of the entrepreneur.

Activity De-brief

- Each group to give their presentation.
- Why did you choose this company?
- What is the success story of the company?

Do 

- Instruct the participants that this is group work.
- Divide the class into small groups of 4.
- Give each group a chart paper.
- Tell the participants that they have to think of an entrepreneur who faced challenging times, but eventually succeeded.
- Give the participants 15 minutes to discuss and write.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Summarize 

- You can summarize the key points of the unit.
- Ask the participants what they learned from the activities.
- Clarify any questions or doubts they might have.

UNIT 6.5.8: Success and Failures

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss how to deal with failure

Resources to be Used

- Participant Handbook

Ask

- Have you heard the quote 'nothing is impossible'?
- What do you think it means?
- Do you think that all successful entrepreneurs became famous overnight or did they have to struggle or face failure before succeeding?

Example

- Let's have a look at this example.

Shah Rukh Khan, also known as, SRK or King Khan is a force to reckon with. Did he achieve stardom overnight?

Shah Rukh Khan, who has seen many struggles in his life – he has slept on streets, struggled to support himself and his sister at a very young age, and lost his parents very early in life, which led to his sister seeking mental health support. Amidst all the chaos and challenges, he kept pushing himself, and today he stands tall as the 'Badshah of Bollywood'. Certainly, those years were not easy for him.

When he was young, he stood at Marine Drive and said, "I will rule this city one day". Failure was not just his companion during or before his stardom, it is still a substantial part of his life. Success does not come easy. What made him a star was his acceptance of failure and the urge to improve.

Say

- How do you define success and failure?
- What is fear?
- Discuss "success and failure" with the participants as given in the Participant Handbook.

Ask

- Have you felt or experienced fear?
- What led you to feel that emotion?
- How did you handle it?

Say

- Let's learn the about success and failure with the help of an activity.

Team Activity

- Divide the class into groups of four.
- Instruct them to think of one scenario where they have to interview a successful entrepreneur.
- Explain the purpose and duration of the activity.
- Set guidelines pertaining to discipline and expected tasks.
- They have to choose one person from the group as the interviewee and one as the interviewer.
- Go around and make sure they have understood what is to be done and are discussing the roles properly.
- Check that everyone understands their role. Give clarifications if needed. Give the participants about 5 minutes to discuss and decide their roles.
- Ask the groups to stop the discussion as soon as the time is over.
- Invite each group one by one to come and present their interview as a role play.

Notes for Facilitation

Facilitating Role Plays

Preparing for the activity

1. Carefully review the details of the scenario and the character descriptions.
2. Become familiar with the key issues being addressed in the scenario.
3. Study the provided material so that you are ready to address issues related to the situations depicted in the role plays.
4. Anticipate potential questions that might be raised by the participants and be ready to address them.

Conducting the activity

1. Introduce the activity. Emphasize that role playing provides participants with an opportunity to apply their new knowledge, skills, and tools in situations that simulate actual interactions with customers.
2. Ask participants to form pairs. Direct the members of each group to choose who will play the roles. Remind the groups that each participant should be given the opportunity to play/practice the different roles.

3. Conduct a demonstration so that participants become familiar with the expectations related to the roles and support materials.
4. To maintain spontaneity of the interactions during the role play, ask the participants not to discuss the details of their roles prior to the role play.
5. Give the pairs 15-20 minutes to conduct the role play.
6. Circulate among the groups to answer any questions that may arise and provide guidance as needed.
7. After all the pairs have finished with the role play, conduct a debriefing session on each role play.
8. Ask the groups to take five minutes to talk about what happened during the role play. The groups should discuss the questions given in the debriefing for each role play. Encourage participants to provide constructive criticism during their discussions.
9. Conclude the activity by asking participants to think about whether and how they might use scripted role plays in their real life.

Summarize

- Wrap the unit up after summarizing the key points and answering questions.

UNIT 6.6: Preparing to be an Entrepreneur

Key Learning Outcomes

At the end of this unit, participants will be able to:

1. Discuss how market research is carried out
2. Describe the 4 Ps of marketing
3. Discuss the importance of idea generation
4. Recall basic business terminology
5. Discuss the need for CRM
6. Discuss the benefits of CRM
7. Discuss the need for networking
8. Discuss the benefits of networking
9. Discuss the importance of setting goals
10. Differentiate between short-term, medium-term and long-term goals
11. Discuss how to write a business plan
12. Explain the financial planning process
13. Discuss ways to manage your risk
14. Describe the procedure and formalities for applying for bank finance
15. Discuss how to manage their own enterprise
16. List the important questions that every entrepreneur should ask before starting an enterprise

UNIT 6.6.1: Market Study/ The 4Ps of Marketing/ Importance of an IDEA: Understanding Market Research

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss how market research is carried out
- Describe the 4 Ps of marketing
- Discuss the importance of idea generation

Resources to be Used

- Participant Handbook
- Chart papers
- Markers/pens
- Blank sheets of paper

Ask

- Suppose, you want to open a restaurant, what are the factors you will consider?
- How will you promote your restaurant?

Example

- Let's have a look at this example.
Arjun was an MBA working in a company. But he wanted to start a low cost budget hostel for foreign tourists coming to India. He did a lot of market research before starting the project. Based on the information he gathered, he made his business plan. His hostel is now flourishing and he is thinking of expanding to other tourist destinations.

Say

- Discuss "Market Study" with the participants. Refer to the Participant Handbook.
- Let's learn about market study and research with the help of an activity.

Team Activity

Market Study

- This is a group activity.
- You want to start your own tuition centre.
- What type of research will you do?

Activity De-brief

- Ask each group to come forward and give a brief presentation.
- Encourage other groups to be interactive and ask questions.
- What factors did you keep in mind while doing your research?
- Based on our research would you go ahead and open a tuition centre?

Do 

- Instruct the participants that this is group work.
- Divide the class into small groups of 4 or 6.
- Give each group a chart paper.
- Tell the participants that they have to start their own tuition centre.
- Give the participants 10 minutes to discuss and write the research work they need to do.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Say 

- By opening a tuition centre you are offering a service.

Ask 

- What factors will you keep in mind before opening it?

Say 

- Discuss "The 4Ps of Marketing" with the participants as given in the Participant Handbook.

Say 

- Let's learn about the 4Ps of Marketing with the help of an activity.

Team Activity 

4Ps of Marketing

- This is a group activity.
- You have to sell a pen to four different segments:
 1. Rural villagers
 2. Rural middle class
 3. Urban middle class
 4. Upper end rich people (Niche market)

Keeping the 4Ps of Marketing in mind, what marketing strategy will you design to sell the pen?

Activity De-brief

- Ask each group to present their strategy.
- Encourage other groups to be interactive and ask questions.

Do

- Instruct the participants that this is group work.
- Divide the class into four groups.
- Give each group a chart paper.
- Assign each group a target audience for selling the pens:
 1. Rural villagers
 2. Rural middle class
 3. Urban middle class
 4. Upper end rich people
- Tell the participants that they have to design a marketing strategy keeping the 4Ps of Marketing in mind.
- Give the participants 20 minutes to discuss and come up with their strategy.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Activity De-brief

- Ask each group to come forward and give a brief presentation.
- Ask each group what they kept in mind while designing their marketing strategy.
- Encourage other groups to be interactive and ask questions.

Say

- Each entrepreneur has an idea of what he wants to sell. It may be a service or a product.
- Discuss "Importance of an IDEA" as given in the Participant Handbook.

Summarize

- Summarize the key points of the unit.
- Ask the participants what they learnt from the activities.
- Encourage them to ask if they have any doubts.

UNIT 6.6.2: Business Entity Concepts

Unit Objectives

At the end of this unit, participants will be able to:

- Recall basic business terminology

Resources to be Used

- Participant Handbook

Say

- Let's recall some basic business terminology.
- Discuss the Business Entity Concepts as given in the Participant Handbook.
- Let's learn some basic business terminology by having an activity.
- We will have a quiz today.

Activity

- The activity is a quiz.

Do

- Divide the class in two groups and give a name to each group.
- Explain the rules of the quiz. For each correct answer the group gets 1 mark.
- If the group is unable to answer the question is passed to the next group.
- Explain the purpose and duration of the activity.
- Ask the questions of the quiz.
- Keep a score of the groups.
- Set guidelines pertaining to discipline and expected tasks.

Summarize

- Summarize the unit by discussing the key points.

Notes for Facilitation

QUESTIONS FOR THE QUIZ

1. What does B2B mean?

Business to business

2. What is a financial report?
A comprehensive account of a business' transactions and expenses
3. Who is a sales prospect?
A potential customer
4. How is working capital calculated?
Current assets minus current liabilities
5. What is an estimation of the overall worth of a business called?
Valuation
6. You are buying a house. What type of transaction is it?
Complex transaction
7. How will you calculate the net income?
Revenue minus expenses
8. How is Return on Investment expressed?
As percentage
9. How will you calculate the cost of goods sold?
Cost of materials minus cost of outputs
10. 10. What is revenue?
Total amount of income before expenses are subtracted.
11. What is a Break-Even Point?
This is the point at which the company will not make a profit or a loss. The total cost and total revenues are equal.
12. What is the formula used to calculate simple interest?
 *$A = P(1 + rt)$; $R = r * 100$*
13. What are the three types of business transactions?
Simple, Complex and Ongoing Transactions
14. The degrading value of an asset over time is known as
Depreciation
15. What are the two main types of capital?
Debt and Equity

UNIT 6.6.3: CRM & Networking

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the need for CRM
- Discuss the benefits of CRM
- Discuss the need for networking
- Discuss the benefits of networking

Resources to be Used

- Participant Handbook

Ask

- Can your business run without customers/buyers?
- Who is the most important entity in any business?

Say

- The key to every success business lies on understanding the customer's expectations and providing excellent customer service.
- Discuss about CRM and its benefits. Refer to the Participant Handbook.
- Providing excellent customer service entails:
 - Treating your customers with respect.
 - Be available as per their need/ schedule.
 - Handling complaints effectively.
 - Building long lasting relationships.
 - Collecting regular feedback.
- Handle customer complaints proactively. Ask "what happened", "why it happened", "how can it be avoided next time", etc.
- Collecting feedback from the customers regularly will enable you to improve your good/service.
- "Let's understand it better with the help of some case scenarios. You will be given some cases within your groups. You have to analyse the case scenario that has been given to you and then find an appropriate solution to the problem."

Do

- Divide the class into four groups of maximum six participants depending on the batch size.
- Give one case study to each group.

#

- Instruct them to read the case carefully.
- The group is expected to analyse and discuss the case amongst them and find a solution to the given problem.
- Put down the discussion points (de-brief questions) on the board. Give the class 5-10 minutes to discuss the case and note down their solutions.
- At the end of 10 minutes, the team should present their case solution to the class.

Team Activity

Case Study Analysis

Raju runs a business of wooden furniture. He has a huge list of customers on Facebook and WhatsApp who give him orders regularly. Ankita is one of his old and regular customers. She placed an order for a new chester and TV cabinet via WhatsApp and requested Raju to send them as soon as possible. When the parcel reached Ankita through courier she found that chester was broken and the TV unit was chipped from the bottom. Ankita was heartbroken. It was a complete waste of money. She sent a message to Raju on WhatsApp, expressing her anger and disappointment. Raju might lose an old customer forever if he doesn't satisfy the customer. What should Raju do to retain his customer?

Scenario 2

Rajni runs a boutique shop. She sells suits and sarees. She is one of the most successful designers in her city. Rajni swears that all the clothes in her boutique have unique designs. Smita has to attend her cousin's wedding; she goes to Rajni's boutique to buy a saree. Smita wanted a unique designer saree. Rajni customized a saree for her and sent it over the courier. When Smita had a look at the saree she realised her two friends had the same design sarees. She sent a message to Rajni on WhatsApp, expressing her anger and disappointment. Did Rajni make a false promise? Were her designs copied? What could happen to Rajni's image after this incident? What would you do if you were in Rajni's place?

Scenario 3

Shama is a beautician who offers parlour services to ladies by making home visits. Recently, Shama got her name registered on an e-commerce website. Two days earlier, she got a message from Mrs Sushma. The appointment was fixed for next day, 11:00 am and the remuneration for the services was decided beforehand. When Shama reached there at 10:50 am, Mrs Sushma was not at home. When Shama called her, she asked her to wait for a while. Mrs Sushma reached home at 11:45 am. Meanwhile, Shama had to reschedule her next appointment. After availing Shama's services, Mrs Sushma refused to pay the requisite amount and started finding faults in the services provided by her. Who was at fault in this scenario? What should you do in case the customer behaves unreasonably? What would you do if you were in Shama's place?

Scenario 4

Shailender is the manager of a car showroom. He proactively takes part in all the transactions that happen in his showroom. Vinita wants to buy a new car. She has chosen a car from Shailender's showroom. The salesperson has given her a very good discount and has also promised free service for one year. Vinita goes to the showroom and asks to complete all the formalities to purchase the car. When she sees the final bill she realizes that she has not received the promised discount neither was there any mention of the free services. She immediately demands to see the Shailender. When Shailender's head asks how much discount Vinita was promised, he realised the discount will make the sale in loss. The car showroom owner might lose a customer and deal due to false commitments made by his manager. Besides, the customer might tell this to other people, creating a bad name and image for the showroom. If you owned that showroom, how would you have convinced your customer?

Say 

- Now, let's discuss the problem and solution with the class.
- The group will first briefly describe the case to the class.
- Then discuss the issue identified and the proposed solution.
- Present the solution as a role play.
- Post presentation, the other groups may ask questions from the group that has presented.

Do 

- Congratulate each group for the presentation/role play.
- Ask the audience to applaud for them.
- Keep a check on time. Tell the group to wind up the discussion quickly if they go beyond the given time limit.

Say 

- If your customers are happy with you they will give referrals which will help to grow your business.
- One more way of growing business is 'Networking'.
- Discuss Networking and its benefits. Refer to the Participant Handbook.

Activity 

Group Discussion

- Conduct a group discussion in the class on how they can do networking for their business.

Summarize

- Ask the participants what they have learnt from this exercise/ activity.
- Ask if they have any questions related to what they have talked about so far.
- Close the discussion by summarizing the importance of CRM and Networking for entrepreneurs.
- Close the discussion by summarizing the importance of CRM and Networking for entrepreneurs.

UNIT 6.6.4: Business Plan: Why Set Goals?

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the importance of setting goals
- Differentiate between short-term, medium-term and long-term goals
- Discuss how to write a business plan
- Explain the financial planning process
- Discuss ways to manage your risk

Resources to be Used

- Participant Handbook
- Chart papers
- Blank papers
- Marker pens
- Ruler

Ask

- Remember we had written SMART Goals in a previous session? Let's try and recall why it is important to set goals?
- While framing SMART goals, we talked about 'T' in SMART, which was 'Time Bound'? What do we mean by time bound goals?
- What time limit did you set for your goal - 3 weeks, 3 years, 10 years?

Say

- Talk about short term, long term and medium-term goals, as discussed in the Participant Handbook.

Ask

- As you are planning to become an entrepreneur, you must have thought of an idea for a start-up. What is your business idea?

Do

- Ask few participants to share their business ideas.

Ask 

- Have you created a business plan for your business idea?
- Do you think it is important to have a business plan in place? Why/ why not?

Say 

- Talk about 'Why Create a Business Plan' as discussed in the Participant Handbook.
- Let's understand it better with the help of an activity.

Team Activity 

Writing a business Plan

- This is a group activity.
- Give the groups the required resources such as chart paper and markers.
- This activity is divided into two parts:
 1. Create a business idea
 2. Develop a business plan
- The group will discuss and come up with a new business idea and present their idea to the class.
- In the second part of the activity the group will develop a business plan for the business idea.
- The business plan prepared will be presented by the groups to the class.

| MY BUSINESS PLAN |
|---|
| Executive Summary: What is your Mission Statement? |
| |
| Business Description: What is the nature of your business? |
| |
| Market Analysis: What is your target market? |
| |
| Organization and Management: What is your company's organizational structure? |
| |
| Service or Product Line: What is the lifecycle of your product/ service? |
| |
| Marketing and Sales: How will you advertise and sell your products? |
| |
| Funding Request: How much fund is required and from where? |

Say

- Teams will need to brainstorm for this part of the activity.
- Use the blank papers for the second part of this activity
- Make your business plan on a chart paper based on the following parameters:
 1. Executive Summary
 2. Business Description
 3. Market Analysis
 4. Organization and Management
 5. Service or Product Line
 6. Marketing and Sales
- Explain each parameter in detail as done in the Participant Handbook.
- Discuss each parameter with the business idea examples of the groups.
- Groups will discuss and develop the business plan for their business idea.

Say

- Now, let's share our plan with the class.
- Each group will briefly describe the plan to the class.
- Post presentation, the other groups may ask questions to the group who have presented their plan.

Do

- Congratulate each group for sharing their points.
- Ask the audience to applaud for them.
- Keep a check on time. Tell group to wind up the discussion quickly if they go beyond the given time limit.

Say

- Along with a business plan, you need to create a financial plan and evaluate the risk involved with your start up.
- Discuss 'Financial Planning' and 'Risk Management' in detail as given in the Participant Handbook.

Summarize

- Ask the participants what they have learnt from this exercise/ activity.
- Ask if they have any questions related to what they have talked about so far.

Notes for Facilitator

- Keep the business plan format ready in a flipchart to display it during the activity.

UNIT 6.6.5: Procedures and Formalities for Bank Finance

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss the importance of setting goals
- Differentiate between short-term, medium-term and long-term goals
- Discuss how to write a business plan
- Explain the financial planning process
- Discuss ways to manage your risk

Resources to be Used

- Participant Handbook
- Bank loan/finance form sample

Ask

- While preparing a business plan in the last session, we discussed financial planning to arrange financial resources for your start-up. Therefore, how will you collect funds to start your business?

Say

- While most entrepreneurs think 'product' is the most difficult thing to decide for a business, start-up capital poses an even a bigger obstacle. Though there are various ways of funding the business, to convince investors to invest money is the most challenging.
- Some of the funding options available in India are:
 - Bootstrapping: Also called self-financing is the easiest way of financing
 - Crowd funding: Funds are collected by consumers pre-ordering or donating for starting the business.
 - Angel investors: Individual or group of investors investing in the company
 - Venture capitalists: Venture capitals are professionally managed funds who invest in companies that have huge potential. They usually invest in a business against equity.
 - Bank loans: The most popular method in India.
 - Microfinance Providers or NBFCs
 - Government programmes
- Let us know discuss the most popular method i.e. bank finance in detail here.

Do 

- Discuss the list of documents that are required to apply for a loan like letter of introduction, business brochure, references of other banks, and financial statements.
- Explain the details to be filled in a loan application form.
- Divide the class into groups. Give each group a loan application form.
- Ask the groups to discuss and fill the form.

Summarize 

- Close the discussion by summarizing the important documents needed for bank loan.
- Ask the participants if they have any questions related to what they have talked about so far.

Notes for Facilitation 

- Checklist of documents is provided as resources for the session.
- You can make some copies and distribute it during the group activity.
- Download sample loan application forms from any nationalised bank's website. Print sufficient copies to circulate it amongst the groups.

CHECKLIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH LOAN APPLICATION
(Common for all banks)

| |
|---|
| 1. Audited financial statements of the business concern for the last three years |
| 2. Provisional financial statements for the half - year ended on _____ |
| 3. Audited financial statements of associate concern/s for the last three years |
| 4. Copy of QIS II for the previous quarter ended on _____ |
| 5. Operational details in Annexure I |
| 6. CMA data for the last three years, estimates for current year and projection for the next |
| 7. Term loan/DPG requirements in Annexure II |
| 8. List of machinery in respect of machinery offered as security in Annexure III |
| 9. Additional details for export advances furnished in Annexure IV |
| 10. Property statements of all directors/partners/proprietor/guarantors |
| 11. Copies of ITAO of the company for the last three years |
| 12. Copies of ITAOs/WTAOs of the directors/partners/proprietor and guarantors |
| 13. Copies of certificate from banks and financial institutions certifying the latest liability with |
| 14. Copy of board resolution authorizing the company to apply to your bank for the credit facilities mentioned in application |

15. Copy of memorandum and article of association (in case of limited company)/partnership deed (in case of partnership firm)

16. Cash budget for the current year and next year in case of contractors and seasonal industries.

UNIT 6.6.6: Enterprise Management – An Overview: How to Manage Your Enterprise?

Unit Objectives

At the end of this unit, participants will be able to:

- Discuss how to manage their own enterprise

Resources to be Used

- Participant Handbook

Ask

- Having set up a business, do you think it is possible to do everything on your own?
- Does one require trained persons for help?
- What does management mean?

Say

- Let's have a look at this example:
Kapil had a small business that was beginning to pick up pace. He wanted to expand his business, and therefore employed few more people. One day, as he was walking past Ramesh, one of his new employees, he overheard Ramesh talking rudely to a customer on the phone. This set him thinking. Kapil realised that he should have regular team meetings to motivate his employees and speak with them about any problems they might be facing during work. He should also conduct training sessions on new practices, soft skills, and technology, and develop work ethics manual for managing his enterprise.

Say

- Was Kapil correct in his approach or he should have scolded Ramesh instantly in front of his other employees?
- Discuss "Enterprise Management – An Overview" with the participants as given in the Participant Handbook.

Say

- Let's learn how to effectively manage an enterprise or business through an activity.

Team Activity

Enterprise Management

- This is a group activity.
- Design a matrix listing the topics and key words that are needed to run an enterprise effectively and smoothly.

Activity De-brief

- Have each group present their matrix.
- Encourage participants of the other groups to ask questions about each other's presentation.

Do

- Instruct the participants that this is group work.
- Divide the class into small groups of 4.
- Give each group a chart paper and coloured pen.
- Tell the participants that they have to make a matrix they need to fill.
- They have to write the main topics and key words that will help them effectively manage their enterprise.
- Give the participants 15 minutes to discuss and write.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Summarize

- Ask the participants what they have learned from this exercise/activity.
- Ask if they have any questions related to what they have talked about so far.
- Close the discussion by summarizing the importance of effective management to run an enterprise as given in the Participant Handbook.

UNIT 6.6.7: 20 Questions to Ask Yourself before Considering Entrepreneurship

Unit Objectives

At the end of this unit, participants will be able to:

- List the important questions that every entrepreneur should ask before starting an enterprise

Resources to be Used

- Participant Handbook
- Blank sheets of paper
- Pens

Ask

- Why do you want to become an entrepreneur?

Say

- It is very important to know why you want to become an entrepreneur. Your personal goals for becoming an entrepreneur play a key role in the success of your business. Your goals should be clear well before you start your business.
- Apart from the goals, the other aspects of business that you need to bear in mind are the potential problems that you may face to set-up, your areas of interest, and all the other dimensions of the business.
- Let's understand it better with the help of some questions that every entrepreneur should ask before starting their own business.
- Open the Participant Handbook section named '20 Questions to Ask Yourself Before Considering Entrepreneurship'. You have to answer the questions individually.
- Then, we will have a class discussion on all the questions.

Do

- Read out the questions one by one in front of all the participants.
- Participants have to answer all the one by one questions.
- Give the class 10-15 minutes to note down their answers.
- At the end of 15 minutes, open the discussion for all the questions.
- Moderate the discussion by focusing on the relevant points.

- Keep a check on time and don't let the discussion get sabotaged or lose track of time. Ensure all the questions are covered and discussed.
- Give the participants 15 minutes to discuss and write.
- Keep a check on time. Tell the group to wind up quickly if they go beyond the given time limit.

Summarize

- Ask the participants what they have learned from this exercise/activity.
- Ask if they have any questions related to what they have talked about so far.





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7. Annexures

Annexure 1 – Training Delivery Plan

Annexure 2 – Assessment Criteria



Annexure 1

Training Delivery Plan

| Training Delivery Plan | | | |
|-----------------------------------|---|---------------------|------------|
| Program Name: | Service Engineer | | |
| Qualification Pack Name & Ref. ID | Service Engineer, ELE/Q4607 | | |
| Version No. | V1.0 | Version Update Date | 04-03-2015 |
| Pre-requisites to Training | Diploma with 1-year Field Technician experience Engineering Graduate | | |
| Training Outcomes | <p>By the end of this program, the participants will be able to:</p> <ul style="list-style-type: none"> • Ability to build interpersonal relationships, and have a customer centric approach • Ability to work on Multiple IT Products • Solve the IT related problems including Software problems • Facility management at Customer premises • Manage Service requirement of Customer • Knowing the importance of SLAs and Company Processes | | |

| Sl. No | Module Name | Session Name | Session Objectives | NOS Reference | Methodology | Training Tools/Ads | Duration HH:MM |
|--------|----------------------------|------------------------------------|---|---------------|--|---|---|
| 1 | Maintaining IT hardware | Introduction to hardware component | <ul style="list-style-type: none"> Basics of Computer, different types of IT products, Servers, Software, etc. Basics of Components, Modules and functions Understand the work processes at customer's facility and the IT hardware in use Assess the critical work processes undertaken at the facility. Assess the critical equipment and IT hardware in use Troubleshoot software related problems and install standard and prescribed software on the system Identify and replace faulty module Escalate problems requiring external support to vendor or superior Understand the company policy on Customer care, Annual Maintenance and warranty | ELE/N4614 | Facilitator-led – Discussion Demonstration Power-point presentation Audio-visuals-Images | Computers Laptops Laser Printers Ink Jet Printers Dot Matrix Printers | Theory: 05:00 Practical: 15:00 |
| 2 | Managing Assets & Warranty | Recording and delivery standards | <ul style="list-style-type: none"> Material management including Stock maintenance Records on Warranty and AMC schedules Assess the age and Condition of the assets | ELE/N4614 | Facilitator-led – Discussion Demonstration Power-point presentation | MIS tools | Theory: 05:00 Practical: 15:00 |

| | | | | | | | |
|---|--|-------------------------------------|--|-----------|--|--|-----------------------------------|
| | | | <ul style="list-style-type: none"> • Maintain records of Assets • Maintain data base and related administration • Back-up schedule and follow-up • Understand the company code of conduct and delivery standards | | | | |
| 3 | Monitoring System | Monitoring Tools | <ul style="list-style-type: none"> • Monitor the IT Hardware using Tools with latest update. • Manage Security and Access on Customer equipment • Monitor Server, Storage device and Networks • Maintain and Monitor environmental requirements • Organization Culture and typical Customer profile | ELE/N4614 | Facilitator-led - Discussion | Videos, PPT's, Laptop, Projector, Projector Screen, White Board, | Theory: 05:00 Practical: 15:00 |
| 4 | Maintaining Schedule records | Recording of assets | <ul style="list-style-type: none"> • Update the records on regular intervals • Maintain records of warranty activities • Maintain records of Software updates & Expiry • Maintain SLA • Keep record of Passwords and Security keys. | ELE/N4614 | Facilitator-led - Discussion Demonstration Power-point presentation Audio-Visuals-Images | Videos, PPT's, Laptop, Projector, Projector Screen, White Board | Theory: 05:00 Practical: 15:00 |
| 5 | Interacting with Customer and Supervisor | Understanding customer requirements | <ul style="list-style-type: none"> • Follow Customer targets and work process • Understand service level contract • Communicate with Supervisor on non-regular | ELE/N4614 | Facilitator-led - Discussion Demonstration | Videos, PPT's, Laptop, Projector, Projector Screen, White Board | Theory: 05:00 Practical: 15:00 |

| | | | | | | | |
|---|--------------------------------|----------------------------|--|-----------|---------------------------------|---|-----------------------------------|
| | | | <p>and difficult problems along with status update</p> <ul style="list-style-type: none"> • Communicate with Supervisor if Customer is unhappy • Understand company's reporting structure | | | | |
| 6 | Achieving Productivity targets | Documentation policy | <ul style="list-style-type: none"> • Adhere fully with work standards • Achieve downtime as per the contract • Escalate problems in time • Maintain complete records of activity and Assets • Understand company's documentation policy | ELE/N4602 | Facilitator-led - Discussion | Videos, PPT's, Laptop, Projector, Projector Screen, White Board | Theory: 05:00 Practical: 15:00 |
| 7 | Monitoring system remotely | Problem management process | <ul style="list-style-type: none"> • Use critical tools to monitor as per Customer requirement • Monitor EUC, Servers, Storage and network online • Configure system manually or automatically • Identify problem areas real time and rectify | ELE/N4615 | Facilitator-led - Discussion | Videos, PPT's, Laptop, Projector, Projector Screen, White Board | Theory: 05:00 Practical: 10:00 |
| 8 | Reporting Performance | Statistical tools | <ul style="list-style-type: none"> • Follow process to report performance - Problem incidence, response time, escalation time • Use statistical tools • Record the performance | ELE/N4615 | Facilitator-led - Discussion | | Theory: 05:00 Practical: 10:00 |
| 9 | Interacting with customer, | Escalation process | <ul style="list-style-type: none"> • Prepare action plan and share with customer and/or vendor | ELE/N4615 | Facilitator-led - Discussion | | Theory: 05:00 |

| | | | | | | | |
|----|------------------------------|---------------------------------|---|-----------|------------------------------|--|----------------------------------|
| | vendor and superior | | <ul style="list-style-type: none"> Interact with senior management of customer Recommend new solutions to customer Attend customer's IT meetings Escalate unresolved issues to superior | | | | Prac cal: 10:00 |
| 10 | Interacting with supervisor | Understanding work requirements | <ul style="list-style-type: none"> Understand and assess work requirements Understand the targets and incentives Understand new operating procedures and constraints Report problems in the field Resolve personnel issues Receive feedback on work standards and customer satisfaction Communicate any potential hazards at a particular location Meet given targets Deliver work of expected quality despite constraints Receive positive feedback on behaviour and attitude shown during interaction | ELE/N9909 | Facilitator-led - Discussion | | Theory: 05:00 Prac cal: 08:00 |
| 11 | Coordinating with colleagues | Interacting with colleagues | <ul style="list-style-type: none"> Interact with colleagues from different functions and understand the nature of their work Receive spares from tool room or stores; deposit faulty | ELE/N9909 | Facilitator-led - Discussion | | Theory: 03:00 Prac cal: 08:00 |

| | | | | | | | |
|----|------------------|--|---|-------------------------------------|--|---|---|
| | | | <p>modules and tools to stores</p> <ul style="list-style-type: none"> • Pass on customer complaints to colleagues in a respective geographical area • Assist colleagues with resolving field problems, conflicts and achieve smooth workflow • Follow the company policy during cross functional interaction | | | | |
| 12 | Final Assessment | | <ul style="list-style-type: none"> • This will be Multiple question type • Scenario based | ELE/N4614 ELE/N4615 ELE/N9909 | | | <p>Theory: 02:00</p> <p>Practical: 04:00</p> |
| | | | | | | <p>Unique Equipment Required:</p> <ol style="list-style-type: none"> 1. Computer 2. Laptops 3. Laser Printers 4. Ink Jet Printers 5. Dot Matrix Printers 6. Scanners 7. Soldering irons 8. Multimeters 9. Post cards 10. Screw Driver 11. Cables 12. Network switch | <p>Total duration:</p> <p>Theory- 60:00</p> <p>Practical - 140:00</p> |

Annexure II

Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

| Assessment Criteria for "Service Engineer" | |
|--|---|
| Job Role | Service Engineer |
| Qualification Pack | ELE/Q 4607 |
| Sector Skill Council | Electronics Sector Skills Council of India |
| Sr. No. | Guidelines for Assessment |
| 1 | Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC. |
| 2 | Each NOS will have assessed both for theoretical knowledge and practical |
| 3 | The assessment will be based on knowledge bank of questions created by the SSC. |
| 4 | Individual assessment agencies will create unique questions papers for theory and skill practical part for each candidate at each examination/training centre |
| 5 | To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS |
| 6 | In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack. |

| | | | | | Marks Allocation |
|---|--|--------------------------|--------|--------|------------------|
| Element | Performance Criteria | Total marks (out of 100) | Out of | Theory | Skills Practical |
| ELE/N4614 Manage Customer's IT Hardware at Facility | | | | | |
| | PC1. understand the work processes at customer's facility and the IT hardware in use such as desktop and laptop computers (EUC), server, storage, networking | | 2 | 1 | 1 |

| | | | | | |
|------------------------------|---|-----|---|---|---|
| Maintaining IT hardware | PC2. assess the critical work processes undertaken at the facility | 100 | 2 | 1 | 1 |
| | PC3. assess the critical equipment and IT hardware in use | | 2 | 1 | 1 |
| | PC4. troubleshoot software related problems and install standard and prescribed software on the system | | 2 | 1 | 1 |
| | PC5. identify and replace faulty module in the IT Hardware system | | 2 | 1 | 1 |
| | PC6. stock recommended level spares for regularly occurring problems | | 2 | 1 | 1 |
| | PC7. escalate problems requiring external support to vendor or superior | | 3 | 1 | 2 |
| Managing assets and warranty | PC8. take stock of each IT hardware in use, their serial no., make details | | 2 | 2 | 1 |
| | PC9. keep records or date of purchase and warranty as well as any annual maintenance schedule | | 3 | 2 | 1 |
| | PC10. assess the age or condition of assets and their maintenance schedule based on criticality or redundancy | | 3 | 1 | 1 |
| | PC11. update records of assets not in use or issued to customer's employees or returned | | 2 | 1 | 1 |
| | PC12. maintain databases and related administration | | 2 | 1 | 1 |
| | PC13. complete back-up activity every day | | 2 | 1 | 1 |
| Monitoring system | PC14. use recommended tools to monitor the IT hardware systems in use | | 3 | 1 | 2 |
| | PC15. identify and download software and tools for monitoring specific systems | 3 | 2 | 1 | |
| | PC16. identify new versions of applications in use and update as per customer's policy | 3 | 2 | 1 | |
| | PC17. manage security and access controls on end-user computing equipment | 4 | 2 | 2 | |

| | | | | | |
|---|---|-------|-----|----|----|
| | PC18. monitor servers, storage and networks for smooth work flow | | 4 | 2 | 2 |
| | PC19. keep track of the appropriate temperature and dust environment required for managing assets | | 4 | 2 | 2 |
| Maintaining schedule records | PC20. update records of daily activity including scheduled and unscheduled maintenance | | 3 | 2 | 1 |
| | PC21. maintain records of activities undertaken with respect to warranty | | 3 | 1 | 2 |
| | PC22. software updates and expiry dates | | 4 | 2 | 2 |
| | PC23. problem incidence, criticality, response time and downtime | | 4 | 2 | 2 |
| | PC24. problem escalation details, if required | | 3 | 1 | 2 |
| | PC25. keep track of passwords and other security keys or changes there-in | | 3 | 2 | 1 |
| Interacting with customer and superior | PC26. work with customer as per their targets and work process | | 5 | 2 | 3 |
| | PC27. understand the service level contract | | 5 | 3 | 2 |
| | PC28. communicate with superior about non-routine or difficult problems, work completions and contractual matters | | 5 | 2 | 3 |
| | PC29. communicate with superior when customer is unhappy with work standards | | 5 | 2 | 3 |
| Achieving productivity target | PC30. adhere 100% to contracted standards of work | | 3 | 2 | 1 |
| | PC31. achieve downtime of less than 1% or as contracted | | 2 | 1 | 1 |
| | PC32. escalate problems in time and as per criticality of work process | | 3 | 1 | 2 |
| | PC33. maintain 100% records of activity or assets | | 2 | 1 | 1 |
| | | Total | 100 | 50 | 50 |
| ELE/N4615 Manage customer's system remotely | | | | | |

| | | | | | |
|---|--|-----|----|----|---|
| Monitoring systems | PC1. use monitoring tools to keep watch on critical hardware, 24x7 days or as contracted | 100 | 5 | 2 | 3 |
| | PC2. monitor EUC, server and storage administration, network operations and online systems | | 5 | 2 | 3 |
| | PC3. link the monitoring system to regional hub | | 5 | 2 | 3 |
| | PC4. develop or refine monitoring tools | | 5 | 3 | 2 |
| | PC5. configure systems manually or automatically | | 5 | 3 | 2 |
| | PC6. identify problem areas in real time and troubleshoot | | 5 | 3 | 2 |
| Reporting performance | PC7. follow process for: problem incidence, response time, escalation time | | 7 | 4 | 3 |
| | PC8. use statistical tools to develop intelligence and spot potential areas of disruptions | | 7 | 3 | 4 |
| | PC9. record downtime details | | 6 | 3 | 3 |
| Interacting with customer, vendor and superior | PC10. prepare action plan and share with customer and/or vendor | | 6 | 3 | 3 |
| | PC11. interact with senior management of customer | | 6 | 3 | 3 |
| | PC12. recommend new solutions to customer | | 6 | 3 | 3 |
| | PC13. attend customer's IT meetings | | 6 | 3 | 3 |
| | PC14. escalate unresolved issues to superior | | 6 | 3 | 3 |
| Achieving delivery standards | PC15. adhere 100% to contracted standards of work | | 5 | 2 | 3 |
| | PC16. achieve downtime of less than 1% or as contracted | | 5 | 3 | 2 |
| | PC17. escalate problems in time and as per criticality of work process | | 5 | 2 | 3 |
| | PC18. maintain 100% records of activity | | 5 | 3 | 2 |
| Total | | 100 | 50 | 50 | |
| ELE/N9909 Coordinate with colleagues and co-workers | | | | | |

| | | | | | |
|------------------------------|---|-----|-----|----|----|
| Interacting with supervisor | PC1. understand and assess work requirements | 100 | 5 | 3 | 2 |
| | PC2. understand the targets and incentives | | 5 | 2 | 3 |
| | PC3. understand new operating procedures and constraints | | 5 | 2 | 3 |
| | PC4. report problems in the field | | 5 | 2 | 3 |
| | PC5. resolve personnel issues | | 5 | 2 | 3 |
| | PC6. receive feedback on work standards and customer satisfaction | | 5 | 2 | 3 |
| | PC7. communicate any potential hazards at a particular location | | 5 | 3 | 2 |
| | PC8. meet given targets | | 5 | 3 | 2 |
| | PC9. deliver work of expected quality despite constraints | | 5 | 3 | 2 |
| | PC10. receive positive feedback on behaviour and attitude shown during interaction | | 5 | 3 | 2 |
| Coordinating with colleagues | PC11. interact with colleagues from different functions and understand the nature of their work | 100 | 10 | 5 | 5 |
| | PC12. receive spares from tool room or stores; deposit faulty modules and tools to stores | | 10 | 5 | 5 |
| | PC13. pass on customer complaints to colleagues in a respective geographical area | | 10 | 5 | 5 |
| | PC14. assist colleagues with resolving field problems, conflicts and achieve smooth workflow | | 10 | 5 | 5 |
| | PC15. follow the company policy during cross functional interaction | | 10 | 5 | 5 |
| Total | | | 100 | 50 | 50 |

Do 

- Explain each Guideline for Assessment in detail
- Explain the score that each trainee needs to obtain
- Recapitulate each NOS one-by-one and take participants through the allocation of marks for Theory and Skills Practical.
- Explain the Allocation of Marks. Explain that they will be assessed on Theory and Skills Practical.

Notes 



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