



PARTICIPANT HANDBOOK



Electronics

Language:
English

Field Technician

FIELD TECHNICIAN

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Module 1

Field Technician - Computing & Peripherals

CHAPTER 1 IT HARDWARE INDUSTRY

LEARNING OUTCOMES:









- Acquiring knowledge on current industry
- Acquiring knowledge on the openings in IT Hardware industry
- Understanding the roles and responsibilities within an organization

PRE-SESSION ACTIVITY:

The Trainer will conduct a general discussion on the concept of a Computer.

The expanding field of information technology (IT) is comprised of various aspects, including network administration, design, telecommunications, computer support, computer science, software programming and system analyses. Generally, anything having to do with computer hardware, software, or networks used to store, create, secure, exchange, or access digital data is known as information technology. The term IT involves all the aspects of processing and managing of information.

	HARDWARE: computers, servers, storage, mobile devices, printers, network equipment etc.
	SOFTWARE: applications for productivity, business, networks, systems, security; mobile apps
	SERVICES: deployment, integration, custom development, break/fix, managed services
	INFRASTRUCTURE: Internet backbone, telecommunications networks, cloud data centers
	INFORMATION: data, documents, voice, video, images, social streams
	DIGITAL BUSINESS: commerce, communication, collaboration, automation, governance

1.1 Acquiring knowledge on the current industry:

IT has entered the era of specialization. The needs of one customer segment are mostly quite different from those of the other. This is because the vendors cannot be experts in every sector and solution providers need to meet the customer's needs.

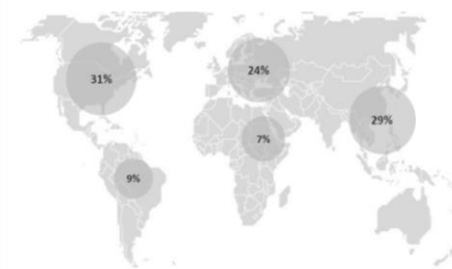
1.2 Acquiring knowledge on the openings in IT Hardware Industry:

Within a short span of time, the Hardware Industry has made giant strides in the global market as Hardware components have become essential to businesses.

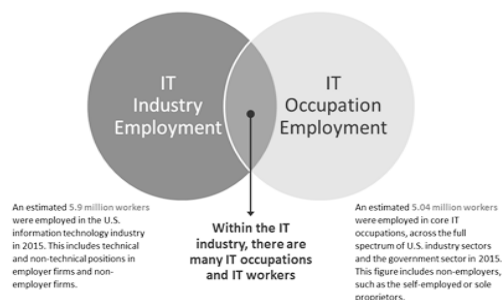
1.3 Understanding the roles and responsibilities within an organisation:

1.3.1 IT Employment: The industry employed an estimated 5.04 million workers before the end of 2015. This translates to job growth of 3.1%, or nearly 152,000 additional IT jobs. IT occupation and employment is spread across various verticals in every industry.

The Global Information Technology Industry: \$3.8 Trillion
Estimated 2015 revenue at constant currency | Encompasses hardware, software, services and telecommunications



The Intersection of the IT Industry and the IT Workforce



1.3.2 IT Security- Securing against data breach and mishandling of information is a major responsibility of the IT industry. The Hardware for cyber security is mostly applied in Data centers. CISCO and the IBM rank as the two major players in the cyber security market.

1.3.3 The role of ITIL- ITIL, formerly phrased as Information Technology Infrastructure Library, is a set of practices for IT service management (ITSM) that mainly deals with aligning IT services with the needs of business. In its present form (also known as ITIL 2011 edition), ITIL is published as a series of five core volumes, each of which covers a different ITSM lifecycle stage. Although ITIL justifies ISO/ IEC 20000 (previously BS 15000), with respect to the International Service Management Standard for IT service management, there are some differences between the ISO 20000 standard and the ITIL framework.

SUMMARY

- IT has entered the era of specialization.
- Employment in the Information Technology Hardware sector is expected to see significant rise in the upcoming years, as more and more companies focus on digitization.
- Technical occupations, such as Software developers, Network Engineers, Computer support specialists, etc. are some of the occupations that are housed by the IT Hardware industry.
- Roles and responsibilities of IT Hardware industry include providing employment, cyber security and procedures, tasks & checklists defined by the ITIL for aligning IT services with business needs.



Test Yourself:

1. Choose the right option:

Amount of people that have been employed in the IT industry in the year 2015 is:

- a) 2.3%,
- b) 3.1%
- c) 4.3 %

2. Full form of I _____ T _____ I _____ L _____

3. The roles of ITIL are the following:

- a) Processes T/F
- b) Procedures T/F
- c) Ensuring security T/F
- d) Tasks T/F
- e) Placement T/F

4. Name some of the big companies of IT cyber security.

- ✓ _____
- ✓ _____
- ✓ _____
- ✓ _____

POST SESSION ACTIVITY

Trainer will conduct a general discussion on how important it is to have a thorough understanding about the IT industry.

CHAPTER 2

KNOWLEDGE ON IT SKILLS

LEARNING OUTCOMES: 

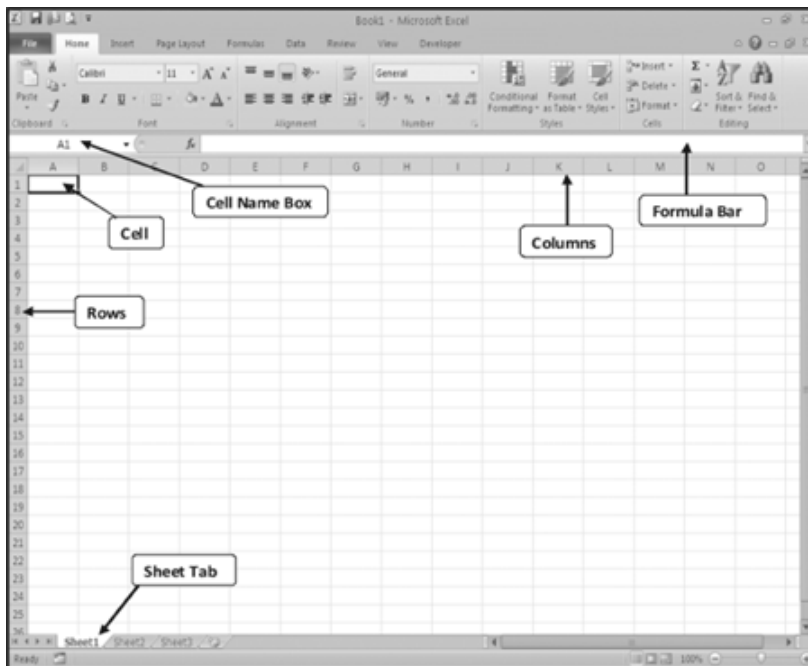
- Acquiring knowledge on MS - Word, Excel, Power point
- Acquiring knowledge on Internet, downloading, uploading, emailing and net researching
- Understanding the concepts of input, output devices
- Understanding the uses of Outlook

PRE-SESSION ACTIVITY:

Trainer will conduct a recapitulation of the previous Chapter-IT Hardware Industry.

2.1. Acquiring knowledge on MS- Word, Excel, PowerPoint

MS OFFICE: It is an Application Software which is used for day to day official tasks like letter writing, salary calculation, creating reports, projects etc.



Application	Purpose
MS Word 2010	Used for Textual Purpose
MS Excel 2010	Applied for Calculation
MS PowerPoint 2010	For presentation
MS Outlook 2010	E-Mailing facility

2.1.1 MS - Word:

Microsoft Word is an Application of MS Office. Below are some of its uses:

- It is used for a wide range of text-based work.
- It is an efficient word processor with a wide variety of features that provides all the tools needed to produce a range of document types.

In order to open MS-Word, any of the following methods can be used:

1. Start>All Programs>Microsoft Office>Microsoft Office Word 2007/2010

OR

2. Start>All Programs>Microsoft Office Word 2007/2010

OR

3. Start>Microsoft Office Word 2007/2010

OR

4. Start>Run>Type "WINWORD"

2.1.2 MS-Excel:

Microsoft Excel is an Application of MS Office. It is used for numeric calculation. It is one of the most popular database applications among various fields within the modern IT world. Microsoft Excel is very popular for its unique features in the following fields:

- Educational Institutes
- Research Institutes
- Financial Institutes
- Business Houses
- Data processing units
- Corporate Houses

Features of MS-Excel

- A. Entering and formatting text and numbers
- B. Data representation by chart
- C. Use of formulas and functions for data manipulation
- D. Database management
- E. Data analysing and report
- F. Importing and exporting of data
- G. A group of proofing tools
- H. Validating data entry in Excel and Access tables

In order to open Excel, the following methods can be used:

1. Start>All Programs>Microsoft Office>Microsoft Office Excel 2007/2010
OR
2. Start>All Programs>Microsoft Office Excel 2007/2010
OR
3. Start>Microsoft Office Excel 2007/2010
OR
4. Start>Run>Type "EXCEL"

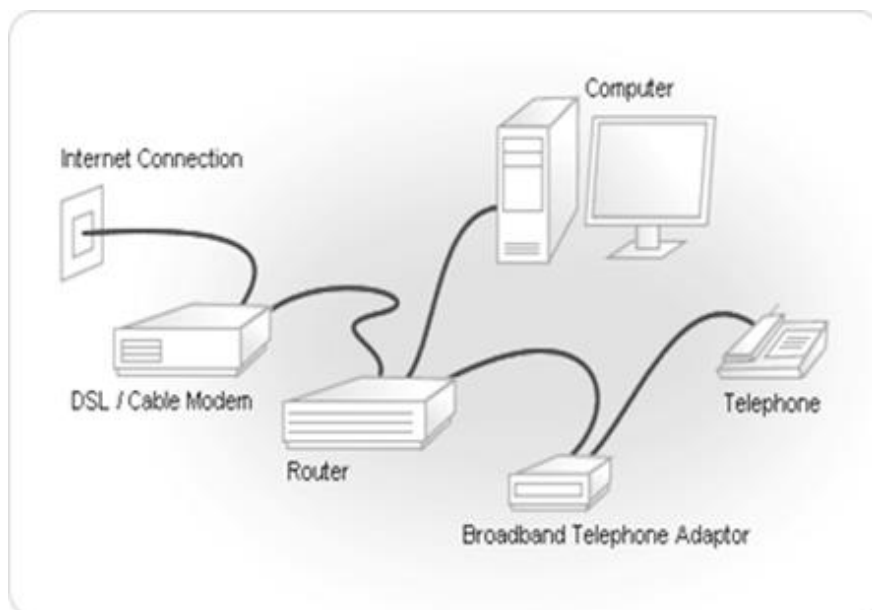
2.1.3 Power point:

Microsoft PowerPoint is an Application of MS Office. It is currently one of the most commonly used slide-based presentation programs available.

- It is used to create powerful and attractive presentations.
- It consists of a number of individual pages or "slides".
- Slides may contain text, graphics, sound, movies, and other objects, which may be arranged freely.

In order to open MS- Power Point, the following methods can be used:

1. Start>All Programs>Microsoft Office>Microsoft Office PowerPoint 2007/2010
OR
2. Start>All Programs>Microsoft Office PowerPoint 2007/2010
OR
3. Start>Microsoft Office PowerPoint 2007/2010
OR
4. Start>Run>Type "POWERPNT"



Internet- Common terminology used

i) Bounce:An E-mail is said to 'bounce' when it has not been delivered to the recipient, it is returned to the sender, with a brief detail about the reason for the same.

ii) Browser: A browser is an application program that provides a gateway to explore and interact with all the information on the World Wide Web. The term "browser" originated prior to the Web as a generic term for user interfaces that let you browse (navigate through and read) text files online.

iii) Browsing: If you are searching for a specific site, you have to provide the address of the site on the Address bar of the Browser and press the Enter key. The Browsing process sends your request to the corresponding Web Server through different types of Internet protocols.

iv) Chat: This is the process through which a user can have an online Internet communication, transmitting a real-time text message to another online recipient or through a voice mail system. This type of interaction is very effective and you can also add various symbols to communicate emotions.

v) E-mail: First, you will have to know the usage and importance of an e-mail account. All the advantages and disadvantages of the ordinary postal mail system are known to us.

vi) E-mail Address: Every E-Mail account has a unique ID known as E-Mail Address.

Example: raj@rediffmail.com, info@orionedutech.com

vii) File Transfer: One of the most important functions of e-mail is the ability to transfer or send files called attachments along with the messages. An attachment is any data file, in any format, which the program will send along with the e-mail message.

viii) HTML: It is the coding language namely Hyper Text Mark-up Language, used to create webpages.

ix) ISDN: It allows a very large bandwidth for transmission of data. The full form is Integrated Service Digital Network.

x) Modem: It is a device that connects a Computer to a data transmission line. It is also known as a modulator and demodulator device. Transferring the digital signals to analogue format is one of the main features of the modem.

2.3 Understanding the concepts of Input and Output Device:

2.3.1 Input Device:

While working on a computer, you enter your data and instructions through various devices (hardware equipment) which are called input devices.



a) Keyboard



Standard Keyboard



Multimedia Keyboard

Sl. No	Keys	Description
1	Typing Keys	Keys to type the letters (A-Z) and digit keys (0-9) generally have the same layout as that of a Typewriter
2	Numeric Keypad	Contains the numeric keys arranged usually at the right side of the Keyboard and comes with various other commands like Home, End, Page Up, Page Down etc.
3	Function Keys	The twelve function keys are provided at the top of the keyboard. Each function key has unique meaning and is used for some specific purpose. Example: F1 is used for opening the Help page, F2 for renaming a file etc.
4	Control keys	Control keys are for cursor and screen control. It includes four directional arrow keys. Control keys include Home, End, Insert, Delete, Page Up, Page Down, Control(Ctrl), Alternate(Alt), Escape(Esc).
5	Special Purpose Keys	Special purpose keys are provided for their frequent necessities like Enter, Shift, Caps Lock, Num Lock, Space bar, Tab, and Print Screen.

b) Mouse

c) Scanner



The common scanner devices are:

1. Magnetic Ink Character Recognition (MICR) Reader
2. Optical Mark Reader (OMR) scanner
3. Optical Character Recognition (OCR) scanner
4. Barcode Reader

- i) Magnetic Ink Character Recognition (MICR) reader
- ii) Optical Mark Reader (OMR) scanner:
- iii) Optical Character Recognition (OCR) scanner:
- iv) Barcode Reader:
- d) Joystick
- e) Light Pen
- f) Track Ball
- g) Digitizer
- h) Microphone
- i) Digital Camera

2.3.2 Output devices:

Some of the commonly used output devices are:



a) Printers

- i) Impact Printers
- ii) Non-Impact Printers

b) Speakers



c) VDU/Monitors

There are two kinds of viewing screen used for monitors:

1. Cathode-Ray Tube (CRT)
2. Flat- Panel Display

2.4 Understanding the uses of Outlook

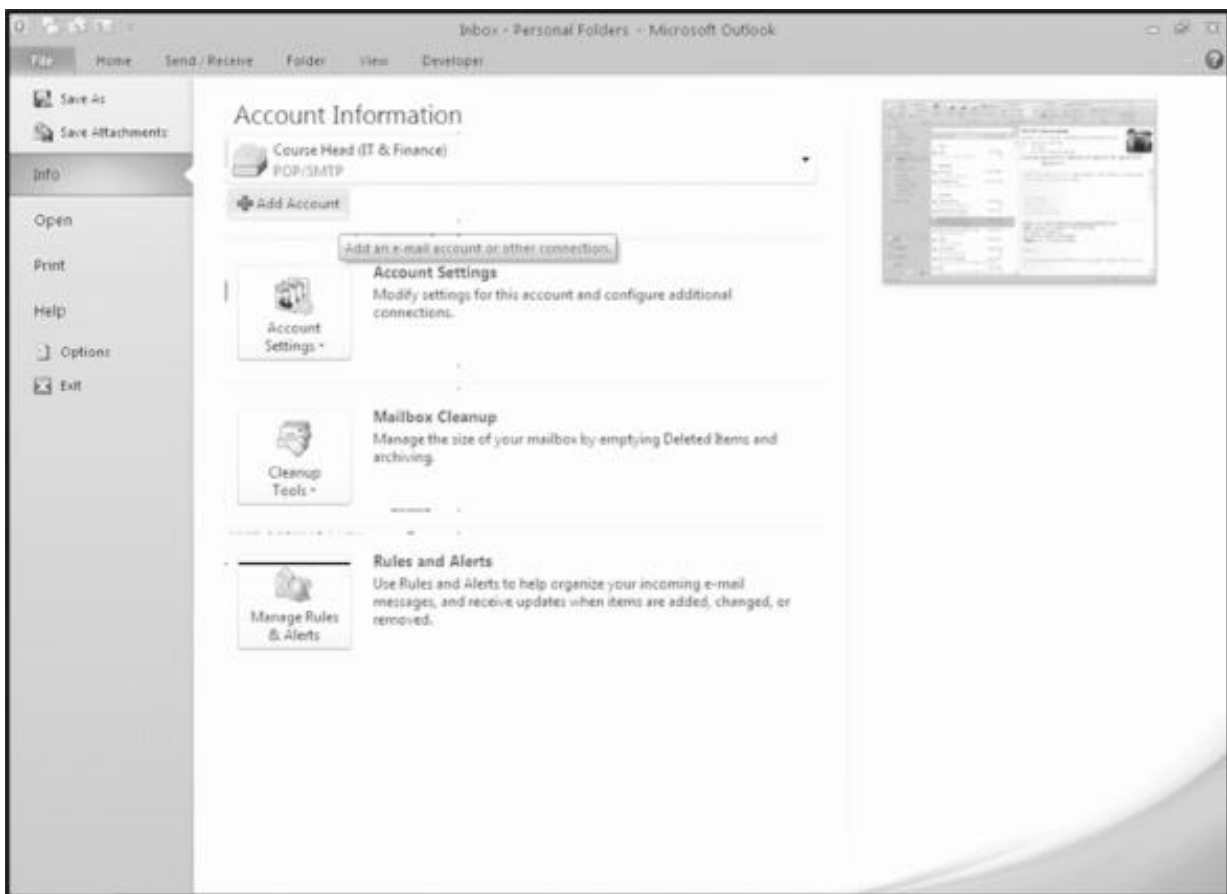
Microsoft Outlook is also known as personal information manager. It is available as a part of Microsoft Office suite.



2.5 Configuration of Outlook

Microsoft Outlook is the email client included with the Microsoft Office suite. It is designed to operate as an independent personal information manager, as an Internet mail client, or in conjunction with the Microsoft Exchange Server for group scheduling, email, and task management. It manages email, calendars, contacts, tasks, to-do lists, and documents or files on the hard drive. Outlook helps you communicate through email, phone support, and group scheduling capabilities. Outlook also helps you share information by means of public folders, forms, and Internet connectivity.

2.5.1 Steps involved in configuration of MS Outlook 2010



a) Choose **Manually configure server settings** or **additional server types**:

Add New Account

Auto Account Setup
Click Next to connect to the mail server and automatically configure your account settings.

E-mail Account

Your Name:
Example: Ellen Adams

E-mail Address:
Example: ellen@contoso.com

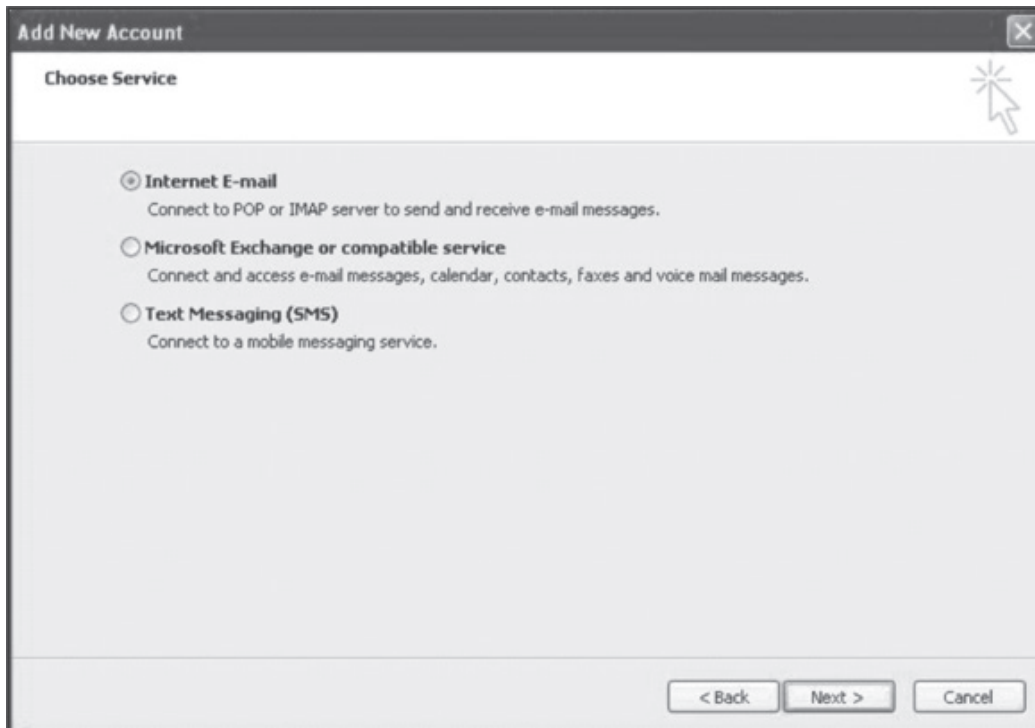
Password:
Retype Password:
Type the password your Internet service provider has given you.

Text Messaging (SMS)

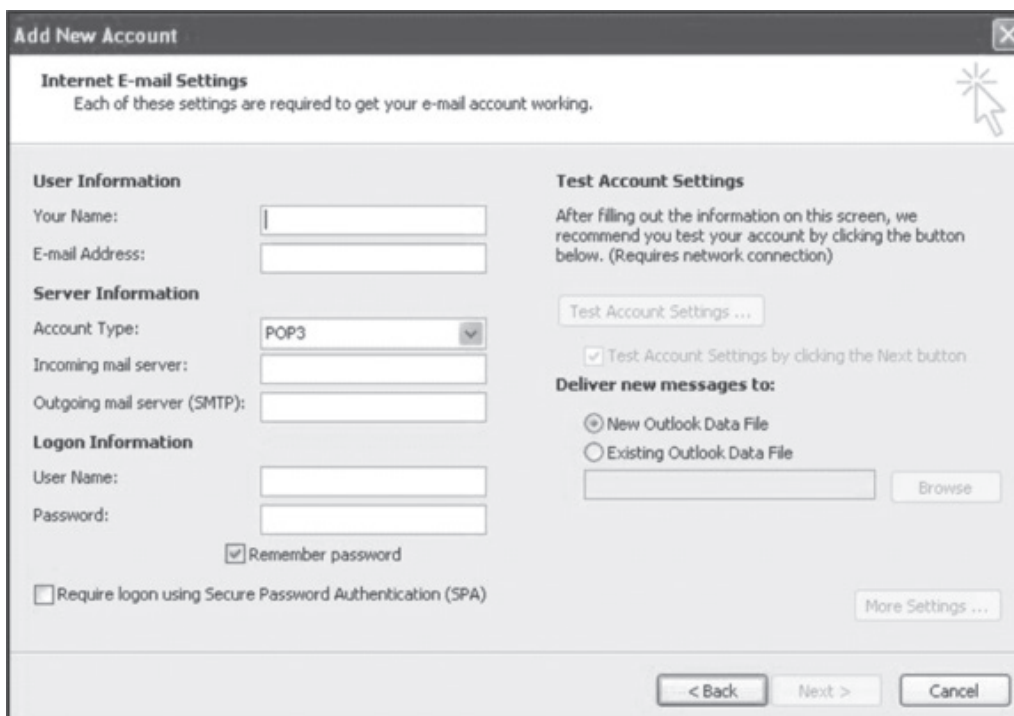
Manually configure server settings or additional server types

< Back Next > Cancel

b) Click **next**. Select **Internet E-Mail**:



c) In the next Window, fill out all the necessary information as needed. Name, Email, Account Type, incoming and outgoing sever as well as the Logon information.



d) Sample Information of E-Mail setting:

Add New Account

Internet E-mail Settings
Each of these settings are required to get your e-mail account working.

User Information
Your Name:
E-mail Address:

Server Information
Account Type:
Incoming mail server:
Outgoing mail server (SMTP):

Logon Information
User Name:
Password:
 Remember password
 Require logon using Secure Password Authentication (SPA)

Test Account Settings
After filling out the information on this screen, we recommend you test your account by clicking the button below. (Requires network connection)

 Test Account Settings by clicking the Next button

Deliver new messages to:
 New Outlook Data File
 Existing Outlook Data File

2.5.2 Offline Email: An important feature of MS Outlook 10

The basic difference between online and offline is that when the user is directly connected to the Internet he/she is online and when the user is not connected to the Internet but is still using certain features related to the Internet it is called offline.

2.6 Computer Viruses

2.6.1 Viruses

Computer viruses are small software programs that are designed to spread from one computer to another and to interfere with computer operation.

Types of Virus:

- Worms



- Trojans
- Malware

- Adware



- Spyware
- Boot Virus

- **MBR Virus:** MBR is master boot record, the first sector of a data storage device. It is used for partition tables or OS loading programs such as LILO or Grub. So a MBR virus will infect this particular area instead of normal files as usually..

