

## UNIT-4 WEB APPLICATIONS AND SECURITY

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### SESSION 1: WORKING WITH ACCESSIBILITY OPTIONS

#### **Relevant Knowledge**

Computer Accessibility refers to the user friendliness of a computer system for all, regardless of their disability. This is mainly a software issue. However, when a combination of hardware and software, it enables a person with a disability or impairment to use a computer. It is known as Assistive Technology. In this session, you will learn about the basic accessibility options available on your computer.

There are numerous types of impairment that impact computer usage. These include:

- Cognitive impairments and learning disabilities, such as dyslexia, attention deficit hyperactivity disorder (ADHD) or autism.
- Visual impairment such as low-vision, complete or partial blindness, and color blindness.
- Hearing impairment including deafness.
- Motor or dexterity impairment such as paralysis, cerebral palsy, or carpal tunnel syndrome and repetitive strain injury.

Accessibility Options in Control Panel are used to customize the way your keyboard, display, or mouse function. Many of these features are useful for people with disabilities as discussed earlier. In this session, you will learn to use accessibility options in Windows XP.

### **Launching Accessibility Options**

To launch accessibility options in WindowsXP, Click Start > Control Panel > Accessibility Options.

The Accessibility Options window appears.

### **Keyboard Tab**

#### **Sticky Keys**

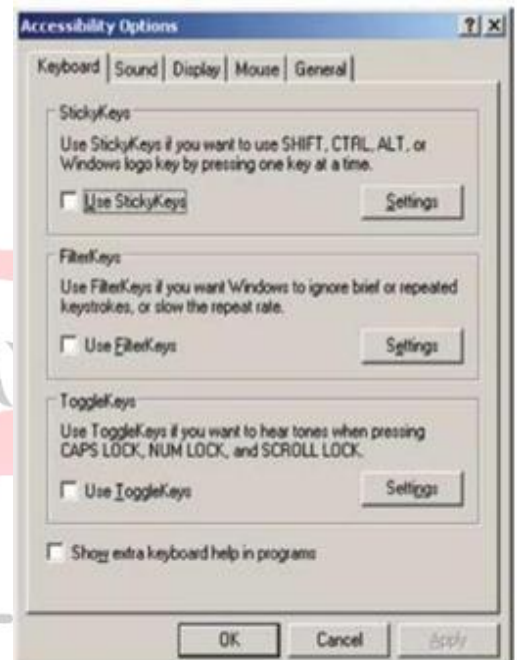
StickyKeys is an accessibility feature to help computer users with physical disabilities, but it is also used by others as a means to reduce repetitive strain.

StickyKeys allows the user to press and release a modifier key, such as Shift, Ctrl, Alt, or the Windows key, and have it remain active until any other key is pressed.

To enable StickyKeys, select Use StickyKeys.

- Click Apply.
- Click OK.

The Sticky Keys icon appears in the system tray (figure 2).



**Figure: 1**



**Figure: 2**

After having enabled Sticky Keys, you will now practice and see its effect.

- Start Notepad. To do so, click Start > All Programs > Accessories > Notepad.
- Type some text (3 - 4 lines at least) and place the cursor at the beginning of the text.
- Press CTRL key on your keyboard.
- Press letter A on your keyboard.

Notice the entire text gets selected. This action is equivalent to pressing CTRL+A simultaneously!

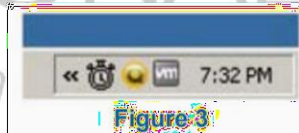
To disable Sticky Keys, uncheck Use Sticky Keys and then click on Apply > OK.

### **Filter Keys**

Filter Keys is a feature of Microsoft Windows. It is an accessibility function that tells the keyboard to ignore brief or repeated keystrokes, making typing easier for people with hand tremors.

- To enable Filter Keys, check Use Filter Keys.
- Click Settings under Filter Keys and check "Ignore Repeated Keystrokes".
- Click Apply.
- Click OK.

The FilterKeys icon appears in the system tray (figure 3).



After having enabled FilterKeys, you will now practice and see its effect.

- Start Notepad and type some repeated characters.

Notice that the repeated characters are ignored

To disable FilterKeys, uncheck Use FilterKeys and then click on Apply > OK.

### **ToggleKeys**

ToggleKeys is also a feature of Microsoft Windows. It is an accessibility function which is designed for people who have vision impairment or cognitive disabilities. When

ToggleKeys is turned on, computer emits sound cues when the locking keys (Caps Lock, Num Lock, or Scroll Lock) are pressed. A high sound is emitted when the keys are switched on and a low sound is emitted when they are switched off.

- To enable ToggleKeys, Check Use ToggleKeys.
- Click Settings under ToggleKeys. • Click Apply
- Click OK.

Having enabled ToggleKeys, you can see its effect by any one of the following keys NUM LOCK, CAPS LOCK or SCROLL LOCK. Notice that on doing so, you hear a beep.

To disable ToggleKeys, uncheck Use ToggleKeys and then click on Apply > OK.

## **Sound Tab**

Select the Sound Tab. A window with options to configure accessibility options for sound is displayed (figure 4).

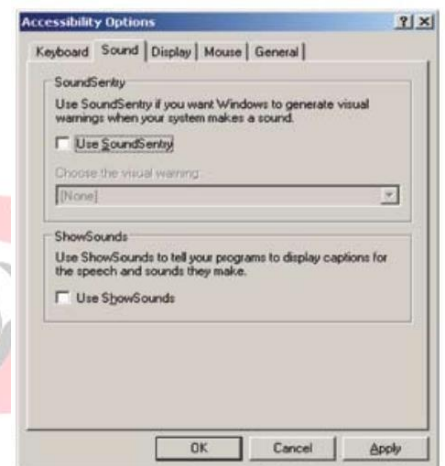


Figure 4

## **SoundSentry**

SoundSentry is designed to help users with auditory impairments. SoundSentry generates visual warnings, such as a blinking title bar or a flashing border, whenever the computer generates a sound.

- To enable SoundSentry, Check Use SoundSentry under Sound Tab. Doing so activates a drop down list wherefrom you can choose the type of visual warning desired.
- Click Apply.
- Click OK.

For understanding SoundSentry, you need to create an error!

- Click Start> Run. Type notepad instead of notepad and press Enter.
- Type some repeated characters in the notepad. Notice that the desktop will flash for a fraction of second along with visual error sound code.

To disable SoundSentry, uncheck Use SoundSentry and then click on Apply > OK.

## ShowSounds

ShowSounds instructs applications that convey information by sound, to also provide information visually, through text captions or informative icons.

- To enable ShowSounds, Check Use ShowSounds under Sound Tab.
- Click Apply.
- Click OK

## Display Tab

Select the Display Tab. A window with options to configure accessibility options for display is displayed.

### High Contrast

High Contrast is an accessibility feature to assist people with vision impairment. You can change the size and color of fonts and the background for ease of viewing.

- To enable HighContrast, Check **Use HighContrast**
- Under Display Tab (figure 5).
- Click Apply.
- Click OK.

Notice the difference on your monitor as the High Contrast option is enabled.

To disable High Contrast, uncheck Use High Contrast > Apply > OK.

### Cursor Options

Cursor Options is also an accessibility feature that assists people with vision impairment by changing the blink rate and width of the cursor.

- To change the speed of the cursor blink, move the Blink Rate slider back and forth. Notice the cursor blinking at various speeds.

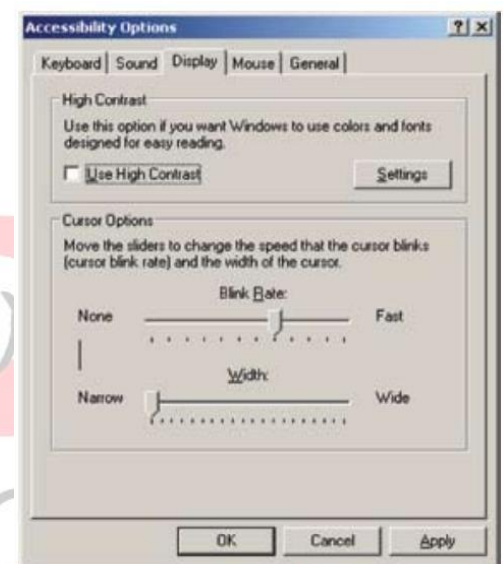


Figure 5



- To change the width of the cursor, move the Width slider back and forth. Notice the width of the cursor changing.

## **Mouse Tab**

### **MouseKeys**

MouseKeys is an accessibility feature that assists people who have difficulty using a mouse. This option uses the keyboard (especially numeric keypad) as a pointing device instead of a mouse. Select the Mouse Tab, a window to configure accessibility options for mouse will be displayed (Figure 6).

- To enable MouseKeys, Check Use MouseKeys.
- Click Apply.
- Click OK.

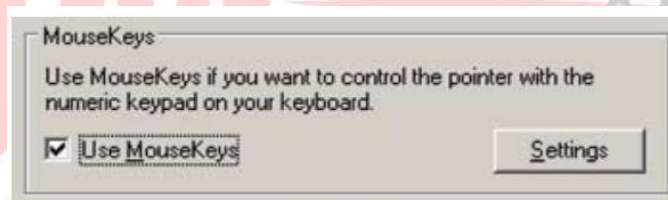


Figure 6

Notice the MouseKey icon in the System Tray (figure 7).



Figure 7

Use number pad keys for moving mouse pointer instead of using mouse after enabling “Use MouseKeys”. Use number key 4 to move left, 6 to move right, 2 to move down and 8 to move up. To disable MouseKeys, uncheck Use MouseKeys and then click on Apply > OK.

## **General Tab**

This tab enables you to configure accessibility options for all users.

Select the General Tab, a window to configure additional accessibility options will be displayed (figure 8).

“Turn off accessibility features after idle for”,  
“Give warning message when turning a feature on” and

*“Make a sound when turning a feature on or off”.*

Now check these features one by one and see what happens.



Figure 8

## Serial Keys

Serial Keys is an accessibility feature that assists people that have difficulty using a keyboard or a mouse (or both). They can use special devices such as Sip, Puff and Breath Switches to provide input to the computer through Serial Ports.

For example, sipping on the tube activates one device, while puffing on the same tube activates another.

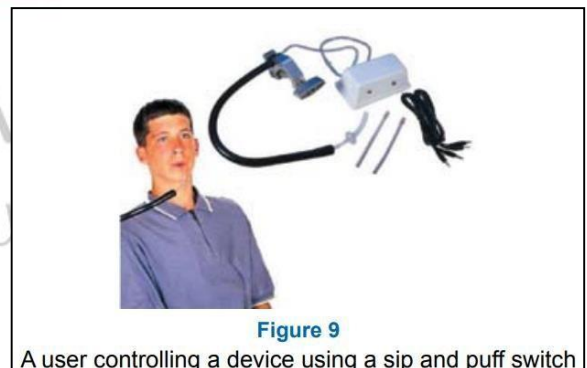


Figure 9

A user controlling a device using a sip and puff switch

- Apply all settings to logon desktop can be used to apply configured accessibility options to this user at logon.
- Apply all settings to defaults for new users can be used to apply configured accessibility options to all users using a particular computer.

Perform the following activities on computer

1. Use StickyKeys option
2. Use SoundSentry option

3. Use High Contrast option
4. Use SerialKeys option

### **Assessment**

Fill in the blanks

1. The option in Microsoft Windows XP used for helping users with physical disabilities and to reduce repetitive strain is\_\_\_\_\_.
2. Sound Sentry is designed to help users with\_\_\_\_\_ impairments.
3. The High Contrast option in Microsoft Windows XP is designed to assist people with \_\_\_\_\_ impairments.
4. \_\_\_\_\_ is designed to assist people that have difficulty using a keyboard or a mouse.

## **SESSION 2 : NETWORKING FUNDAMENTALS**

### **Relevant Knowledge**

A computer network is a collection of computers and other hardware components interconnected by communication channels (cables or satellites) that allow sharing of resources and information.

This session introduces you to the basic fundamental concepts of networking and Internet and using different types of Internet connection.

Networks are designed using the following architecture:

### **PEER-TO-PEER (P2P) ARCHITECTURE:**

Networks in which all computers have an equal status are called peer to peer networks. Generally in such a network each terminal has an equally competent CPU.

### **CLIENT-SERVER ARCHITECTURE:**

Networks in which certain computers have special dedicated tasks, providing services to other computers (in the network) are called client server networks. The computer(s) which provide services are called servers and the ones that use these services are called clients.



## **TYPES OF NETWORKS**

There are two major types of network Local Area Network (LAN) and Wide Area Network (WAN).

- **LOCAL AREA NETWORK**

A local area network (LAN) is one which connects computers and devices in a limited geographical area such as home, school, computer laboratory, office building, or closely positioned group of buildings.

Usually local area networks offer very high speeds and are used for connecting computers and peripherals such as printers, scanners, etc.

- **WIDE AREA NETWORK**

A wide area network (WAN) is one which covers a broad area (i.e., any network that links across metropolitan, regional, or national boundaries). The Internet is the most popular WAN, and is used by businesses, governments, non-profit organizations, individual consumers, artists, entertainers, and many others.

## **INTERNET**

The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite to serve billions of users worldwide. It is a network of networks that consists of millions of private, public, academic, business, and government networks. Internet is one of the most useful technologies of modern times which help us in our daily, personal and professional life. Internet is widely used by students, educational institutes; scientist and professionals to gather information for research and general information. Businesses use the Internet to access complex databases such as financial database.

The Internet is the largest encyclopaedia for all age groups. The Internet helps in maintaining contact with friends and relatives who live across different locations via Internet chatting systems and email software. Internet is also becoming a major source of entertainment for the general public.

## **WORLD WIDE WEB**

World Wide Web (abbreviated as WWW or W3, commonly known as the Web), is a system of interlinked hypertext documents accessed via the Internet. With a web browser, one can view web pages that may contain text, images, videos, and other multimedia, and navigate between them via hyperlinks.

Information is stored on web servers referred to as web pages are retrieved by using a web browser such as Firefox on the local computer. A Web Browser is a software used to view Web sites and acts as an interface between the user and the World Wide Web. A Web server is a computer that stores web sites and their related files for viewing on the Internet.

### **Some of the advantages associated with networking are:**

- Data Sharing:** One of the most important uses of networking is to allow the sharing of data.
- Files Transfer :** Users can send text files, spread sheets, documents, presentations, audio files, video files, etc. to other users.
- Hardware Sharing:** Hardware components such as printers, scanners, etc. can also be shared. For example, instead of purchasing 10 printers for each user, one printer can be purchased and shared among multiple users thus saving cost.
- Internet Access Sharing:** You can purchase a single Internet connection and share it among other computers in a network instead of purchasing multiple Internet connection for each computer. This is very commonly found in Internet café (browsing centres), schools, colleges, companies, etc.
- Usage of network based applications:** Such as web browsers, email clients, chat application, audio & video calling, etc. is another advantage.

### **GETTING ACCESS TO THE INTERNET**

To use the Internet, you need an Internet connection. Internet connections are provided by Internet Service Providers such as Bharat Sanchar Nigam Limited (BSNL), Airtel, MTS, Vodafone, Tata Docomo, etc.

### **INTERNET SERVICE PROVIDER**

An Internet service provider (ISP) is an organization which provides you with access to the Internet via a dial-up (using modem) or direct (hard wired) or wireless connection.

Choosing connectivity depends on the availability of a particular technology, speed and connection type in your area. Usually small and medium business users, home users use connectivity types such as DSL, cable modem, dial-up, broadband wireless, WiMAX or

3G. Medium to large business users or customers with more demanding requirements may use high speed connectivity such as DSL (High Speed), ISDN, etc.

## MODEM

A modem is a device that converts digital computer signals into a form (analog signals) that can travel over phone lines. It also re-converts the analog signals back into digital signals. The word modem is derived from its function MODulator/DEModulator.

## Types Of Common Internet Connectivity

There are different types of Internet Connectivity available today; it can be widely categorized into wired and wireless access. Following table is a summary of different types of Internet connectivity categorized into wired and wireless:

Technology	Type of Connectivity
Dial-Up	Wired
DSL	Wired
Cable Internet Access	Wired
3G	Wireless
WiMAX	Wireless
Wi-Fi	Wireless

Some of the commonly used Internet connectivity are:

**Dial-up:** Dial-up Internet access is a form of Internet access that uses the facilities of the public switched telephone network (PSTN) to establish a connection to an Internet service provider

(ISP) via telephone lines using a device called MODEM. Users dial a particular number provided by the ISP and gain access to the Internet.

**Dial-up connections** are extremely slow and in most cases, it is replaced by a high speed connection such as DSL or Cable Modem.

**DSL:** Digital subscriber line(DSL) provide Internet access by transmitting digital data over wires of a local telephone network. DSL service is delivered along with wired telephone service on the same telephone line. On the customer premises, a DSL filter removes the high frequency interference, enabling simultaneous use of the telephone and

data transmission. For using a DSL connection, you need a DSL modem and a subscription.

**Cable Internet Access:** Cable Internet Access is a form of broadband Internet access that uses the cable television infrastructure. Cable Internet Access is provided through existing cable TV networks; this is similar to DSL that is provided over existing telephone lines.

**3G:** 3G, short for 3rd Generation is a set of standards used for mobile devices and mobile telecommunication services and networks. High-Speed Downlink Packet Access (HSDPA) is 3G mobile telephony communications protocol that allows higher data transfer speeds and capacity.

If support for 3G is available on your mobile phone, you can subscribe to the 3G connectivity with your ISP in order to get high speed Internet connection on your phone.

**WiMAX:** WiMAX (Worldwide Interoperability for Microwave Access) is a wireless communications standard designed to provide mobile broadband connectivity across cities and countries through a variety of devices. WiMAX is a long range system, covering many kilometres and is typically used where DSL or Cable Internet Access cannot be used; this could be difficulty in laying out cables for home or offices located in remote locations but need access to the Internet.

**Wi-Fi:** Wi-Fi is a popular technology that allows an electronic device such as computers or mobile phones to exchange data wirelessly over a network, including high-speed Internet connections. WiFi devices such as personal computer, smartphones, video game console, etc. can connect to a network resource such as Internet through a device called the Wireless Access Point (WAP).

Wi-Fi is used where cables cannot be run (such as old buildings, outdoor areas) to provide network and Internet access. Wi-Fi can also be used where users require mobile connectivity.

Wi-Fi connectivity is used in home & offices, hotels, college & school campus typically for Internet Access. Shopping malls, coffee shops, resorts mostly offer free or paid Wi-Fi access to the Internet for their customers.

## **DATA TRANSFER ON THE INTERNET**

Having talked of data transfer and the Internet, have you ever wondered how sitting in one corner of the world, you get information from another distant area in a few seconds?

In very simple language, let's see what happens to a piece of data, say a Web page, when it is transferred over the Internet:

- Each packet is sent from computer to computer until it finds its destination. Each computer on the way decides where next to send the packet. All packets may not take the same route.
- At the destination, the packets are examined. If any packets are missing or damaged, a message is sent asking for them to be re-sent. This continues until all packets have been received intact.
- The packets are now reassembled into their original form. All this done in seconds!

To access the Internet, you need an active internet connection. You need to gather and understand your requirement carefully before subscribing to an internet connection plan.

In this exercise, you will learn how to choose an Internet connection.

Some of the common questions that help you in your decision are:

- What is the purpose of getting this connection?
- Will you use the connection regularly?
- How much data will be downloaded on an average per month?
- How much speed do you need?
- What technology is available in your particular area?
- What are the different plans available from the ISP?
- Is there any limitation or catch for the selected plan?

**Use the following table to compare different subscription plans to get an estimate and analyse if that would suit your requirement.**

3G				
ISP	Plan Name	Download Speed	Download Limit	Free Modem

DSL				
ISP	Plan Name	Download Speed	Download Limit	Free Modem

Cable Internet Access				
ISP	Plan Name	Download Speed	Download Limit	Free Modem

WiMAX				
ISP	Plan Name	Download Speed	Download Limit	Free Modem

To access Wi-Fi, you need an access point with an active Internet connection. Usually when you subscribe to an Internet connection, the ISP provides options to purchase or rent a Wi-Fi router that can act as both an internet connectivity device and an access point



for Wi-Fi connectivity. Setting up a Wi-Fi network requires technical expertise; however, you can access the Wi-Fi network by connecting to an access point that is already setup for use. On computers that run Windows XP, you can view the list of wireless networks available by using the following procedure:

- Right-Click on the Wireless Icon in the system tray and Click View Available Wireless Networks (figure 10)

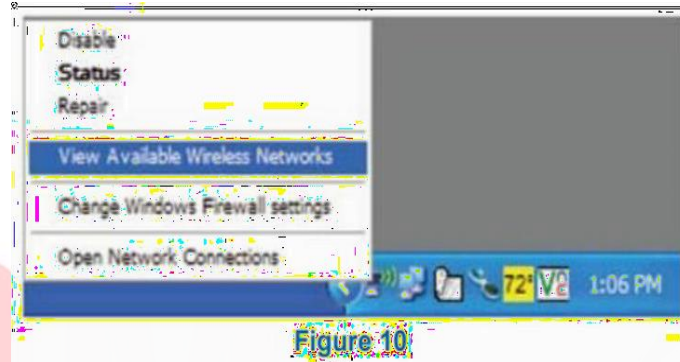


Figure 10

Windows XP will display the list of available Wi-Fi networks; you can choose any of the connection from the list. Select by Double-clicking on the name displayed in the list.

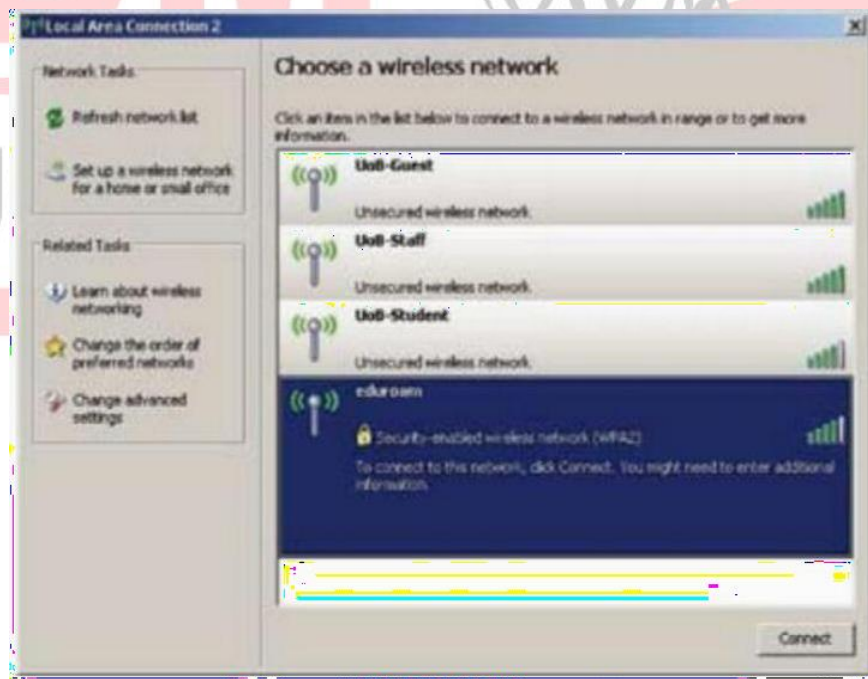


Figure 11

Note: You may be prompted to enter a password if the selected network is secure. You will receive a confirmation that you are connected to a wireless network. Now the system is ready to be used for network related applications such as Firefox, Chrome, Skype, etc.

### Activities

1. List any 3 ISP's available in your city. After collecting information such as connectivity type, speed and charges, compare them and state which is the best ISP and why?
2. Identify the type of network topology in your school lab

### ASSESSMENT

Fill in the blanks:

1. The acronym for LAN is\_\_\_\_\_.
2. Three types of Wired Internet Connectivity are\_\_\_\_\_,\_\_\_\_\_&\_\_\_\_\_.
3. Three types of Wireless Internet Connectivity are\_\_\_\_\_,\_\_\_\_\_&\_\_\_\_\_.

II. Answer the following:

1. Define networking?
2. Give any three advantages of networking.
3. Explain the term packet with reference to data transfer.
4. Explain Wifi and its significance.
5. Compare LAN with WAN
6. Expand the following terms :
  - a. DSL
  - b. ISP
  - c. Modem
  - d. www
  - e. LAN
  - f. MAN
  - g. WAN
  - h. P2P
7. Explain P2P Architecture and how it is different from Client Server Architecture?.

## SESSION 3: INTRODUCTION TO INSTANT MESSAGING

### Relevant Knowledge

Instant messaging (IM) is a form of communication over the Internet that offers an instantaneous transmission of text-based messages from sender to receiver. Most instant messaging software include the option for performing file transfers, audio chat, video calling and conferencing, sharing desktops, etc. apart from standard text chat. Instant messaging software is widely used for personal and commercial use. In this session, you will be introduced to the concept of instant messaging, the steps to create an instant messaging account and also work with instant messaging software.

Unlike email, instant messaging happens in real-time and the response from participants can be spontaneous. Some instant messaging software allows users to view messages received when they are not logged on. These are called “Offline Messages”.

For utilizing audio and video chat or conferencing, you need to have microphones and headsets or speakers and web cameras so that users can talk or see each other.

**Key Features of an instant messaging are as follows:**

- Text Messages can be sent to one or more person (Similar to SMS)
- Audio calling and conferencing.
- Video calling and conferencing.
- File transfers (Not limited to documents, spread sheets, audio files, video files, etc.)
- Message history (Save messages for future reference).

**Instant Messaging Account**

Participants messaging to each other need to be signed in to the same instant messaging software. To use instant messaging software, a user must have a valid instant messaging account.

Instant messaging accounts differ in formats; some instant messaging software such as Yahoo! Messenger, Windows Live Messenger use email addresses for managing the account and software such as Skype use standard names.

**Instant Messaging Services**

There are two kinds of instant messaging software – application based and Web based.

- Application based instant messaging software is downloaded and installed on user's computer. Some of the popular instant messaging software are:
- Google Talk
- Yahoo! Messenger
- Skype
- Windows Live Messenger
- Rediff Bol, etc.

Web based instant messaging software is accessed using browsers such as Internet Explorer, Mozilla Firefox, Google Chrome, etc. Some of the popular web based instant messaging software are:

- Meebo
- Yahoo! Messenger for the Web
- MSN Web Messenger
- IMO, etc.

### **Creating An Instant Messaging Account**

In this exercise, you will learn to create an instant messaging account for using Google Talk.

Google Talk is an instant messaging service that provides both text and voice communication developed by Google Inc. Google Talk can also be used for making video calls and to view updates from GMAIL mailbox.

Google Talk is free and is available as application based (users need to download and install Google Talk application to their desktops, mobiles or laptops) and web based (users can use

Google Talk through a browser after signing into their Gmail account).

Before you start using Google Talk, a Gmail account is required. You have learned how to create a Gmail account earlier. In this exercise, you will learn how to use Google Talk.

Note: You need to download and install Google Talk application from [www.google.com/talk](http://www.google.com/talk) prior to this exercise.

### **LAUNCHING GOOGLE TALK**

- To launch Google Talk, Click Start > Programs > Google Talk > Google Talk.
- You can also double-click on the Google Talk icon on the desktop if available.

You need to have a list of contacts that are available for chat. If you don't have any contacts, you can add their Gmail account to your contact list by sending an invite.

If you don't have a Gmail account already you can create a new Gmail account.



Figure 12

## **Signing In into your Google Talk Account**

To use Google Talk, you need to sign in with your account details.

After signing in into your Google Talk account, you should see a window similar to the one displayed below. Now the Google Talk application is ready for use.



Figure 13

## **ACTIVITIES :**

Create an instant messaging account on any of the application that support instant messaging of your choice.

Identify the devices that support instant messaging.

## **ASSESSMENT**

1. Fill in the blanks:
  - a. \_\_\_\_\_ is a form of communication over the Internet that offers an instantaneous transmission of text-based messages from sender to receiver.
  - b. \_\_\_\_\_ & \_\_\_\_\_ & Web Camera are required for audio and video conferencing.
2. List any five application based instant messaging software.
3. What do you mean by instant messages?
4. Give any three key features of Instant Messaging.

## **SESSION 4: CHATTING WITH A CONTACT – GOOGLE TALK**

### **Relevant Knowledge**

In this session, you will learn to chat with a contact that is already added to your contact list.

- Whenever your friend in the contact list is online you can see the person along with a green dot as in the figure 14:





Figure 14

- You can start sending text chat message instantly by double-clicking on a contact. A window will pop up as displayed in the figure below. You can type the text in the text box and press enter; the other person will see the text message and respond to your message.
- Go ahead and get the contacts of a couple of your classmates and chat with them.

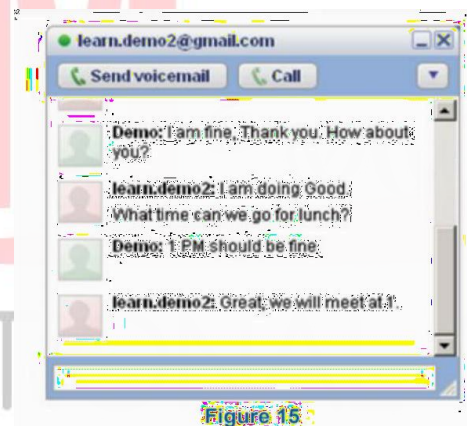


Figure 15

There are some general rules and etiquettes to be followed while chatting. They are almost the same as those that apply for emails.

- Messages should be short and to the point.
- Always introduce yourself by name if your screen name doesn't reflect it.
- Always ask if the other person has time to chat first - regardless of how important you think what you have to say is, it's not going to be well received if the recipient is busy.
- In a business environment, know exactly what you want to discuss.
- Typing your messages in uppercase is extremely rude - it's considered shouting and very aggressive.

- Give people time to respond - Multiple questions sent to a recipient before they've had a chance to answer can seem more like an interrogation rather than a conversation.
- Wherever possible, give the person you are communicating with your undivided attention. It's not just a sign of respect, but if you have multiple conversations happening or are allowing other issues to distract you, you may miss an important point in the other person's messages or lose the gist of the conversation.
- It's important to properly end an IM conversation - you may think the chat is over, but the other person may not. While you're off doing other things, they may be sitting there staring at the screen waiting for further communication from you!!

## **CHATTING ON GMAIL**

In this exercise, you will learn to chat with a contact using the Gmail account through a web browser.

You can also use the chatting services after signing into their Gmail Account. The same procedure will be followed while making voice chats, text chats etc. using the Gmail Account.

Once you sign into your Gmail account, a contact window will be displayed either on the left side or the right side within the browser as displayed below.

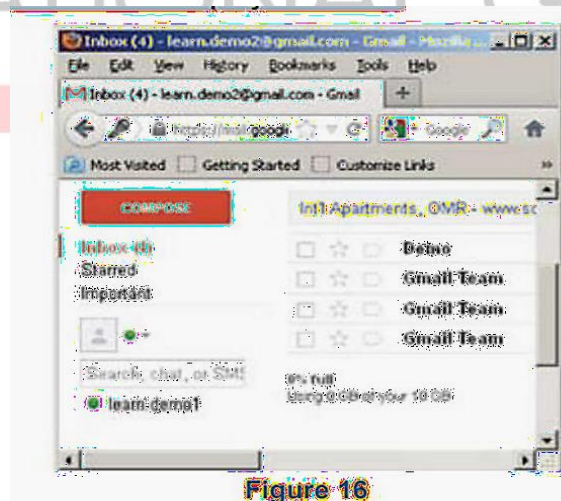


Figure 16

If you would like to chat with a contact, double click on the contact's name. You will see a pop-up similar to the one displayed below.

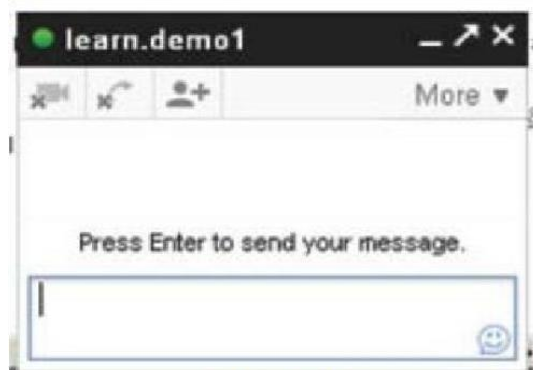


Figure 17



Figure 18

Now you can start typing the message you want to send and the other contact should be able to respond to your chat message.

## **CHATTING ON YAHOO**

Having learnt to use one IM software, you will experiment with another. In this exercise, you will create an instant messaging account for using Yahoo! Messenger.

Note: You may need to download and install Yahoo! Messenger application from <http://in.messenger.yahoo.com/download/> prior to this exercise.

Before you start using Yahoo! Messenger, a Yahoo Mail account is required. If you don't have a Yahoo! Mail Account already you can use the built in option for creating a new Yahoo! Mail Account.

You should a list of contacts that are available for chat. If you don't have any contacts, you can add their Yahoo Mail account to your contact list by sending an invite.

Note: If you would like to import your contacts from other sources such as Microsoft Outlook, Gmail, Hotmail, etc., you can use the import option.

Having used Yahoo! Messenger, now go ahead and chat with your classmates using a Yahoo mail account through a web browser.

You can also try using other chat services such as MSN, Rediff, Sify, etc. Refer to respective websites for further instructions to download and using the software.

## **ACTIVITIES**

1. Add more contacts to your contact list and chat with multiple contacts.
2. Download, install and use Windows Live Messenger, Rediff, Sify messengers. Create respective accounts to practice.

## **ASSESSMENT**

Answer the following:

1. State any 03 rules and etiquettes to be followed while chatting on the Internet.
2. What are the basic needs to use instant messaging (chat) software.

## **SESSION 5: CREATING AND PUBLISHING WEB PAGES – BLOG**

### **Relevant Knowledge**

A blog is a discussion style site used by non-technical (or technical users) users for creating personal web pages. Blogs are similar to an online personal diary and simple to use.

You can use a blog to convey messages about events, announcements, news, reviews, etc. Blogs are usually managed using a web browser and this requires active internet connection. You can also use offline blog software to create content first and later publish the content when an active internet connection is available.

There are hundreds of websites that offer blog service for free. Some of the popular blogs include:

- [www.WordPress.com](http://www.WordPress.com)
- [www.blogger.com](http://www.blogger.com)
- [www.blog.com](http://www.blog.com)
- [www.weebly.com](http://www.weebly.com)
- [www.blogsome.com](http://www.blogsome.com)



Figure 19



Now the blog is ready for use. You will be presented with the address of your blog as displayed in the web page above; you can either double click on the link or type the address manually in the web browser. Either action takes you to the homepage of your blog.

Once you have created a blog, you need to submit content that you want others to view. This process is called posting content.

- To create a post, click New Post. A Window similar to the one displayed below appears.

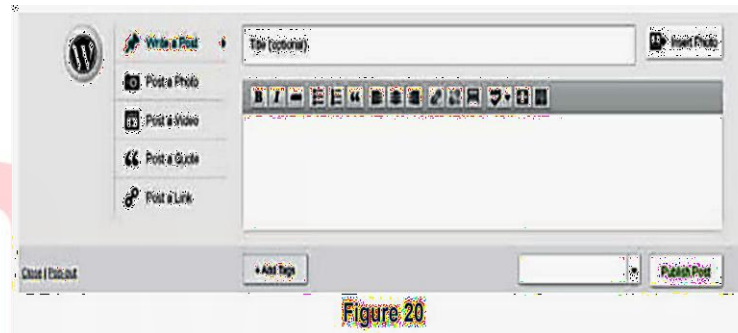


Figure 20

- Title: You must provide a title for your post; choose a title that this post will focus on. For example, “School Annual Day Function 2012”.

Using the rich text box, you can type content that you want others to read.

- Once you have finished typing the content, you need to publish the post for others to see.
- Click **Publish Post** to publish your content. To view the post, you can type the blog address in the address bar of the web browser, you should see your blog along with the post (displayed below).

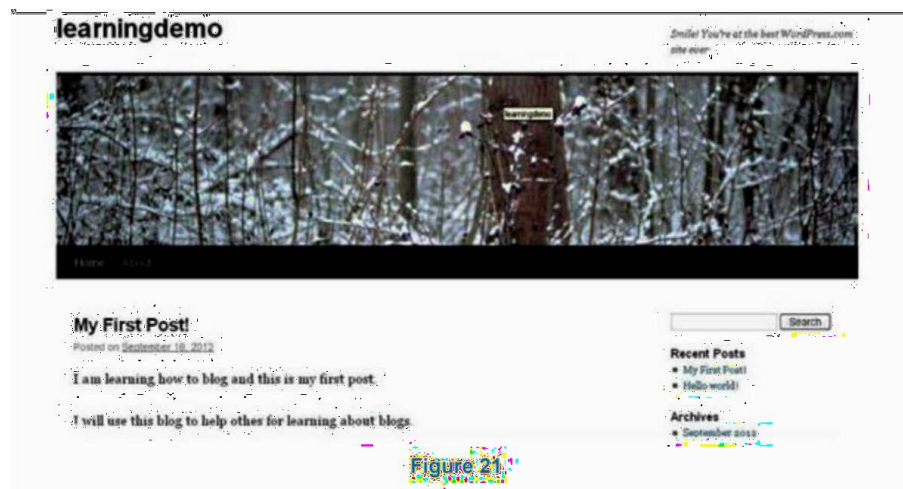


Figure 21

You can also add photos, videos, etc. to the blog using the options available in WordPress.

You can comment on posts published by others. Usually, the comment option is available towards the end of the post. Look for options such as Leave a comment, Leave a reply, etc. in the blog to comment. For example, in WordPress the comment box is located below the post and labelled as Leave a reply.

**Leave a Reply**

Enter your comment here...

Fill in your details below or click an icon to log in:

Email (required) (Address never made public)

Name (required)

Website

☐ Notify me of follow-up comments via email.

**Post Comment**

Figure 22

- In the Enter your comment here... text box, type your comments about the post.
- In the Email (required) field, type your email address.
- In the Name (required) field, type your name.
- In the Website field, you may type your blog address (Optional).
- Once you have typed the content in the comment area, review carefully and **Click Post Comment**.

Once you click the Post Comment, you will see the blog along with your comment. (displayed below)

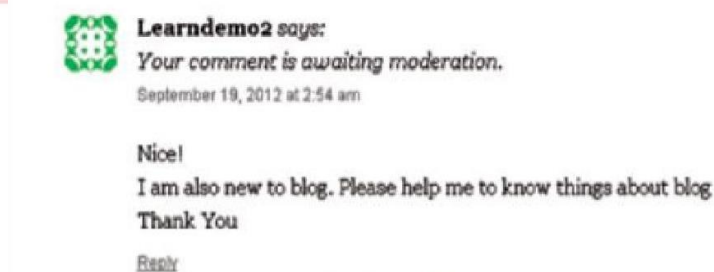


Figure 23

## ACTIVITY

Create a blog of yours using wowrdpress/ blogspot/wix or any other blog service provider.

## ASSESSMENT

1. What is a blog? Explain its use.
2. List any 5 websites that provide blog service.
3. Difference between web page and website.
4. What do you mean by publishing a post?

## SESSION 6: USING OFFLINE BLOG EDITORS

### Relevant Knowledge

If you do not have an active internet connection, you can create blogs using a blog application and publish the blog whenever internet connectivity is available.

There are several free offline blog editors available that can be downloaded and installed on the local computer such as:

- Qumana
- Windows Live Writer
- Blogdesk

In this exercise, you will learn to use an offline blog editor Qumana. Qumana is a free blog application that is simple and easy to use. In this exercise, you will learn about using **Qumana**

**Note:** You need to download and Install Qumana. Qumana can be downloaded from [www.qumana.com](http://www.qumana.com). Once installed, you can use the program to manage blogs.

Launching Qumana

- To launch Qumana, Click Start > Programs > Qumana > Qumana.
- You can also Double-click on the Qumana icon on the desktop if available.

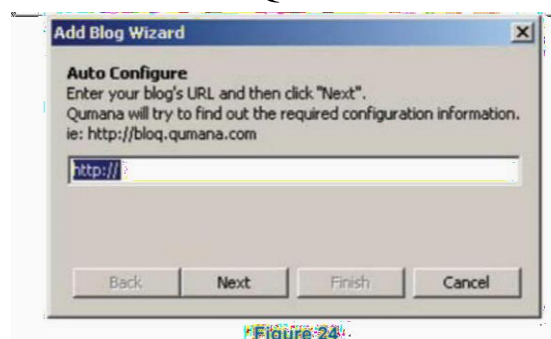


Figure 24

You need an existing blog account to use with Qumana. In this exercise, you will learn to use your existing WordPress account with Qumana. Enter your WordPress blog address and Click Next.

- A login window appears. You need to provide details of your WordPress account. However, if you wish to use it for other blog services, you need to enter appropriate details. Give the WordPress blog address in the Web address field. Enter the Username and password of the WordPress account.
- Click Next > Finish.

A window similar to the one below appears.

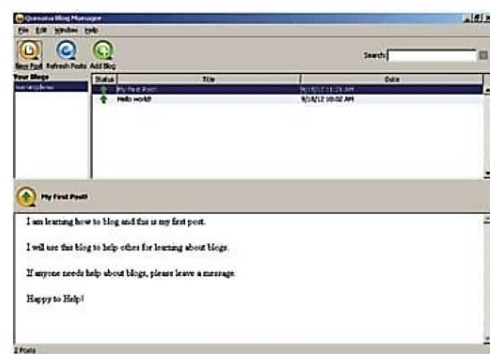


Figure 25

If posts are already available in your blog, Qumana will download and display the existing blogs as well.

To create a post,

- Click New Post.
- A window similar to the one below will be displayed (figure below).

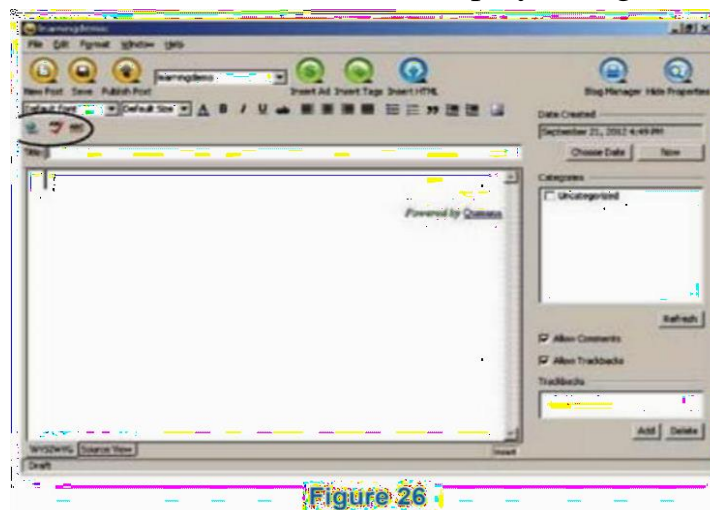


Figure 26

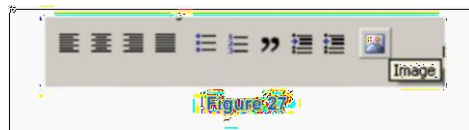
Note: Enter the title for the post in the Title field and the post content in the area given below the page title.

- Click Publish Post.

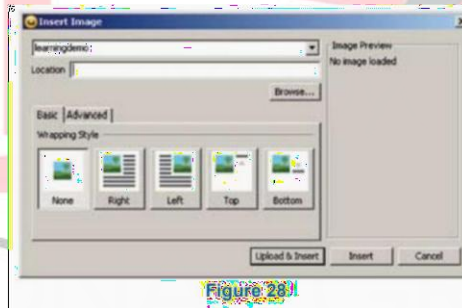
Once you click Publish Post, the post will get automatically updated to your WordPress blog.

To view the published content, open the web browser and type your blog address. You can include photos or pictures in your blog to make it attractive. To insert a picture,

- Click on the image icon on the right hand side of the application.



- Once you click the image icon, the following window will be displayed.



- Click Browse to locate the image that you want to publish in the blog.
- Once you click “Browse”, the OS browse window appears, enabling you to locate the image to be loaded. When you have chosen the image click Upload & Insert.
- Click Publish Post.

To view the published content along with the picture, open the web browser and type in your blog address.

Now try using other blog applications such as Windows Live Writer, Blogdesk, etc. using different blog accounts.

### **ACTIVITY**

Download and use different offline blog editors



## **ASSESSMENT**

Answer the following:

1. Explain the purpose of an offline blog editor.
2. List any five offline blog editors.

## **SESSION 7: ONLINE TRANSACTIONS**

### **Relevant Knowledge**

Online transactions have made transactions very convenient and simplified the workflow in many forms in a business. Online transactions deals with transfer of money over the internet. Revolution in the electronic media has made transaction handling easy .

Many protocols and security measures have been adopted to ensure the safe and secure OLTP ( Online Transaction process ). We are already using online transactions when we deposit or withdraw money from an ATM machine, when we make our bill payments using our debit/ credit cards. NEFT/ RTGS are some other examples of online funds transfer. Numerous benefits of online transactions like, fast transaction speed, convenience, low risk of theft etc has exponentially increased its use among people.

Online shopping is a form of electronic commerce where customers can buy or sell goods over the Internet. Customers need to have an active internet connection for viewing goods or services offered by a seller; customers can pay online using a credit, debit card or by internet banking.

Online shopping could be useful in situations when:

- A customer does not have sufficient time to visit stores.
- Visiting a store is more expensive than purchasing a product online.
- A product or service that is not available in the local market is available online.

Some of the popular online transaction websites are:

- IRCTC, an online portal for booking flight and train tickets.
- Flipkart, an online shopping portal for buying consumer products.
- EBay, an online portal for buying and selling goods.
- Redbus, an online portal for booking bus tickets.

To perform an online transaction, all you need is a web browser and an active internet connection.

In some cases where purchasing is involved, you will need a valid credit card, debit card or online banking support referred to as Net Banking Subscription. Some websites even allow COD (Cash on delivery) where the users can pay once they receive the product or service.

### **Online Transaction Using Flipkart**

In this section, you will learn to perform an online transaction using Flipkart.

Flipkart is an online store where you can purchase a variety of electronic goods, books, accessories, digital cameras, mobile phones and peripherals such as printers, etc.

Flipkart offers multiple payment methods like credit card, debit card, net banking, e-gift voucher, and Cash on Delivery.

To work with Flipkart, you need to use a web browser and an active internet connection.

- Open any Browser such as Firefox, Chrome or Internet Explorer
- Type [www.flipkart.com](http://www.flipkart.com) in the address bar and Press Enter.

A web page similar to the one below will be displayed.

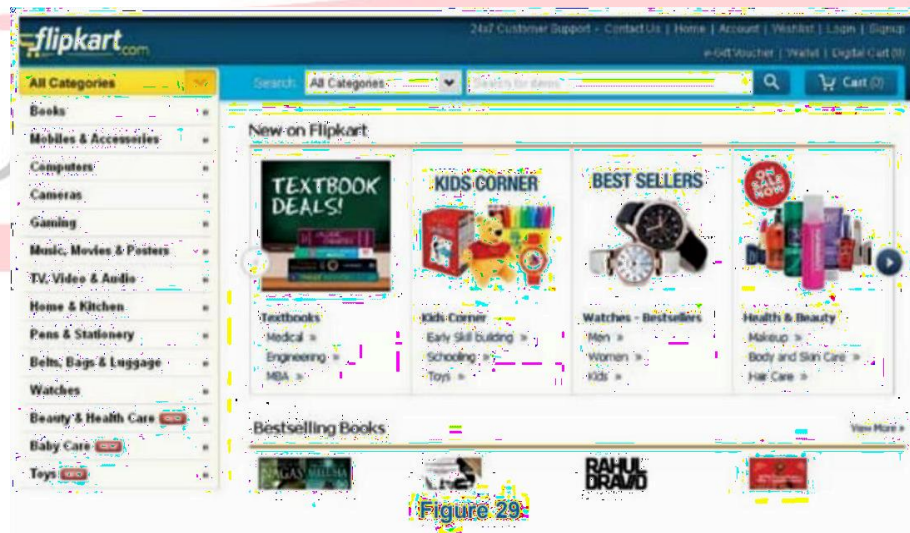


Figure 29:

- To perform transactions using Flipkart, you need to sign up for a Flipkart account.
- Locate and click on the Sign Up link at the top of the web page, a window similar to the one below will be displayed for signing up with Flipkart.

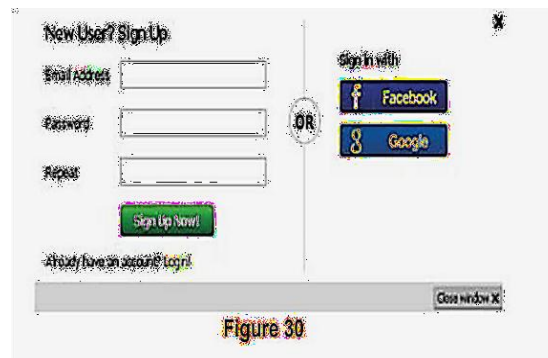


Figure 30

- **Email Address:** You must provide your Email Address. The Email Address is also used for sending offer mails, promotional mails to you. The Email Address will be used as the login name for your Flipkart Account.
- **Password:** You must secure your Flipkart Account by giving a strong password. You need to enter the password twice.
- **Click Sign Up Now!**

Once you have signed up successfully, a window similar to the one below will be displayed.

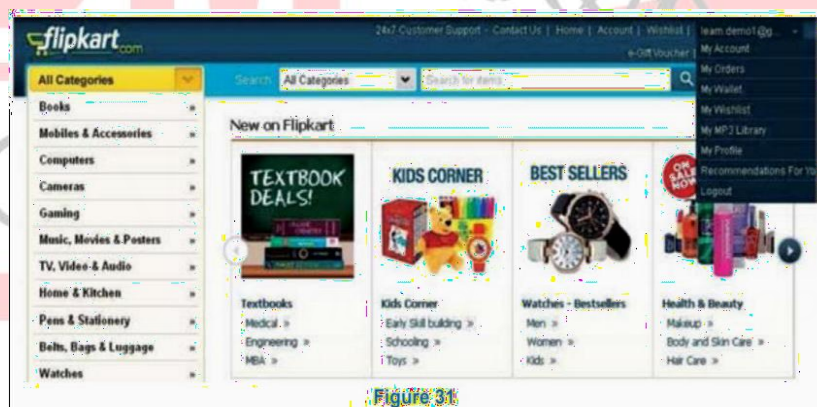


Figure 31

Flipkart has a variety of products organized as categories. You can either look for respective product in appropriate category or you can use the search feature to locate a particular item. For example, if you would like to buy a digital camera, you can Digital Camera in the search box and choose a model from the search results window. You can select a model of your choice by clicking on the product image. You can browse the catalog of products available in Flipkart; once you have decided to purchase a product, you can use purchase the product by using the option Buy this now. You can select one or more products before you proceed to payment. Products added to your shopping cart will be available for review prior to payments.

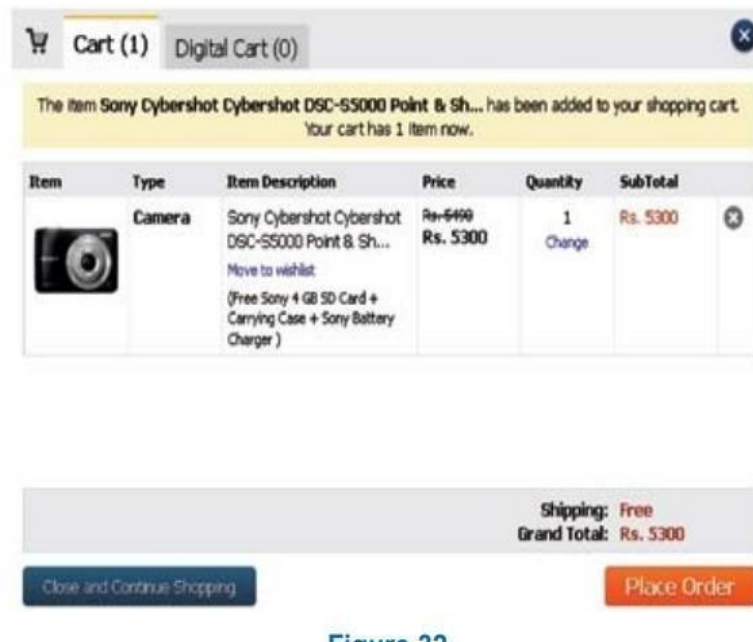


Figure 32

Flipkart allows a variety of methods for online payment. You can use credit card, debit card, Net Banking, Cash on Delivery or e-gift voucher to complete the payment; you need to enter appropriate details as required in the mentioned fields and Click Pay to initiate the payment.

Depending on the method select, additional windows may be displayed and procedures will vary to complete the online transaction.

Some vendors (websites) also offer payment to be made in installments thus making it a convenient option for the customers. Refer to the website payment terms for information on payment procedures and practices.

### Online Transaction for Booking Rail Tickets

In this section you will learn how to perform online transactions for booking train tickets using

IRCTC. Indian Railway Catering and Tourism Corporation (IRCTC) is an online portal that can be used for booking travel tickets.

To work with IRCTC, you need to use a web browser and an active internet connection.



- Open any Browser such as Firefox, Chrome or Internet Explorer
- Type [www.irctc.co.in](http://www.irctc.co.in) in the address bar and Press Enter.

A web page similar to the one below will be displayed.



Figure 33

- To perform transactions using IRCTC, you need to sign up for an IRCTC account.
- Locate and Click Signup link at the top of the web page, a window similar to the one below will be displayed for signing up with IRCTC.
- You will be redirected to a web page for signing up with IRCTC similar to the one below.

Follow the onscreen procedures for filling up the details to complete the registration.

Once you logon to IRCTC, you can use the website for booking tickets. By now, you are quite familiar with what each field represents. Go ahead and fill in the details. The ones marked with an asterisk (\*) are mandatory fields.

### **ACTIVITY**

1. Open various government and private sites for registration of tickets or purchase of any product and observe the information asked on such transaction sites.
2. Visit any online shopping site and observe the details of products published.



## **ASSESSMENT**

1. Explain the purpose of Online transactions.
2. List any five websites that allow online transactions.
3. List any three payment tools to use online transactions.
4. Give any two benefits of online transactions.

## **SESSION 8: INTERNET SECURITY**

### **Relevant Knowledge**

Internet security is a branch of computer security specifically related to the Internet, often involving browser security but also network security. Its objective is to establish rules and measures to use against attacks over the Internet. The Internet represents an insecure channel for exchanging information leading to a high risk of intrusion or fraud, such as phishing. This session introduces you to Internet security concepts and how to secure online and network transactions.

Though Internet provides valuable information and entertainment, it may leave your computer unsecure due to many online threats. You need to ensure that your usernames, passwords, credit card or online banking information secure as they are prone to be tracked and used by unauthorized users. Some websites can also install Malware on the computer without user consent thereby leaving the computer damaged or insecure.

Online threats such as Phishing, email spoofing, chat spoofing, etc. can increase the chances of users getting compromised.

You can reduce the risks by using best practices such as using Antivirus Software, Antispyware

Software, Firewalls, strong passwords, etc. in addition to spreading awareness of the best practices.

### **Best Practices for Security**

Use strong passwords, a combination of alphanumeric and special characters could be used for creating a password that is not so easy to crack or guessed by other users. Do not keep passwords such as your favorite color, friends or relatives name, bike number, mobile number either as single or combined option. These passwords are easy to guess if

a user knows you personally. Change your password frequently at least 2 or 3 weeks so that your account information remains secure.

Using strong passwords can lower the risk of a security breach; effectiveness of a password depends on the security mechanism of the software and users involvement in generating a strong password.

Most websites check for password effectiveness when a user attempts to register for the first time or when they change password. For example, when you register with Gmail, you may notice a password meter displaying the strength of your password similar to the one displayed below.

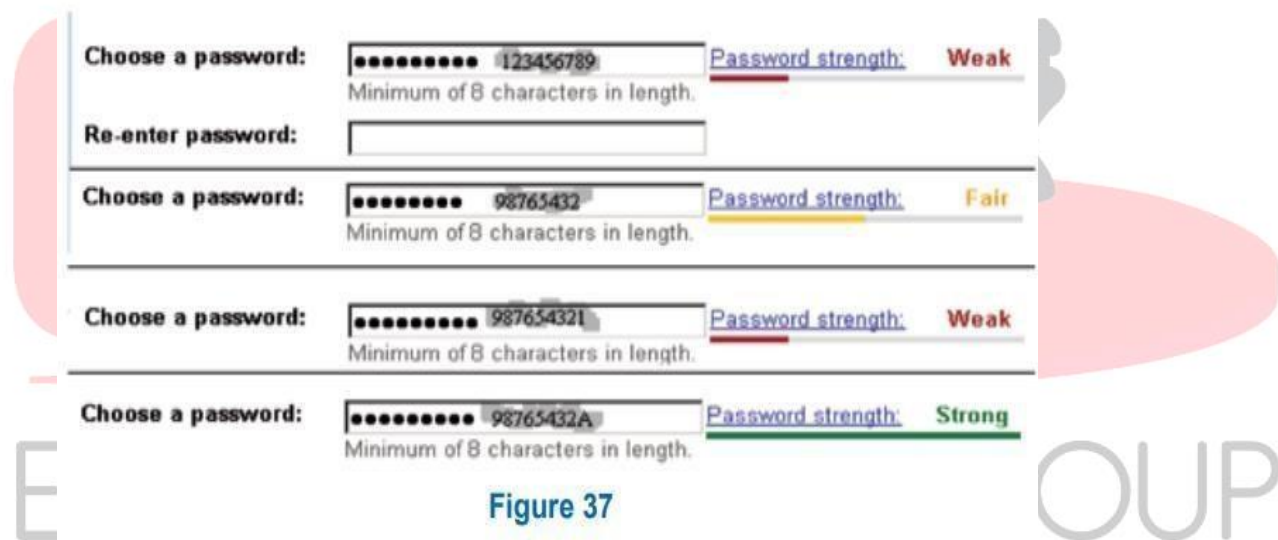


Figure 37

Following is a general guideline for managing strong passwords.

- Keep the length of the password at least 12-14 characters if permitted.
- Avoid keeping passwords based on repetition, dictionary words, letter or number sequences, usernames, relative or pet names, etc.
- Including numbers, and symbols in passwords if allowed.
- Use capital and lower-case letters.
- Avoid using the same password for multiple sites or purposes.
- Avoid using something that the public or workmates know you strongly like or dislike.
- Use random password generators if possible.  
Example of a strong password: u1vX:,4Hd{J\$

You may also use websites such as [www.strongpasswordgenerator.com](http://www.strongpasswordgenerator.com) that can generate random strong passwords. To generate a strong password using [www.strongpasswordgenerator.com](http://www.strongpasswordgenerator.com) do the following:

- Open any web browser. Type [www.strongpasswordgenerator.com](http://www.strongpasswordgenerator.com) in the address bar and press Enter.
- Click Generate strong password. Notice the password displayed under your new password. Backup your data: Always keep copies of personal data in additional media such as compact discs, pen drives, etc. This could be helpful in situation when there is a loss of data. Keep the data away from unauthorized users.

Use encryption software: (Usually available within the operating system) to protect your data from unauthorized users. If encryption software is not available within the operating system, use a 3rd party software.

Keeping your username and password private: Never save your username or password on computers that are used in shared environments such as internet café. Browsers may save your personal data on the local computer that can be used by another user using the same computer.

Registering with websites: Read the privacy statement or policy whenever you register with a website, the statement or policy will include information about how the website use personal data.

Do not share personal information: Websites require you to fill out forms containing fields such as name, gender, age, email address, school, etc. Be cautious when filling out such forms; research and verify if it's a trustable website. Your email addressed could be used by unauthorized users to send you fake or unwanted emails; think twice or thrice before providing information to any website and decide if it is really necessary

**Secure transactions:** If you are using online shopping or transactions, websites even store your credit card or online banking personal information such as your credit card number, account details, etc. This information can be tracked and used by un-authorized users often known as hackers to misuse this information. Again, ensure the website is legitimate and uses secure practices for performing and maintaining online transactions. Since information such as credit card details or personal information is sent over the

network, it is always recommended to use only secure websites for such transactions. Verify if the website uses secure transaction; usually it is indicated through a digital certificate represented as a golden lock in the web browser's address bar.

**Use antivirus and antispware software:** Computers are prone to attacks from software known as Malware that could harm your computer. Malware track browsing behavior or transmit personal data from your computer; programs such as keyloggers could be installed on your computer track and transmit every key that is pressed on a keyboard (keystrokes) to unauthorized users.

Antivirus and Antispyware programs also offer real-time protection monitoring your computer for any changes by malware software. Keep your Antivirus and Antispyware software always up to date, this can help in protecting your computer from recent threats.

**Do not immediately respond to mails from unknown users:** It may be a fake mail trying to gather personal information such as your bank account details, home address, etc. Some mails could promise you jobs or announce lottery results which in turn could compromise the user.

And in some cases, virus or scripts that are dangerous could be attached to the mail; NEVER open the attachment from an unknown source.

**Clear browser cookies frequently:** Cookies are programs that are created on your local computer when you visit websites. Though cookies are meant for storing data based on your activity performed during your earlier visit such as logon details, details of a shopping cart, visited pages in a website, etc. they could also be tracked by unauthorized users and possibly gain access to your personal information.

**Keep the operating system and software applications up to date,** though operating systems and applications are designed, tested and distributed, sometimes they may have security holes through which a hacker can take advantage; they may track and gather information or even damage the whole computer. In general, most vendors notify the users whenever a security hole is identified and an update is available to address that particular issue. You can also visit respective vendor's website to check if there are any updates available, download and keep your operating system and software applications up to date, free from security holes.

**Install firewalls:** Firewalls could be software or hardware and can assist in keeping a computer and a network secure. Firewalls analyze the network traffic and determine if the traffic should be allowed or not. In most cases, operating systems such as Linux, Windows or Mac include firewall software as a part of operating system thus keeping the computer secure. In rare cases, you may need to configure your firewall for additional security.

Never install software from unknown sources: As they might not be trustworthy; download only from well-known or reputed websites. Verify the source if it is legitimate by searching the internet or referring to comments from other users before downloading them; understand the nature and the purpose of the software before attempting to download and install them.

Remove unwanted or unknown software applications: These might have got installed without your knowledge when you have visited some websites. Unwanted software could get installed as they might have been bundled along with necessary software. Some programs such as toolbars get installed usually through bundled software and are programmed to send personal data without your consent.

### **Clearing Data Stored In Browsers**

Web browsers have built-in password management designed to store passwords used in forms on websites. Browsers often prompt to save usernames and passwords when users attempt to logon to websites.

This facility is offered to users, so that they can logon to their frequently used websites without having to type the usernames or passwords. However it is not advisable to leave the web browser store this data particularly on public or shared computers.

To clear personal data from a web browser such as Mozilla Firefox, launch the browser.

- Click Tools Menu, click Options.
- Click Security Tab. The following window will be displayed:



**Figure 38**

Notice that under Passwords section, Remember password for sites is checked. This means the browser is configured to save passwords for websites automatically. You can uncheck

Remember password for sites option, if you prefer NOT to store passwords.

Mozilla Firefox can also store data such as cookies, visited websites or webpages data, browsing history, etc. To clear this stored data, click General tab > Option. The following window will be displayed:

**Figure 39**

Click Privacy Tab. The following window will be displayed:

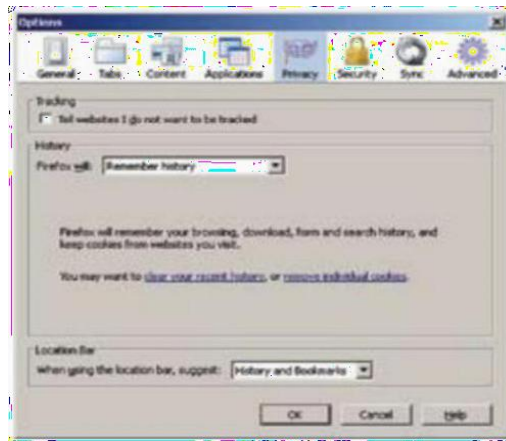


Figure 40

- Under History section, click the drop down menu next to Firefox will:.

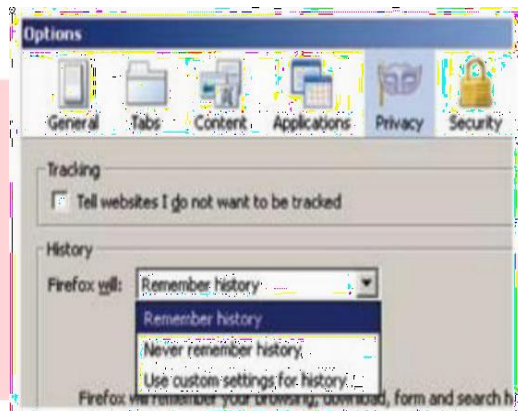


Figure 41

- Select Use custom settings for history from the drop down list. The following window will be displayed:

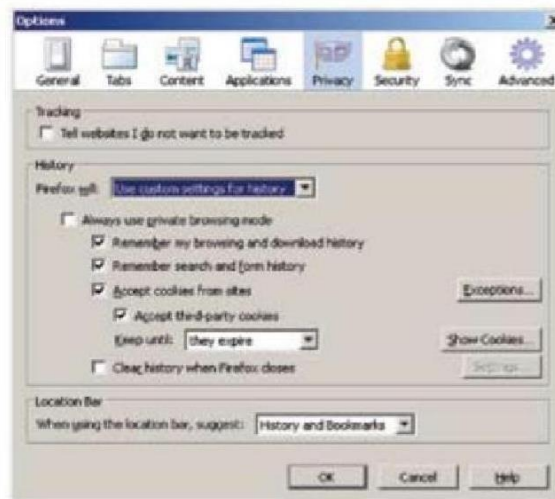


Figure 42

Notice the preferences; Firefox is configured to remember browsing and downloading history search and form history and cookies. If you do not wish store the above mentioned data, select

Never remember history from the drop down list. If you are in a public environment such as a cyber café, you may select the option Clear all current history. On selecting this option, the following window will be displayed:



Figure 43

- Click **Clear Now** and then click **OK**. From now on, Mozilla Firefox will not remember any history as you have configured it that way.
- There are several online threats such as Phishing, email spoofing, chat spoofing, etc.
- You can reduce the risks by using best practices such as using Antivirus Software, Antispyware Software, Firewalls, strong passwords, etc. in addition to spreading awareness of the best practices.

### ACTIVITY

Open settings of different browsers like edge, Mozilla firefoz, opera etc and note down the security settings in them

### ASSESSMENT

1. Explain the purpose of Internet Security.
2. Explain different kinds of online threats.
3. Explain the need to clear data stored in browsers.

4. Explain any five tips to manage strong passwords.
5. Explain any four best practices to secure data .
6. Explain use of Antivirus and Anti Spyware

## **SESSION 9 : MAINTAIN WORKPLACE SAFETY**

### **Maintain Workplace Safety**

Every organization must follow a standard set of safety rules and procedures. These rules must be stated and displayed clearly at important areas . All the employees must be given a demonstrations and training to follow safety rules .

Basic safety rules to follow at workplace – Fire safety, Falls and slips, Electrical safety, Use of first aid.

Timely repairs should be carried out by a competent person/ organization at workplace / home to avoid/minimize any hazards.

### **Basic Fire safety rules in an organization are :**

Most of the time fire can be prevented using appropriate measures.

- Fire escape plans must be installed at proper levels
- Conduct regular drills
- Smoke alarms must be placed at proper intervals
- Keep workplace a no-smoking zone
- Maintenance of safety equipment must be taken care of regularly

### **Falls and Slips Safety rules**

- Keep the moving area clean and clutter free.
- Workplace must be proper ventilated receive light.
- Wear non slippery footwear.
- Floors must be clean and dry
- Oil spills, dust must be immediately cleaned.
- .

## **Electrical Safety Rules:**

Though use of electric equipment has helped in all our routine tasks whether it is at home or office but if precautions and safety measures are not taken daily then they might be a cause of threat to our lives. We must take appropriate measures to ensure safety from electrical devices at home as well as at workplace. Following are some of the measures we should take to keep ourselves safe from electricity hazards and accidents:-

- Electrical equipment used should be approved by a recognised organization.
- Workers should be trained to handle the electric equipment safely
- Damaged and hazardous electrical equipment should be immediately replaced. All old and workout and frayed switches and wires should be changed.
- Heat emanating equipment should be kept away from the electrical equipment.
- Take care that the outlets/ circuits should not be overloaded .
  - Switch off and unplug the electrical appliances before cleaning or relocating them.

## **Use of First Aid**

Learning First Aid is the social and civic responsibility of every human being. If provided effectively and on time then it may save life.

First Aid is the immediate assistance provided to the injured to save life and minimize health loss till the proper medical aid/ facility is provided.

Every organization must have basic First Aid Kit. Kit must have all necessary items. Make sure to check for the expiry of medical related items.

### **Some rules of First Aid are :**

- Assure the injured to remain calm and not to panic
- Keep them warm if they are under shock
- Do not move the victim in case of back/neck injury

A worker may face Occupational hazards at workplace. : An occupational hazard is the illness one may acquire due to his occupation. Like people working in a chemical factory may get affected due to presence of certain chemicals. Some types of occupational



hazards are : Physical hazards, chemical hazards, biological hazards, , behavioural hazards, radiological hazards, ergonomic hazards etc.

### **Case studies of hazardous situation**

Following are the examples of hazardous situation when the safety steps are missing or are not followed properly.

#### **CASE Study 1 : Hazards due to Chemicals**

From past 2 years Ramdeen worked in a chemical factory where come types of Acids are being manufactured. He is supposed to carry a sample of chemical in a special flask with a tight cap. He went to take the sample from the dispenser and did not fixed the cap properly. While carrying the chemical back he slipped and because the cap was not fixed and the chemical spilled over his neck, lower half of his face and one hand. The worker suffered from severe burns due to chemical burns.

#### **CASE Study 2 : Hazards due to Electric shocks**

A 43 year old gardener was electrocuted and lost control over his limbs while watering the plants in a park where he worked. After investigating, it was found that insulation of the electric wire from the night lamp was cracked and full 220 volt current was live on the lamp pole. The park care taker had just watered the plants and the electric current was live in water while he watered the plants

This meant the wire was not inspected regularly. Otherwise, the damaged insulated wire should have been changed and replaced with a new safe to touch wire

#### **CASE Study 3: Hazards due to Fire**

A storekeeper was in a habit of throwing the plastic waste and packing waste in the backdoor of his store. The housekeeping staff was in a habit of smoking cigarette during their break time.

One week the pile of plastic and packing garbage was not cleaned. One of the housekeeping staff just threw the discarded cigarette in that garbage heap of plastics and packing material. As the day was hot and sunny, the garbage caught fire. By the time the fire was noticed, fire flames engulfed the whole back area causing heavy damage to the store and the backdoor area.

The fire could have been prevented if the storekeeper had taken appropriate garbage disposal measures, restricting smoking in the premises.

### **ACTIVITY**

Observe the safety measure adopted in your school and locality.

### **ASSESSMENT**

1. Enlist any three basic safety rules to follow at workplace.
2. Give any two basic safety rules for ensuring Falls and Slips safety.
3. Give any two electrical safety rules in any organization.
4. Explain any two first aid rules.
5. What do you mean by occupational hazards?
6. List any three types of occupational hazards.

## **SESSION 10 : PREVENT ACCIDENTS AND EMERGENCIES**

### **Relevant Knowledge**

Accident: an accident is an unplanned event that may happen all of a sudden and may lead to unwanted or unprecedented results/outcomes.

Or

It can be defined as an unfortunate incident that occurs unintentionally causing hazardous result or injury or unwanted results.

### **Types of Accidents:**

Accidents may be of following types :

- Accidents at workplace : Slips and fall accidents, fire
- Industrial disease/illness
- Road traffic accidents
- Clinical Accidents
- Sports related accidents

Workplace accidents may include injuries that are caused to the workers due to falls, slips and trips

Slip and fall accidents may occur at any working environment and the injuries may vary from minor ache to major severe accident. Some injuries suffered might include fracture, sprain, knee or elbow injury, wrist or head injuries etc.

### **Handling Accidents:**

Accidents must be handled carefully. The accident should be handled compassionately without assigning blame on others.

- Every organization must follow SOP for accident handling
- Safety measures must be placed to prevent workplace accidents
- Immediately call the medical team for any injury
- Stay alert
- Pay attention to and follow emergency drills

### **Emergency**

Any unexpected situation that needs immediate attention and action.

An emergency situation might pose a sudden risk to life, property health etc. and needs intervention to prevent deteriorating results/ hazards.

An emergency situation is one that:

- threatens the employees, customers or the public
- disrupts or shuts down the operations
- causes physical or environmental damage

An emergency must be handled immediately to prevent further losses and to minimize the loss. One must be alert to notice any kind of emergency. There are various types of emergencies that may occur at home. School or workplace. Hence it becomes essential requirement to have an emergency plan to minimize the loss and recover from emergency.

### **Types of Emergency :**

Various types of emergencies are there and there should be an emergency management plan to handle the situation of emergency. Some of the types of emergencies are as follows :

- Chemical spills
- Extreme heat waves
- Droughts
- Pandemics
- Terrorist attack
- Fire
- Floods
- Thunderstorms
- Leakage of some hazardous gas/ chemical

Generally the situation of emergency occurs as a result of some disaster. Disaster may be either natural or caused by some human activity.

Some of the types of emergencies that require evacuation are:

- Fire
- Explosion
- Floods
- Earthquake
- Hurricane
- Tornado
- Toxic material release
- Civil disturbance
- Workplace violence

### **ACTIVITIES**

Identify some precautions that may be taken at various places to avoid accidents.

### **ASSESSMENT**

1. Explain the terms accident and emergency.
2. Enlist any four types of accidents.
3. Give any three situations of emergency that require evacuation.
4. Give any two ways to handle accidents.

## SESSION 11: PROTECT HEALTH AND SAFETY AT WORK

### Hazards And Sources Of Hazards

An organization can face some health hazards that could put the lives of the employees in danger. A hazard is anything that is the source of any potential harm, damage or any kind of potential loss of health or life.

Hazards can be of different types depending on the industry and the environment in which the employees work. The different types of hazards include:

- Physical
- Chemical
- Biological
- Mechanical

### Sources of Hazards

Checklist for Workstations : **The workstation should:**

- provide sufficient space for the user to alter position comfortably
- provide adequate lighting
- have windows fitted with adjustable coverings to alter the sunlight level
- be spacious enough when a workstation is shared by more than one person

**The display screen should:**

- display well-defined characters of adequate size and spacing
- have a stable image
- have easily adjustable brightness and contrast
- tilt and swivel easily to suit the user
- be free from glare and reflections
- Use a separate base for the screen or an adjustable table

**The keyboard should:**

- be able to tilt easily and should be able to separate from the screen to allow the user to adopt a comfortable working position
- have space in front to provide support for the hands or arms of the user



- have a matt surface
- have clearly legible symbols on the keys

**The work surface should:**

- provide adequate space for the user
- have a low reflective surface
- be of an adequate size to allow the screen, keyboard and other peripherals to be flexibly arranged
- have a stable and adjustable document holder, which should be at the same level as the screen and at the same viewing distance

### **Workplace Evacuation**

In case of emergency there should be provision for evacuation. Evacuation is the process of emptying a place in case of an emergency, disaster.

Every company must ensure following points for evacuation in case of any emergency:

- An evacuation policy : Every organization must have an evacuation policy. All the Team Leaders are responsible for informing about the policy to their employees about it. Proper attention must be paid when the Team Leader is informing you about these details. Negligence at this time may cost lives.
- Organization must have a designated assembly point for emergencies. Ensure that every employee/ worker must know where it is.
- A 'buddy system' for individuals with special needs or disabilities must be designated. This system ensures that differently-abled are assisted and guided out of the premises or the impacted area properly. If you are a buddy to someone, ensure that your buddy is safe at the assembly point with you.
- Floor plans with evacuation routes in work areas. Ensure that you understand these so you can use it in time of need.
- Assembly areas, where you are required to assemble after evacuation, must be properly taken care of.
- Periodic evacuation drills should be conducted. Ensure that you pay attention during these drills. You need to save your life and you can be helpful in saving someone else's life too.

## **Healthy Living**

‘A healthy body has a healthy mind’ - a very popular saying is true .

‘Healthy Lifestyle leads to a healthy being. A healthy living has a lasting impact on an individual which ultimately yields a healthy environment at home as well as at work place. a happy and healthy worker will always perform best to his ability.

A healthy lifestyle helps to keep and improve people’s health and well being.

A healthy lifestyle includes :

- healthy eating habits
- physical activities
- stress management
- healthy mind
- sound sleep
- goal setting

A healthy lifestyle takes needs practice, commitment and sincere efforts .

Stay Healthy! Stay Happy!

### **ACTIVITY**

Discuss and enlist the measures to avoid hazards in various situations at workplace and in your school.

### **ASSESSMENT**

1. An organization can face some \_\_\_\_\_ that could put the lives of the employees in danger.
2. Hazards can be of different types depending on the \_\_\_\_\_ and the \_\_\_\_\_ in which the employees work.
3. Organization must have a designated \_\_\_\_\_ for emergencies
4. List any three types of hazards.
5. Give a checklist for workstations to minimize the hazards.

6. Explain the term ‘ Evacuation Policy’
7. Explain Buddy System to implement evacuation efficiently in case of emergency
8. Explain the terms Floor Plans and Assembly /areas.
9. Describe the importance of periodic evacuation drills.
10. Explain importance of a healthy lifestyle.
11. Give any four points of a healthy lifestyle

