Sahitya Bhawan®

COMPUTER

7

COMPUTER

Class 7

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SAHITYA BHAWAN : AGRA

Contents

Computer Virus

YOU WILL LEARN

- Spreading of computer virus
- Computer virus
- Effects of computer virus
- Symptoms of computer virus
- Preventing computer virus

INTRODUCTION

A computer is a machine which helps us in performing many different tasks. A lot of data and files can be stored in it. If something goes wrong with the computer, it affects data stored in it. It causes a loss to the efforts and hours of hard work done by people to complete their tasks.

WHAT IS A COMPUTER VIRUS?

A program written for altering the way a computer operates, without the permission of the user is known as **computer virus**. It disrupts the normal operation of a computer. A virus makes a copy of itself and attaches itself to a file or a program and then copies itself to other programs or files. VIRUS stands for **Vital Information Resources Under Seize.** When a virus is spread, the essential resources of the computer such as processing speed, memory, data and programs etc. do not have normal operations and are harmed. A **computer program** is written in order to provide instructions to the computer for what the user wants the computer to do, whereas **virus programs** make the computer perform those tasks which we do not want. A virus enters a computer through infected flash drive or a CD, or also through internet and e-mail. Virus programs are hidden. They cannot be detected easily until a particular signal or event is performed for triggering them.

SPREADING OF A COMPUTER VIRUS

A few computer viruses are harmless; some are less harmful and mostly are really harmful. Now let us see how a computer virus spreads.

1. ORIGIN

A programmer writes a virus program to cause destruction or mischief to computer programs of other users.

2. TRANSMISSION

Secondly the transmission of computer virus takes place. The virus is attached to a normal program. After being attached to a normal program it copies itself to some other software available on the hard disk. This can take place through e-mails, CDs, pen drives, etc.

3. REPRODUCTION

Thirdly the virus reproduces or replicates itself. When a program infected with virus is executed, it creates its own copies and inserts them into other computer programs such as files, applications, hard drive etc.
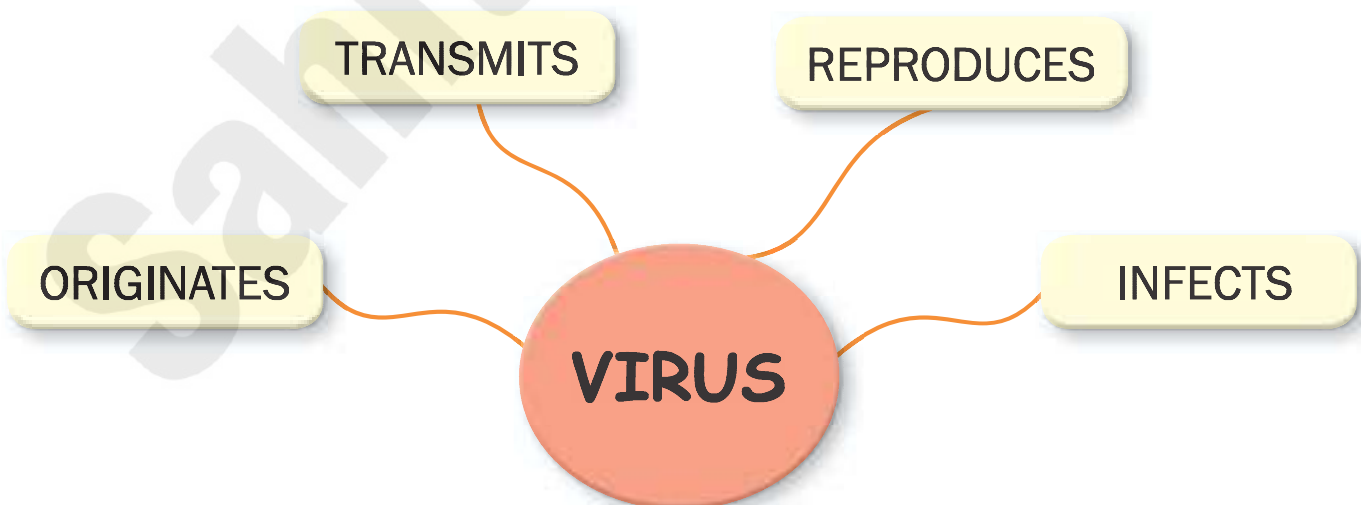
4. HARM

A virus infects and harms a computer to a great extent. The type of harm depends upon the kind of virus program. A virus uses up the computer memory, destroying all the data and files stored in the computer system.

DID YOU KNOW?

Virus is a term described from biology for describing a piece of software which behaves like a real virus when it spreads.

TRANSMITS

REPRODUCES

ORIGINATES

INFECTS

VIRUS

SOURCES OF COMPUTER VIRUS

Various sources from which the virus may enter our computer is as follows :

	Source	Affects
1.	Programs	The programs which carry virus affect our machine as soon as they are run.
2.	Internet	The programs or documents which are downloaded from the internet may be infected.
3.	E-mail	Infected attachments are also transmitted in the e-mail. If the attachment consisting of virus is double clicked there is a risk of infecting our computer.
4.	Spreadsheets and documents	Sometimes the documents and spreadsheets may consist of a virus which can infect the computer and make changes to other spreadsheets and documents.
5.	External drives (CD, USB and flash drives)	Removable external drives could contain infected programs or documents which might affect the computer system.

TYPES OF COMPUTER VIRUS

Computer viruses are classified on the basis of the level of infection they spread in a computer system :

1. **Program file viruses :** These are the virus which infect the executable files with the extensions like .com, .exe, .ovi, .sys etc. During the execution, these files get loaded in the memory and become active by replicating themselves and infect the files on the disk. **Sunday** and **cascade** are examples of program file viruses.

2. **Boot viruses :** These are the viruses which infect either the boot records or the master boot records. These viruses become active when the booting of the machine is done. The boot record which is responsible for loading the operating system in memory is replaced by copying it elsewhere. **Stoned virus** and **disk killer** are examples of boot viruses.

3. **Macro viruses :** These viruses use another macro programming language for distributing themselves. Documents such as MS Word and MS Excel are infected.

SYMPTOMS OF COMPUTER VIRUS

Different viruses behave in different manner. When a computer works in a different manner than it normally should, it may indicate an infection. Some of the symptoms which indicate that a computer may have virus are as follows :

(a)   Appearance of unusual messages on the screen.

(b)   The speed of the computer is decreased.

(c)   Files gets deleted from the computer.

(d)   Strange movements and patterns are seen on the screen.

(e)   Reduction in disk space.

(f)   Unexpected rebooting of the computer system.

(g)   Frequently hanging up of the computer system.

(h)   Deleting or damaging of the files.

(i)   Locking up of the keys of the keyboard.

PREVENTING COMPUTER VIRUS

A computer can be protected against computer viruses by limiting the chances of the infection. Some of the possible ways which can help in preventing the virus attack are as follows :

1.   **Equip your computer with Antivirus software :** Antivirus software scans our computer when the computer is turned on. It locates and removes the viruses which are found. Some of the antivirus software's are **McAfee virus** scan, **Symantec Norton antivirus, Dr. Solomon's antivirus** etc.

2.   Avoid the use of software taken from the unreliable sources.

3.   Do not open any files which are attached to an e-mail from an unknown source.

4.   Pirated software should not be used as they have a higher chance of being infected. Buy licensed software.

5.   Content from unreliable sources from the internet should not be downloaded.

6.   Everything that you download should be scanned. A simple virus scanning program can protect your computer against these.

7. Regularly back up your data and store it in a separate place so that they can be recovered with clean virus free copies.

8. Before copying the files from the pen drive or CD always scan them.

9. Scan the computer hard disk twice a month.

MORE ABOUT ANTIVIRUS PROGRAMS

Computer programs which are designed for identifying, preventing and removing the viruses from the computer are known as antivirus software programs. A number of antivirus programs are available for wiping out viruses from the computer. Since more damaging and new viruses are being written for causing a great threat to the computer, the antivirus companies are providing with constant updates to their software. For updating antivirus software a small annual fee is involved. Antivirus software can either or downloaded from the internet or purchased for a price.
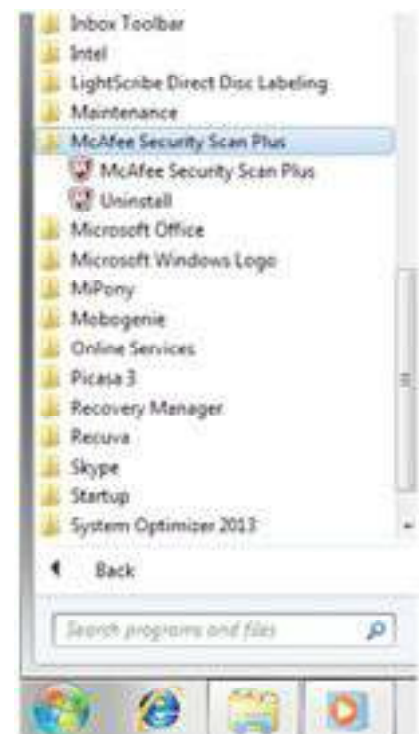

Some popular antivirus software

DID YOU KNOW?
Melissa a type of virus forced many large companies like Microsoft for shutting down their e-mail systems.

USING AN ANTIVIRUS PROGRAM

Let us learn to use an antivirus software on our computer. We are using McAfee antivirus software in the example below, assuming that it has already been installed on the computer. Similar steps can be followed for using any other software.

STEP 1 : For opening McAfee antivirus software click on **Start>all programs>McAfee Security Scan Plus.**

STEP 2 : McAfee window opens up. For scanning your PC click on scan.

STEP 3 : The scanning process starts and displays the following window :

If the viruses are found the antivirus will inform the user and will either delete the virus or will isolate it so that it does not harm the system.

STEP 4 : When the scanning process is completed, the message 'The scan is complete' is displayed.

DID YOU KNOW?

Brain was the first boot sector virus released in 1987.

OTHER HARMFUL PESTS

1. **Spyware :** Computer software which gathers information about a computer user without his knowledge or informed consent and transmits the information to an external entity is known as a spyware.

2. **Trojan :** A program which claims to be something good and appears to be safe, but is malicious is Trojan. It is distributed by people with messages like "Download this program for free" but the program will be a vicious virus for corrupting the files.

3. **Worm :** They spread on their own through the computer networks. Worms are the programs which replicate themselves from system to system without using host file.

ACTIVITY TIME

Find out about some more names of antivirus software. Also find :

- The name of their developers.
- The date when they were developed.

SUMMARY

- A program written for altering the way a computer operates, without the permission of the user is known as a computer virus.
- The actual effect of virus depends on how it was programmed by the person who wrote the virus program.
- A number of antivirus programs are available for wiping out the viruses.
- A virus makes copies of itself.
- Spyware collects information about the users without their knowledge.
- Worm and Trojan horse are other pests which harm the computer as the virus does.
- There are four steps in which a virus spreads first it originates, transmits, reproduces and infects.

EXERCISE

A. Choose the correct options for the following :

1. A computer virus is known so, because :
   - (a) It replicates itself and harms the computer
   - (b) Is developed by programmers
   - (c) Has life
   - (d) Is cured by antivirus software

2. For cleaning computer virus _____ software is used.
   - (a) Operating system
   - (b) Application
   - (c) System
   - (d) Antivirus

3. Computer virus is a :
   - (a) Hardware
   - (b) Program
   - (c) Operating system
   - (d) Storage media

4. _____virus infects the boot record/master boot record.
   - (a) Spyware
   - (b) Macro virus
   - (c) Worm
   - (d) Boot virus

B. Fill in the blanks with correct answers :

1. For wiping out virus _____program is used.

2. Virus _____in the computer without the knowledge of the user.

3. _____are like a computer virus which spread on their own through the computer networks.

4. A computer virus is a _____written for altering the way in which a computer operates without the permission of the user.

5. Computer virus results in loss of _____ & _____of the data.

C. State whether the following statements are true or false :

1. When a virus enters the computer it increases its memory.

2. All viruses are harmful for the computer.

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3. Virus is a program.

4. Viruses do not replicate themselves.

5. Viruses do not enter our computer through external drives which we insert in the computer.

D. Answer the following questions :

1. What is a computer virus?

_____

_____

2. What are the various ways through which a computer virus can spread?

_____

_____

3. What is antivirus software?

_____

_____

4. What are the different ways in which the virus can be prevented from harming our computer?

_____

_____

5. State and explain two other pests which infect and harm our computer.

_____

_____

LAB ACTIVITY

- Install and run antivirus software in your computer and scan for viruses.
- Create a project on types of virus and antivirus software used.
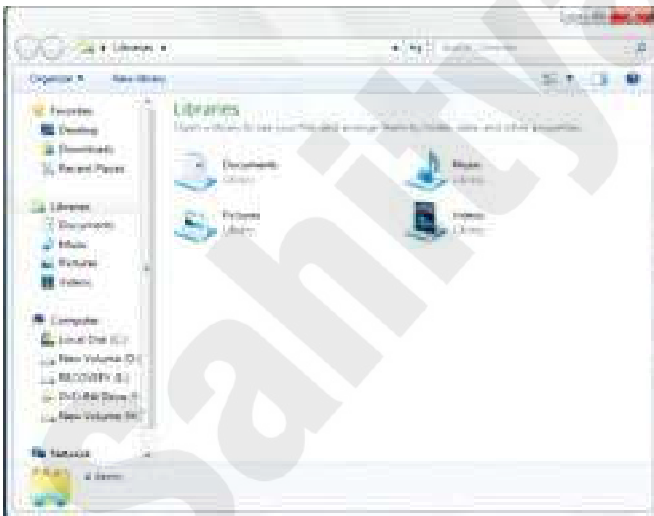- Find out the information about Trojan horse and create a poster on it.

Windows 7—Control Panel

INTRODUCTION

Microsoft Windows is an operating system. It performs a very simple and easy task of managing the data in a computer. It has a Graphical User Interface which allows us to interact with the items on the screen with the help of a keyboard and a mouse. The data available in the computer is stored in the form of files and folders. These files and folders can be located in windows explorer or documents folder, In windows explorer we are able to see the directory structure which displays the files, folders and drives that a computer includes.

Windows Explorer

DID YOU KNOW?

Windows 7 was released in 2009.
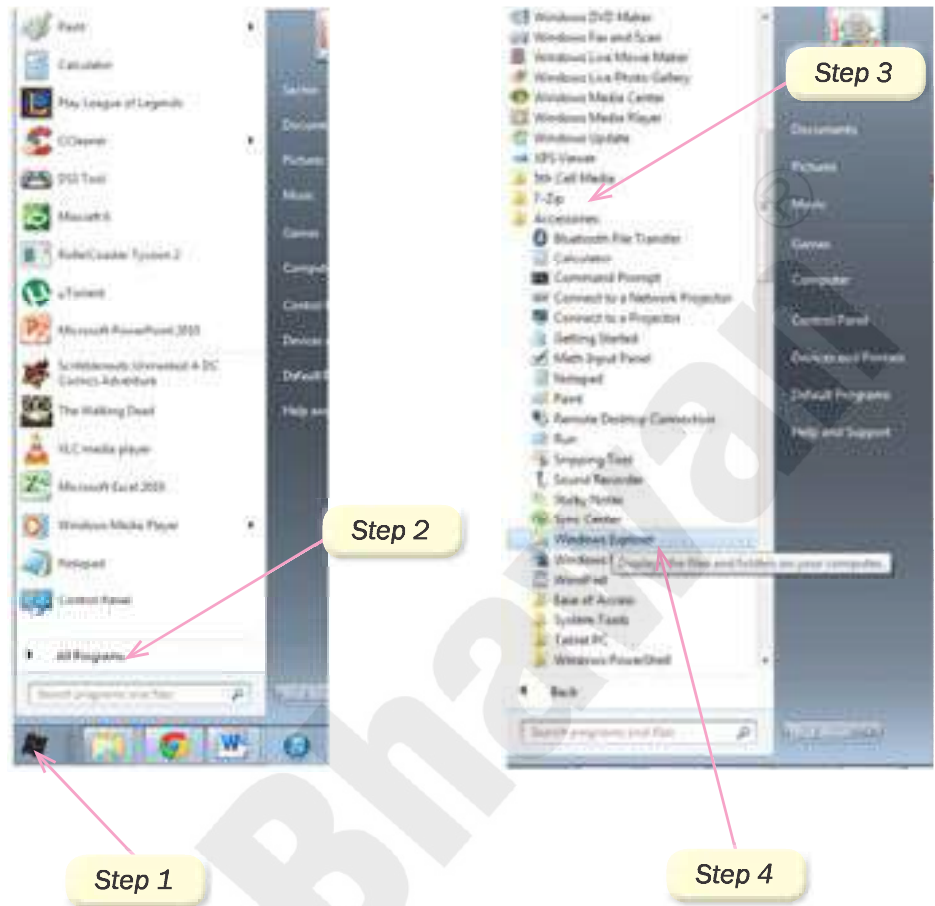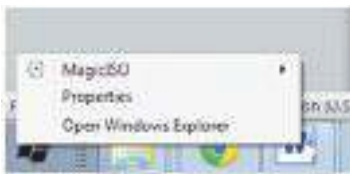
WINDOWS EXPLORER

Windows explorer is used for viewing, organizing and exploring files in a computer. The windows explorer is divided into two different panes *i.e.*, the left pane and the right pane. The left pane of the windows explorer displays the drives and folders in the hierarchical order. The right pane of the windows explorer displays the content of the respected drive or folder which has been selected. There are two different ways in which we can open windows explorer.

METHOD 1

Select
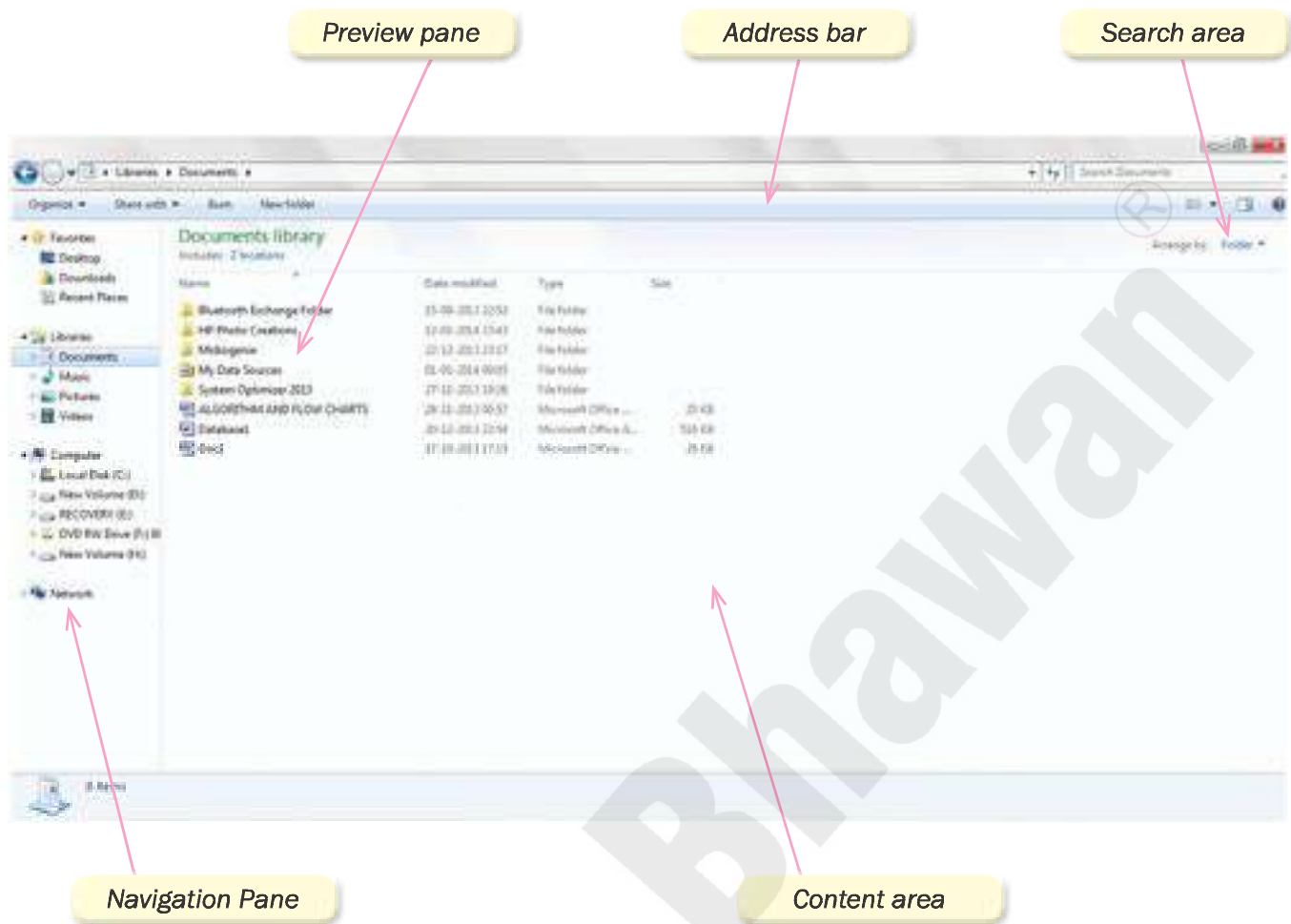START>
ALL PROGRAMS>
ACCESSORIES>
WINDOWS EXPLORER

METHOD 2

Right click on START and select OPEN WINDOWS EXPLORER

Step 1

Step 2

Step 3

Step 4

COMPONENTS OF WINDOWS EXPLORER

Some of the different components of windows explorer window are given below :

	COMPONENET	DESCRIPTION
1.	Navigation Pane	The component used for viewing the files and folders in an organized manner. Files and folders can be moved directly also.
2.	Content area	The content of the selected folder is displayed with the help of this area. Once any folder is selected from the navigation pane this area displays its contents.
3.	Preview pane	The actual contents of the selected file from the content area can be seen with the help of preview pane.
4.	Search area	Name of the respected file or folder which we want to search can be typed here.
5.	Address bar	The current location is displayed.

Components of Windows Explorer

FILES AND FOLDERS

File refers to a collection of information or data stored in the computer. Files are of different types and can be stored on different storage devices. Different types of files store different types of information.

Folders are used for storing files. Files which are stored in the folders are documents, programs or the other computer files. With the help of the folder people are able to organize their files in a better way.

Folders are assembled in libraries. MS Windows has four libraries : pictures, music, documents and videos. The main location where we can store our files is the document folder. The special folders such as music, videos and pictures are designed with the special features for storing specific types of files. There are many different ways in which we can arrange, view and identify our files.

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