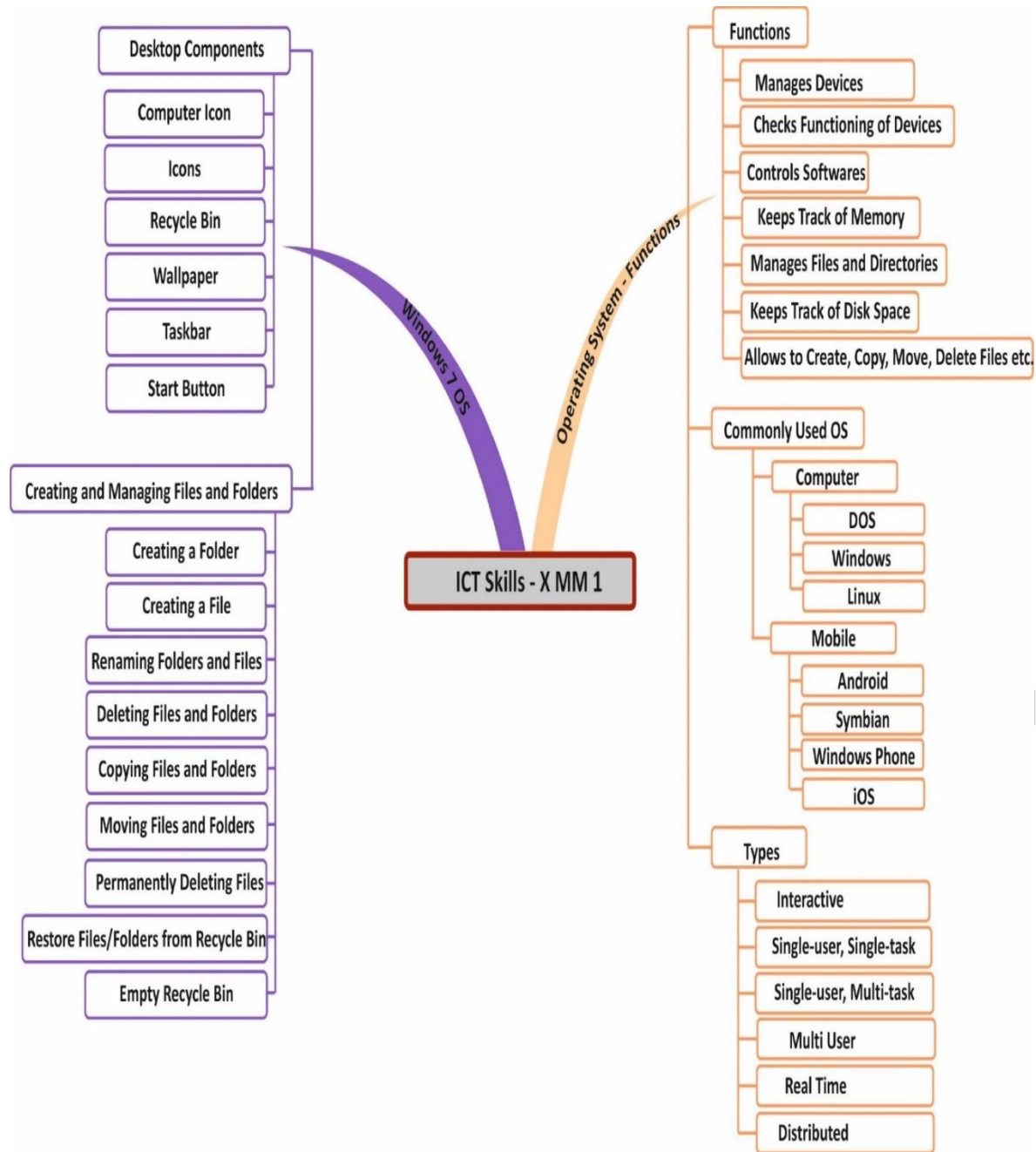
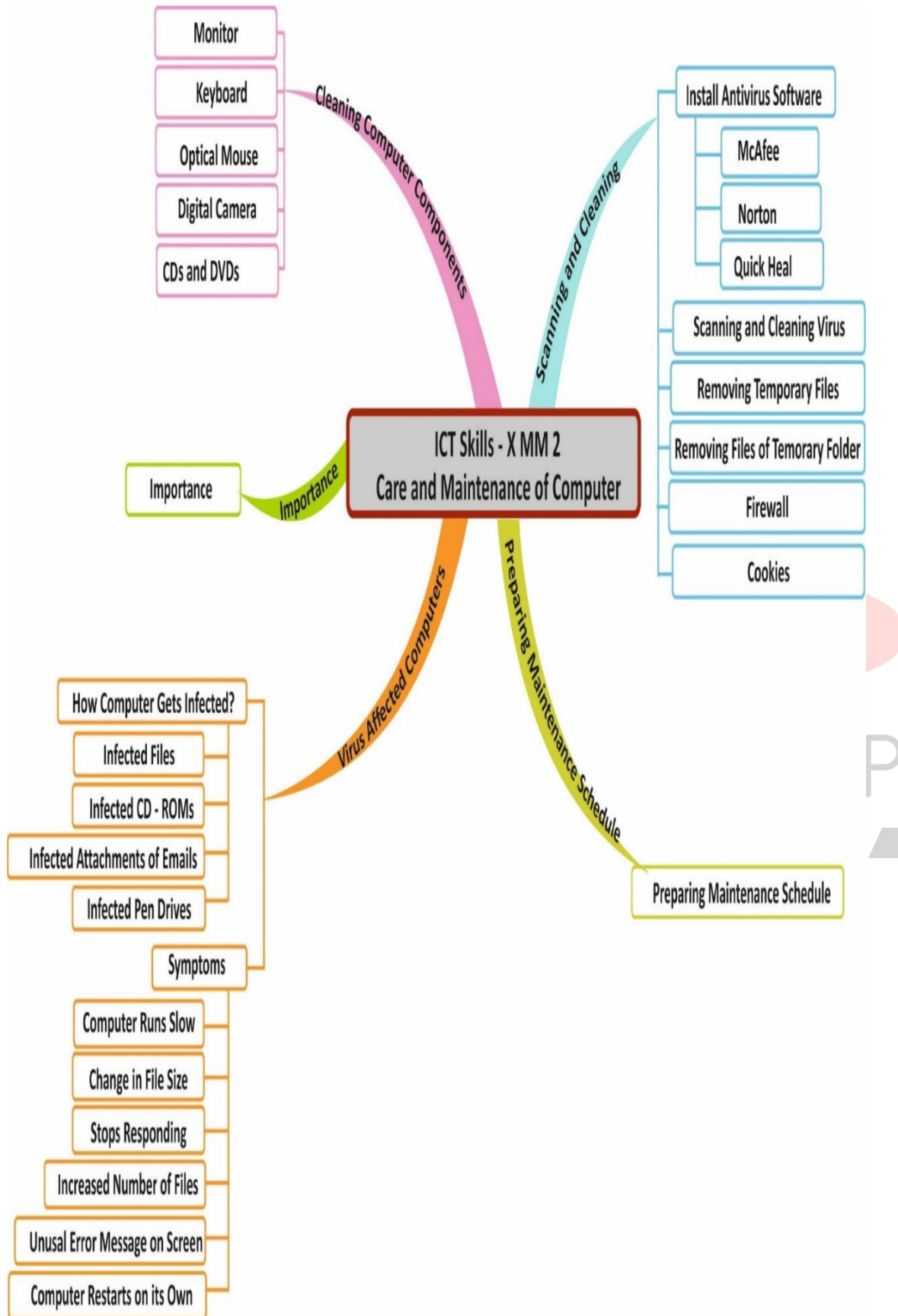


(PART A)CHAPTER-03

INFORMATION AND COMMUNICATION TECHNOLOGY
SKILLS

MEMORY MAP:





Session 1: Basic Computer Operations

ICT skills help us to communicate, run our business and stay connected with our family and friends. Hence, every person needs to acquire ICT skills and build them to stay updated with the latest software and applications (apps).

Computer Hardware and Software

A computer system consists of two main parts—

Hardware: The physical parts that we can see and touch are called hardware. It is the machinery of a computer. These are the keyboard, monitor, CPU, etc.

Software: The part which cannot be seen but it makes hardware to work. Example: Windows, MS office etc.

Operating System (OS). This is the software that starts working as soon as we switch on a computer. It displays the desktop on the monitor. Some of the most commonly used operating systems for laptops and desktop are Ubuntu, Microsoft Windows and Mac OS.

Starting a Computer

To start a computer, press the Power button on the CPU. This will start the operating system and display the desktop on the monitor.

Basic Functions performed when a computer starts a computer automatically runs a basic program called BIOS (Basic Input/Output System) as soon as it is switched on or the power button is pushed on. The BIOS first does a self-test. If the self-test shows that the system is fine, the BIOS will load the Operating System.

Login and Logout

When you login to the computer with your login-ID and password (as shown in Figure 3.5), the computer knows that you are an authorised person and allows you to work on the applications in the computer.

Shutting Down a Computer

You can shut down the windows computer clicking Star button at the bottom left corner and then click Shut Down. When you click Shut down, the Operating System will close all the applications and turn off the computer.

Using the Keyboard

A keyboard is an input device used to type text, numbers and commands into the computer.

Function Keys

Keys labeled from F1 to F12 are function keys. You use them to perform specific functions.

- A: Control keys: Keys, such as Control (CTRL), SHIFT, SPACEBAR, ALT, CAPS LOCK and TAB, are special control keys
- B: Enter key: The label on this key can be either ENTER or RETURN, depending on the brand of computer that you are using. You use the ENTER or the RETURN key to move the cursor to the beginning of a new line.
- C: Punctuation keys: Punctuation keys include keys for punctuation marks, such as colon (:), semicolon (;), question mark (?), single quotation marks (' '), and double quotation marks (" "). (d)
- D: Navigation keys: Keys, such as the arrow keys, HOME, END, PAGE UP, and PAGE DOWN are navigation keys.
- E: Command keys: Keys, such as INSERT (INS), DELETE (DEL), and BACKSPACE are command keys. When the INSERT key is turned ON, it helps you overwrite characters to the right of the cursor.
- F: Windows key: Pressing this key opens the Start menu

Using a Mouse

A small device that you can use to move, select and open items on your computer screen.

Roll Over or Hover

Some actions can be done by simply rolling over or hovering over an item. When you bring the mouse over a file in File Explorer, it will show the details of that file

Point and Click

As you move the mouse on your desk, a pointer moves correspondingly on your screen. When you click a particular file, it gets selected

Drag and Drop

To move an item, you need to click it, and then holding the mouse button down, move the item to a new location. After you move the item to the new location, you release the mouse button. This is called drag and drop.

Double-click

Double-clicking means to quickly click the left mouse button twice. When we double-click on a file, it will open the file.

Session 2: Performing Basic File Operations

Files and Folders

All information stored in a computer is kept in files. Each file is given a file name and has a file name extension that identifies the file type. Example: .txt, .jpg, .mp3.

A folder is a location where a group of files can be stored

Basic Shortcuts

CTRL+z — undo

CTRL+y — redo

CTRL+a — select all

CTRL+x — cut

CTRL+c — copy

CTRL+v — paste

CTRL+p — print

CTRL+s — save.

Session 3: Computer Care and Maintenance

Importance of Care and Maintenance of Computers

Taking care of electronic devices, such as computer and mobiles helps them to work properly.

Basic Tips for Taking Care of Devices

- I. Keyboard: You can clean a keyboard with a soft brush
- II. Screen: You can wipe the screen with a soft cloth to remove any finger marks.

- III. **Be careful with food and drinks:** Avoid eating and keeping glasses of water or cups of coffee near a computer
- IV. **Handle devices carefully:** Handle and move your laptop carefully and avoid dropping or banging it against a hard surface.
- V. **Keep the computer cool:** If a computer, laptop or mobile device gets overheated, the internal parts can be damaged. The CPU has an internal fan to keep it cool. We should make sure the fan is functioning.
- VI. **Do not overcharge your battery:** Sometimes we keep a device plugged in for charging even after it is fully charged. This reduces the battery life. Always unplug the device once it is charged 100%.
- VII. **Always plug in devices carefully:** Any device being connected to a laptop or computer such as a USB drive or headphones, should be done gently. It should not be forced into the port.
- VIII. **Do not run too many programs at a time:** When too many programs are running at the same time, the computer can become slow and even crash.

Prepare a Maintenance Schedule

(a) Daily Maintenance

- I. Clean up your e-mail inbox
- II. Download e-mail attachments and save in proper folders

(b) Weekly Maintenance

- I. Clean your keyboard
- II. Clean your monitor
- III. Dust CPU and printer
- IV. Backup your data to an external drive

(c) Monthly Maintenance

- i. Transfer photographs to computer and delete from drive
- ii. Organise photos into folders or albums
- iii. Clean up 'Download' folder
- iv. Uninstall unused programs and apps
- v. Run disk-cleaner software
- vi. Run full system virus scan

(d) Yearly/Annual Maintenance

- I. Clean up contacts list on social media accounts
- II. Clean up e-mail contact list
- III. Update your operating system

IV. Check for expiry of anti-virus software and renew

Backup Your Data Backing up data means to save the information present on your computer on another device, such as CD/DVD drives. Data can be recovered from here in case the computer stops working completely. Computers can crash, humans can make mistakes and natural disasters, such as floods, can happen.

Scanning and Cleaning Viruses

Sometimes computer viruses can enter a computer from such attacks we can install anti-virus software. This will prevent any viruses from entering and will also clean any viruses that may enter our system before they affect the data.

Increasing Computer Performance If we have been using a computer for a long time we

have a lot of unnecessary files and data, such as temporary files and images. When they use too much hard-disk space, the performance of the computer goes down. It is important that we keep cleaning by removing any extra files.

Removing SPAM from your Computer

Sometimes we get emails from companies who are advertising a product or trying to attract you to their website. Such mails are called SPAM. We should never respond to SPAM and delete it on a regular basis.

Session 4: Computer Security and Privacy

Threats to Computer

Threats are the ways in which personal information can be leaked from a computer without our knowledge.

(a) Theft: Theft means stealing of information or hardware. These may be of three types:

- **Physical:** Where a person may steal your desktop computer or laptop.
- **Identity:** Where a hacker steals your personal information and assumes your identity. Using this false identity, the hacker can gain access to your account information or perform illegal activity.
- **Software Piracy:** This is stealing of software and includes using or distributing unlicensed and unauthorised copies of a computer program or software.

(b) Virus: Viruses are computer programs that can damage the data and software programs or steal the information stored on a computer. Major types of viruses are Worms and Trojan Horse.

Worms: These are viruses that replicate themselves and spread to all files once they Information and Communication Technology Skills 81 attack a computer. This makes it very difficult to remove them.

Trojan Horse: A Trojan Horse disguises itself i.e., it appears to be a useful software program but once it reaches a computer it starts behaving like a virus and destroying data.

- **Online Predator:** Online predators are people who trap you into inappropriate relationships. They may be older people posing to be your age, bullying you into doing illegal activities online and sometimes face to face.
- **Internet Scams:** Sometimes you may receive very attractive offers saying you have won huge money in a lottery and that you can claim the prize by depositing a certain amount of money. When you deposit the money using credit card or online banking, you not only lose the deposit money but your card/account information may be misused later.

Protecting your Data

- A: Use passwords to login to your computer: Use passwords that are difficult to guess. Passwords are difficult to hack if they are a mix of small (For example 'a b c d') and capital letters (For example, 'H J E R'), numbers (For example '8 7 6 5') and special characters (For example, '% ^ # \$'). This would prevent unauthorised people from using your computer.
- B: Install Anti-virus and Firewall: Anti-viruses and Firewall monitor the data coming in and out of a computer and prevent and viruses from entering. Anti-viruses can also detect and clean viruses that may have entered a computer.
- C: Encrypt Data: This is usually done by banks and companies in which important customer information is stored. They can encrypt their entire hard disk using the encrypting feature in Windows (Bitlocker). This would force users to use a decryption password (or key) before starting the computer thus preventing unauthorised usage.
- D: Secure sites: Give details of your credit card or bank account only on secure sites. See in the address bar of the browser. If the site address starts with https://and a lock symbol, then it is safe to give your credit card and bank details.

Question And Answer

A. Basic ICT Skills Class 10 MCQ (1 mark)

Session 1

1. Which of the following functions is not performed using a mouse?
 - (a) Turn on
 - (b) Hover

- (c) Right click
- (d) Drag and Drop

Ans: (a) Turn on

2. What is the term used when you press and hold the left mouse key and move the mouse around?

- (a) Highlighting
- (b) Dragging
- (c) Selecting
- (d) Moving

Ans: (b) Dragging

3. Here are the steps that take place when starting a computer. Rearrange the steps in the correct order.

- (a) Desktop appears after login
- (b) Login screen appears
- (c) Power-on Self-Test (POST) starts
- (d) Operating system starts
- (e) Welcome screen appears

Ans: (c) >> (d) >> (e) >> (b) >> (a)

4. One Word Questions: -

(a) What is the name given to the screen that appears after Windows operating system is loaded? **Desktop**

(b) Small images on the desktop are called **Icons**

(c) Name two special icons on the Desktop. **Computer**

(d) Name the icon that provides access to all the drives, files and folders on a computer. **Recycle Bin**

(e) Name the button to the left of the taskbar. **Computer**

(f) Picture for the desktop background is called **Start Button**

(g) Similar types of files can be placed into group called **Wallpaper**

(f) To change the name of the folder, right-click and select _____ option from the Shortcut menu. **Folder**

(g) Name the set of commands to move a folder from one location to another. **Rename**

(h) Name the place where deleted files are placed. **Ctrl + X**

(i) How can you empty the recycle Bin? **Recycle Bin**

(j) How can you empty the recycle Bin? **click Empty Recycle Bin**

Session 2

5. Which one of the following shortcut keys is used to paste a file?

- (a) Ctrl + c
- (b) Ctrl + p

- (c) Ctrl + v
- (d) Ctrl + x

Ans: (c) Ctrl + v

6. Which of the following is a valid file extension for Notepad file?
- (a) .jpg
 - (b) .doc
 - (c) .text
 - (d) .txt

Ans: (d) .txt

7. What keys do you use to copy something?
- (a) Ctrl+x
 - (b) Ctrl+c
 - (c) Ctrl+z
 - (d) Ctrl+y

Ans: (b) Ctrl + c

8. Write Shortcut keys: -
- (a) CTRL+z : **UNDO**
 - (b) CTRL+y : **REDO**
 - (c) CTRL+a : **SELECT ALL**
 - (d) CTRL+x : **CUT**
 - (e) CTRL+c : **COPY**
 - (f) CTRL+v : **PASTE**
 - (g) CTRL+p : **PRINT**
 - (h) CTRL+s : **SAVE**

Session 3

9. What happens if you leave a device plugged in even after it is charged 100%?
- (a) It can break.
 - (b) It can stop functioning.
 - (c) It can overheat.
 - (d) Data can get corrupt.
10. How can an antivirus protect your device?
- (a) It can protect it from overheating.
 - (b) It can increase its performance.
 - (c) It can prevent data from getting corrupt.
 - (d) It can backup data.
11. Which option is not required to keep a device cool?
- (a) Keep the device unplugged when in use.
 - (b) Do not cover a laptop with a blanket.
 - (c) Make sure the computer's CPU fan is working.
 - (d) Avoid leaving the device in the sun.
12. Which of the following is essential for maintaining a keyboard?

- (a) Turn the keyboard upside down and shake it to remove foreign material.
- (b) Blow dust and other particles with help of a blower.
- (c) Use a very dilute combination of soap and water applied with a non-abrasive cloth to remove stains from the keycaps.
- (d) All of the above.

Answer:-

9. c 10. c 11. a 12. d

Session 4

13. What should you do to ensure secure online transactions?
 - (a) Lock your computer
 - (b) Give credit card or bank details only on safe websites
 - (c) Use anti-virus
 - (d) Do not use pirated software
14. Which of the following trap small children into inappropriate relations?
 - (a) Online predators
 - (b) Worms
 - (c) Trojan Horse
 - (d) Anti-Virus
15. What should a strong password consist of?
 - (a) Only letters
 - (b) Numbers and special characters
 - (c) Name of a person
 - (d) Letters, numbers and special characters

Answer:-

13. b 14. a 15. D

B. Subjective Important questions of Basic ICT Skills Class 10

Session 1

1. What is the function of the ENTER key?
Ans: Enter key is used to enter commands or to move the cursor to the beginning of the next line.
2. How will you prevent others from using your computer?
Ans: A login ID and password is like a key to the lock which allows you to use the computer. When you login to the computer with your login-ID and password, the computer knows that you are an authorised person and allows you to work on the applications in the computer. Once you finish working, you must log out or sign out so that no one else can see your work.
3. What is Operating System? Write their function.

Ans: An operating system is a software that serves as an interface between the user and the computer.

Some of the functions of Operating system are:

- It manages all the devices of a computer and keeps track of the status of the device, whether it is busy or not.
- It also checks whether the device is functioning properly or not.
- It also controls software resources of the computer.
- It manages the computer memory and keeps track of which memory space is in use by which program and which space is free.
- It manages the structure of the files and directories on a computer system.
- It keeps track of the amount of disk space used by a specific file.
- It allows you to create, copy, move and delete files.

4. Write any 3-computer operating system.

Ans: Computer Operating system are:-

- **DOS (Disk Operating System)**
- **Windows** It is an operating system developed by Microsoft.
- **Linux** It is an operating system designed for personal computers. It is a free and open-source software.

5. Write some mobile operating system name.

Ans: Mobile operating Systems

- ✓ Android
- ✓ Symbian
- ✓ Windows Phone
- ✓ iOS

Session 2

6. How is a computer file system similar to our physical file system in a school?

Ans: In any school (or office), each teacher has a separate cabinet as where they keep the files of different students or classes on separate shelves. Similarly, information on a computer is stored in electronic files, which can be put into separate folders.

7. What are the steps you will perform to save a text file in Ubuntu?

Ans: To save the file click Save. In the Save As dialog box, browse to the Desktop folder, type the name as 'Neha' and click Save.

Session 3

8. Explain how to clean a computer on a daily basis.

Ans: Clean a computer on a daily basis are :-

- (a) Clean up your e-mail inbox
- (b) Download e-mail attachments and save in proper folders

9. How can you increase the performance of a computer?

Ans: If we have been using a computer for a long time we have a lot of unnecessary files and data, such as temporary files and images. When they use too much hard-disk space, the

performance of the computer goes down. It is important that we keep cleaning by removing any extra files. We can use some disk cleaner software, which help us clean up the unnecessary files.

10. Identify the importance of taking care of computers.

Ans: A computer is a delicate machine with a lot of moving electronic parts. We need to protect it from dust and damage. If we are careless, it will not work efficiently. Computers and mobiles are very expensive. When we take good care of them on a regular basis, we can use them for a longer time. This will help us save money as we do not need to buy new devices too often.

11. List the various ways in which computers can be damaged.

Ans: Computers can crash, humans can make mistakes and natural disasters, such as floods can happen. So, it is important for companies, hospitals, banks, etc., to keep their information safe — so that their business can continue to function smoothly and their customers do not face problems.

12. Demonstrate how to prevent damage and take care of computers.

Ans: Backup Your Data: Backing up data means to save the information present on your computer on another device, such as CD/DVD drives as shown in Figure 3.28 or hard disk. Data can recover from here in case the computer stops working completely.

Scanning and Cleaning Viruses: Sometimes computer viruses can enter a computer from such attacks we can install anti-virus software. This will prevent any viruses from entering and will also clean any viruses that may enter our system before they affect the data.

Increasing Computer Performance: If we have been using a computer for a long time, we have a lot of unnecessary files and data, such as temporary files and images. When they use too much hard-disk space, the performance of the computer goes down. It is important that we keep cleaning by removing any extra files. We can use some disk cleaner software, which help us clean up the unnecessary files.

Removing SPAM from your Computer: Sometimes we get mails from companies who are advertising a product or trying to attract you to their website? Such mails are called SPAM. We should never respond to SPAM and delete it on a regular basis.

Session 4

13. Explain how Trojan Horse virus works.

Ans: A Trojan Horse disguises itself i.e., it appears to be a useful software program but once it reaches a computer it starts behaving like a virus and destroying data.

14. List the various ways you can use to protect your data.

Ans: To protect our data from theft and viruses we can take the following measures:

(a) Use passwords to login to your computer: Use passwords that are difficult to guess. Passwords are difficult to hack if they are a mix of small (For example 'a b c d') and capital letters For example, 'H J E R'), numbers (For example '8 7 6 5') and special characters (For example, '% ^ # \$'). This would prevent unauthorised people from using your computer.

(b) Install Anti-virus and Firewall: Anti-viruses and Firewall monitor the data coming in and out of a computer and prevent and viruses from entering. Anti-viruses can also detect and clean viruses that may have entered a computer.

(c) Encrypt Data: This is usually done by banks and companies in which important customer information is stored. They can encrypt their entire hard disk using encrypting feature in Windows (Bit locker). This would force users to use a decryption password (or key) before starting the computer thus preventing unauthorised usage.

(d) Secure sites: Give details of your credit card or bank account only on secure sites. See in the address bar of the browser. If the site address starts with https://and a lock symbol, then it is safe to give your credit card and bank details.

15. What is Importance and need of care and maintenance of computer?

Ans: Importance and need of care and maintenance of computer are:-

- a. Keep the computer dust free.
- b. Do not eat or drink while working on the computer. Food or drink may spill on the system.
- c. To keep the keyboard clean, make sure your hands are clean before using it.
- d. CDs and DVDs should be handled carefully so that it does not get any scratches.
- e. Keep keyboard covered when not in use.

16. What is Firewall?

Ans: A computer firewall could be a programmable device or a software or a network security system that monitors and controls incoming and outgoing network traffic based on user-defined security rules.

17. What are Cookies?

Ans: In computing, cookies are small files which are stored on a user's computer when you visit a website on the internet. These files are designed to hold data specific to a particular client and website.

18. What is antivirus? Give some Example.

Ans: Antivirus software is a program designed to detect and remove malicious programs from the computer.

Some examples of antivirus software are McAfee Virus Scan, Norton AntiVirus, Microsoft Security essentials, and Quick Heal.

19. **Identify the importance of securing our computers and data.**

Ans: **Computer security** is **important** because it keeps your information protected. It's also **important** for your **computer's** overall health; proper **computer security** helps prevent viruses and malware, which allows programs to run quicker and smoother.

20. **List the various threats to a computer and its data.**

Ans: Threats are the ways in which personal information can be leaked from a computer without our knowing.

(a) **Theft:** Theft means stealing of information or hardware. These may be of three types:

- **Physical:** Where a person may steal your desktop computer or laptop.
- **Identity:** Where a hacker steals your personal information and assumes your identity. Using this false identity, the hacker can gain access to your account information or perform illegal activity.

- **Software Piracy:** This is stealing of software and includes using or distributing unlicensed and unauthorized copies of a computer program or software.

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