

Unit 3: Information and Communication Technology

Assignment Solutions

Multiple-Choice Questions (MCQs)

1. Which of the following is a type of virus?
 - a. File infectors
 - b. Boot sector viruses
 - c. Macro viruses
 - d. All of these

Ans. d

2. Which of the following is not an example of antivirus software?
 - a. Windows 10
 - b. Norton Antivirus
 - c. McAfee
 - d. Smart Cop

Ans. a

3. Which of the following is the process that deals with keeping a computer dust-free?
 - a. Maintenance
 - b. Backup
 - c. Configuration
 - d. None of these

Ans. a

4. Which of the following is not an example of antivirus software?
 - a. Norton Antivirus
 - b. McAfee
 - c. Smart Cop
 - d. Windows 10

Ans. d

5. Which of the following statements correctly explains data security?
 - a. Data security protects only hardware from dust
 - b. Data security ensures data is safe from unauthorized users and viruses
 - c. Data security is needed only while browsing the Internet
 - d. Data security means deleting unused files

Ans. b

Very Short Answer Questions

1. Name the shortcut key to delete a file or folder permanently.

Ans. Shift + Delete

2. What do you mean by data security?

Ans. Data security means protecting data from unauthorized access, misuse, viruses, and accidental loss.

3. What are the two types of real-time operating systems?

Ans. Hard real-time operating system and soft real-time operating system.

4. Riya is programming a robot that must respond immediately. Which OS should she use and why?

Ans. She should use a real-time operating system because it gives instant responses without delays.

5. What happens when you delete a file or folder from your computer?

Ans. It moves to the Recycle Bin unless deleted permanently.

Short Answer Questions-I

1. What do you mean by firewall?

Ans. A firewall is a security system that monitors and controls incoming and outgoing network traffic. It prevents unauthorized access and protects the system from harmful activities.

2. Write the steps to restore a file from the Recycle Bin.

Ans. The steps to restore a file from the Recycle Bin are:

- i. Double-click the Recycle Bin.
- ii. Right-click the file you want to restore.
- iii. Click Restore to return the file to its original location.

3. Write the steps to delete a folder in Windows 10.

Ans. The steps to delete a folder in Windows 10 are:

- i. Open File Explorer.
- ii. Select the folder you want to delete.
- iii. Press the Delete key.

4. What do you mean by an operating system?

Ans. An operating system is system software that manages computer hardware and acts as a link between the user and the computer.

5. What are the common symptoms of a virus attack?

Ans. Slow system performance, disappearance of files, strange error messages, and frequent system freezing or crashing.

Class X: Unit 1

Short Answer Questions-II

1. Write the steps to add shortcut icons on the desktop.

Ans. The steps to add shortcut icons on the desktop are:

- Open the Start Menu.
- Go to Windows Accessories.
- Drag the desired program (like Notepad) to the desktop to create a shortcut.

2. What is the procedure to rename files?

Ans. The procedure to rename files are:

- Right-click the file or folder.
- Select Rename.
- Type the new name and press Enter.

3. Give any four tips to keep the computer in perfect condition.

Ans. Four tips to keep the computer in perfect condition are:

- Clean the CPU fan and remove dust.
- Use proper wipes to clean the monitor.
- Sanitize the keyboard and mouse.
- Update antivirus and delete unwanted programs regularly.

4. Differentiate between files and folders.

Ans. A file is a collection of related information stored on a computer. It can contain text, images, audio, video, or software data. Each file has a name and an extension such as .docx, .jpg, .pdf, or .mp4, which tells the computer what type of content it holds and which application should open it. A folder, also called a directory, is a container used to store and organise multiple files and even other subfolders. Folders help in keeping the computer organised by grouping similar files together. Unlike files, folders do not hold content directly but act as storage spaces for managing data neatly.

5. Ravi's computer is slow, shows errors, and files are missing. What is the reason and what should he do?

Ans. Ravi's computer is infected with a virus from an unsafe download. He should run an antivirus scan, delete or quarantine infected files, avoid downloading from unknown sites, and update his antivirus regularly.

Long Answer Questions

1. What do you mean by antivirus software? Explain with examples.

Ans. Antivirus software is a special type of computer program designed to identify, prevent, and remove harmful viruses, malware, spyware, worms, and other malicious programs from a computer system. When a virus enters the computer, it can damage files, slow down the system, steal personal information, and even make the computer unusable. The antivirus acts like a security guard that constantly checks all files, folders, and programs to ensure they are safe to use.

Antivirus software regularly scans the computer's memory, hard drive, and external devices like pen drives or hard disks. It compares the files with a database of known virus signatures. If any match is found, the antivirus immediately removes the infected file or keeps it in quarantine so that it cannot harm the system. Most antivirus programs also offer real-time protection, which means

they monitor all activities of the computer continuously.

Modern antivirus programs can also block unsafe websites, alert users about suspicious downloads, check emails for harmful attachments, and protect the computer from hacking attempts. They need to be updated regularly so they can recognise new viruses created every day.

Examples of commonly used antivirus software include Norton Antivirus, McAfee, Quick Heal, Smart Cop, Kaspersky, and Avast.

2. Write the steps to scan a computer for viruses using antivirus software.

Ans. Scanning a computer for viruses is an important task to ensure that the system stays safe, fast, and free from harmful programs. Most antivirus software provides easy-to-use options for scanning, and the steps are generally similar in all antivirus programs.

To scan a computer, first the user must open the antivirus software installed on the system. Once it opens, the antivirus usually shows different options like Quick Scan, Full Scan, Custom Scan, and Scheduled Scan. Quick Scan checks only the most important areas of the computer, such as system memory and critical folders, whereas Full Scan checks every file, folder, and drive thoroughly. A Custom Scan allows the user to select specific folders or drives to scan.

Before starting the scan, it is recommended to update the antivirus so it can detect the latest viruses. When the scan begins, the antivirus examines each file one by one. This process may take a few minutes or several hours depending on the size of the data. After completing the scan, the antivirus shows a report listing all the infected files found, if any. The user can then choose to delete, repair, or quarantine the infected files. Finally, the computer may be restarted if the antivirus suggests it, to complete the cleaning process.

3. What do you understand by files and directories?

Ans. A file is a collection of information stored on a computer in digital form. It can contain different types of data such as text, images, videos, audio, programs, or presentations. Each file has a name and an extension, such as .docx, .jpg, .mp4, .pdf, or .exe, which helps the operating system understand what type of data the file contains and which software should be used to open it.

A directory, also known as a folder, is used to organise and store multiple files in a structured manner. Without directories, files would be scattered everywhere, making it difficult to locate or manage them. Directories can also contain subdirectories or subfolders, which help in grouping similar files together. This creates a hierarchical (tree-like) structure that starts with a drive, followed by folders, subfolders, and finally files.

For example, a computer may store documents in a folder called "My Documents." Inside this folder, there could be separate subfolders for schoolwork, photos, music, or projects. This organisation helps users find data quickly and prevents confusion. Properly managed files and directories also make backups easier and prevent accidental loss or duplication of data.

4. Ritika connected several pen drives and downloaded files from an unsafe website without scanning them. Her computer is slow and some files are corrupted. Explain the possible reasons and suggest measures she should take.

Ans. Ritika's computer is showing signs of virus infection because she used multiple pen drives from different sources without scanning

them and downloaded files from an unsafe website. Pen drives and unverified downloads are common sources of computer viruses. When such files enter the system without scanning, harmful programs like worms, Trojans, or macro viruses can easily infect the computer.

These viruses might corrupt files, change file locations, duplicate themselves, or even hide important documents. This is why Ritika is experiencing slow performance and corrupted files. Some viruses also run unwanted programs in the background, use the system's memory, and cause frequent freezing or unexpected restarts. If the infection spreads, the operating system may become unstable.

To fix the problem, Ritika should immediately run a full antivirus scan on her computer. She must delete or quarantine all infected files detected by the antivirus. After that, she should remove unknown or suspicious programs that may have installed themselves. Restarting the computer after cleaning will also help.

To prevent similar problems in the future, Ritika should always scan pen drives before opening them. She must avoid downloading files from unknown or untrusted websites. Keeping her antivirus software updated and installing regular system updates will help protect the computer from new threats. She should also create backups of important files to avoid data loss in case of infection.

5. Manish's computer is dusty, slow, and freezing. The keyboard is sticky and the monitor is dirty. Explain the reasons for these issues and suggest cleaning and maintenance measures.

Ans. Manish's computer problems are mainly due to poor physical maintenance and lack of system care. Dust is one of the biggest enemies of computers. When dust collects inside the CPU cabinet, it blocks the airflow by clogging the cooling fan. This makes the computer overheat, which slows down the processor and causes frequent freezing or shutdowns. A dusty monitor reduces screen visibility, and a dirty keyboard with sticky keys makes typing difficult and may even lead to keyboard malfunction.

Apart from physical issues, a lack of software maintenance such as not updating antivirus or keeping unwanted programs can slow down the system even more. Old temporary files, unused applications, and outdated software put extra load on the CPU and memory.

To solve the problems, Manish should clean the CPU carefully by removing dust from the ventilation areas and fans. The keyboard must be cleaned using a soft brush or compressed air, and the keys should be wiped with a disinfectant cloth. The monitor should be cleaned using screen-safe wipes or a microfibre cloth. The mouse should also be cleaned properly to ensure smooth movement.

In addition to physical cleaning, Manish should update his antivirus to protect the system from threats, remove unwanted programs, clean temporary files, and perform regular system updates. Proper maintenance, both physical and digital, will improve the computer's speed, extend its life, and prevent future problems.