SELF-MANAGEMENT SKILLS

Class X , Ch-3 Information and Communication Technology Skills: II (IT #402)

Session 4: Computer Security and Privacy

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Link for more material:

https://csiplearninghub.com/unit-3-basic-ict-skills-class-10-notes-it-402/

After completing this session, you will be able to

- identify the importance of securing our computers and data.
- list the various threats to a computer and its data.
- list the various ways to protect data.

1. Explain how Trojan Horse virus works.

Ans: 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.

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

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Antivirus

(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.

Data encryption

3. 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.

4. 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 maybe 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.

Physical stealing

Online stealing

(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 attack a computer. This makes it very difficult to remove them.

Worm virus

• **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.

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• **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 a 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.

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Personal information can be lost or leaked in two ways:
1. We are not careful in giving out personal information over the Internet. For example, we share our account details and password on unsecure sites.
2. A person gets unauthorised access to our computer. This can happen in the office if we leave are computer without logging out.

List the various threats to a computer and its data.

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• **Worms**: These are viruses that replicate themselves and spread to all files once they attack a computer. This makes it very difficult to remove them.
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(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.

A. Multiple choice questions

Read the questions carefully and circle the letter (a), (b), (c) or (d) that best answers the question.

1. 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

2. Which of the following trap small children into inappropriate relations?

(a) Online predators

(b) Worms

(c) Trojan Horse

(d) Anti-Virus

3. 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

B. Subjective questions

1. Explain how Trojan Horse virus works.

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

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