

# Chapter 8: Societal Impacts of IT

## Solutions

### Summative Assessment

#### Multiple-Choice Questions (MCQs)

1. The following is one of the stages in the life cycle of a virus:
- Creation
  - Assimilation
  - Eradication
  - All of these

Ans. d

2. .... refers to the condition in which your computer stops working.
- Hang
  - Virus attack
  - Hacking
  - None of these

Ans. a

3. Which of the following is not a form of virus threat?
- Worm
  - Trojan
  - Malware
  - SSL

Ans. d

4. Which of the following types of virus affects the program files on your computer?
- File infectors
  - Boot sector viruses
  - Macro viruses
  - Adware

Ans. a

#### Very Short Answer Questions

5. What do you understand by hacking?

Ans. A person who uses his knowledge to break into a computer to steal sensitive information is known as a hacker and this process of stealing sensitive information is called hacking.

6. Define spamming.

Ans. Spamming refers to the act of posting bulk messages to several users simultaneously by a known or unknown source.

7. Name different types of data backups.

Ans. Data backups are of two types: full backup and differential backup.

8. Why should you take backup of your data?

Ans. To safeguard your data from being corrupted or deleted in case of any emergency like theft or fire, you should take regular backups of the important data residing in your hard drive.

9. Give examples of some popular antivirus software.

Ans. The examples of some popular antivirus software are:

- Norton Antivirus

- McAfee
- Smart cop

10. Define online backup.

Ans. In online data backup, you send your data to a remote server through the Internet.

#### Short Answer Questions

11. List some ways in which viruses can enter your computer.

Ans. Some of the ways in which viruses can enter your computer are as follows:

- Opening documents with infected e-mail attachments
- Downloading infected wallpapers and software from the Internet
- Installing infected software
- Attaching infected external devices, such as CD or Universal Serial Bus (USB) drive
- Visiting dubious websites

12. What are the damages that a virus attack can cause to a computer?

Ans. A virus attack can:

- Steal sensitive or important data
- Corrupt your documents
- Slow down your computer

13. Write a note on the differential backup.

Ans. In differential backup, backup is taken of only the data or files that are created or altered after the last full backup. Differential backups, taken almost immediately after the base backup, are generally smaller than the base backup. Therefore, these backups are created faster than the base backup.

14. Name some security provisions related to e-commerce.

Ans. E-commerce must ensure the following security provisions:

- **Privacy:** Implies that the information provided by a user must be secured from other users
- **Integrity:** Implies that the information sent by a user must not be tampered or altered
- **Authentication:** Implies that the sender and receiver of information must prove their identities to each other
- **Non-Repudiation:** Refers to the proof that the information was indeed received

15. What precautions can you take to prevent a virus attack on your computer?

Ans. You can take these precautions to prevent a virus attack on your computer:

- Avoiding the temptation to open e-mail attachments and

downloads from unreliable sources. Resist the urge to double-click everything in your mailbox. If you get an unexpected file attachment, send an enquiry e-mail to its sender. Ask him about the nature and function of the file attachment.

- Installing a reliable anti-virus scanning software and downloading its updates regularly. Major anti-virus software vendors, including Symantec, Network Associates, Computer Associates, and Trend Micro, provide regular updates. Some vendors also offer a service that automatically retrieves updates on your computer from the company's website.
- Installing only licensed software.
- Scanning files downloaded from the Internet or other external sources.
- Keeping regular backups of your data.

**16. Cite some circumstances in which you can lose your data.**

Ans. Circumstances in which data can be lost are:

- **Hardware failure:** Refers to the failure of computer hardware devices due to their limited lifetime. Hardware failures, such as corruption of the hard disk drive, may lead to data loss. Therefore, during hardware failure, the lost data can be restored from a backup.
- **Accidental deletion or modification of data:** Refers to the threat of accidental deletion or modification of data. For example, you may accidentally delete an important file from your computer. In such a case, the deleted file can be restored from a backup.
- **Restoration of the old version of a file:** Regular backups allow you to recover the old information. If you need to access an old version of a modified file, you can do so if regular backups have been performed on your computer data.
- **Unauthorized deletion or modification of data:** Regular backups allow you to restore data that has been deleted or modified by an unauthorized user.

**17. How is online backup beneficial as compared to other types of backup?**

Ans. In online data backup, you send your data to a remote server through the Internet. You can easily restore your data in case of data loss by connecting to the remote server. Online backup is a very convenient method for restoring data, especially for businessmen on the move since it can be done from anywhere in the world. The advantages of online backup are as follows:

- Costs less than other modes of backup
- Does not need hardware, such as CDs and DVDs to take the backup; therefore, it saves you the trouble of maintaining or repairing hardware
- Allows you to restore your backup from any location in the world anytime
- Provides a high level of security as your data is encrypted before it is sent to the remote server
- Keeps your backup safe from threats, such as theft, fire, earthquake, and other such disasters as the backup is stored on a remote server

**18. Write a short note on ethics.**

Ans. Ethics play a key role in our life, be it at work or at home. They refer to the way we conduct ourselves in different circumstances. Applying ethics to the world of the Internet means we must ensure that our actions do not harm or cause inconvenience to other online users. In other words, we must observe proper etiquettes on the Internet.

**19. List some cases in which antivirus software does not protect your computer.**

Ans. Anti-virus software cannot protect your computer against the following cases:

- Software that you have deliberately installed, which may contain unwanted features
- Spam
- Online fraud and phishing
- Hackers who break through your computer security

### Long Answer Questions

**20. How does phishing take place?**

Ans. Phishing refers to a technique of obtaining personal information, such as login name, password, and credit card details of another person without his/her knowledge or consent. Phishing normally takes place through e-mail or instant messaging. In phishing, an imposter sends you an e-mail or uses a website that looks genuine to trick people into giving important information about them. For example, the imposter may send an e-mail (which appears genuine to you), pretending to be a representative of your company. In the e-mail, he may ask you to update your information online by clicking a specified link. As you click the link, you may be redirected to a fraudulent website where you are asked to enter important information about yourself, which can later be used for cyber-crime and fraud.

**21. How does antivirus software work?**

Ans. Antivirus software installed in your computer works by finding out whether the virus that has attacked your computer is already known or unknown. If it is a known virus (one that has already been detected and has an antidote written for it), the software looks for the virus's signature, a unique string of bytes similar to a fingerprint that identifies the virus, and removes it from your computer. Most scanning software are able to detect not only an initial virus but also several of its variants because the signature code usually remains intact.

In the case of new viruses for which no solution has been created, the virus scanning software employs heuristics that look for unusual virus-like activity on your computer. If the program finds any suspected activity, it quarantines the questionable program and broadcasts a warning to you about what the program may be trying to do (such as modifying your Windows Registry).

**22. What do you understand by quarantining a virus?**

Ans. Quarantine means keeping the virus in some isolated place on your computer under strict vigilance so that it cannot do further harm to your computer. If you think the program may be a virus, you can send the quarantined virus to the antivirus vendor, where researchers examine it, determine its signature, name and catalog it and release its antidote. If the virus never appears again, which often happens when it is poorly written, the vendor categorizes the virus as dormant.

**23. Why do you need to install antivirus software in your computer?**

Ans. As you know, viruses can damage your computer or access sensitive information on it. To avoid such a situation, you must install anti-virus software on your computer. Without an anti-virus, your computer will remain susceptible to virus attacks.

**24. What do you understand by SSL?**

**Ans.** The Secure Socket Layer (SSL) is a protocol which ensures that sensitive information can be transmitted safely online. It establishes an encrypted link between a Web server and a browser to ensure the security of the information that is exchanged between the two. Today, millions of websites use SSL to provide protection to their users.

**25. What are the main reasons that restrict users from performing financial transaction online?**

**Ans.** It has been found that mainly two reasons restrict users from performing financial transactions online:

- Reluctance to provide sensitive information, such as credit card details or bank account details because of security concerns.
- The desire of users to check the goods before purchasing them.

**26. Write a note on information security.**

**Ans.** Information security plays an important role in the growth of e-commerce. It can be defined as a set of rules and regulations that users follow online to ensure that the information they provide is not misused in any way. In other words, information security implies protection of information from illegal access or modification.

## Formative Assessment

### Application-Oriented Questions

**1. State the importance of taking a regular backup of your computer data.**

**Ans.** Taking backup ensures that your computer data is protected and can be recovered in case it is corrupted, stolen or damaged.

**2 Match the following:**

- |             |  |
|-------------|--|
| a. Worms    | Act of posting bulk messages to several users                                |
| b. Malware  | Programs that may or may not self-replicate and damage the data              |
| c. Spamming | Malicious programs that can copy themselves on a computer                    |
| d. Virus    | Malicious software that is designed to interrupt ongoing computer operations |

**Ans.**

- |             |  |
|-------------|--|
| a. Worms    | Malicious programs that can copy themselves on a computer                    |
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| d. Virus    | Programs that may or may not self-replicate and damage the data              |

### Unsolved Examination Questions

**1. Why do we need backup?**

(Delhi 2013)

**Ans.** A backup ensures that your computer data is protected and can be recovered in the following circumstances:

- **Hardware failure:** Refers to the failure of computer hardware devices due to their limited lifetime. Hardware failures, such as corruption of the hard disk drive, may lead to data loss. Therefore, during hardware failure, the lost data can be restored from a backup.
- **Accidental deletion or modification of data:** Refers to the threat of accidental deletion or modification of data. For example, you may accidentally delete an important file from your computer. In such a case, the deleted file can be restored from a backup.
- **Restoration of the old version of a file:** Allows you to recover old information. If you need to access an old version of a modified file, you can do so if regular backups have been performed on your computer data.
- **Unauthorized deletion or modification of data:** Allows you to restore data that has been deleted or modified by an unauthorized user.

**2. Name two storage media on which data backup may be taken.**

(Delhi 2013)

**Ans.** The two storage media on which data backup may be taken are CD and Digital Versatile Disc (DVD).

**3. .... backup saves your data from natural disasters.**

(Delhi 2013)

**Ans.** Online data

**4. Give one specific software / tool for each of the following:**

- a. Text editor used to create Web pages
- b. Antivirus Software

(Delhi 2011)

**Ans.** a. Notepad  
b. Quick Heal

**5. .... short for malicious software is the software designed to infiltrate a computer system without the owner's informed consent.**

- a. Blog
- b. Attachments
- c. Spam
- d. Malware

**Ans.** d

**6. A ..... is someone who breaks into someone else's computer system, often on a network; bypasses passwords or licenses in computer programs without malicious intent with a wish to learn and improve security.**

- a. Hacker
- b. Cracker
- c. Worm
- d. Malware

**Ans.** a

**7. A ..... is a software program that is designed to copy itself from one computer to another without human intervention.**

- a. Trojan
- b. Virus
- c. Worm
- d. Spam

**Ans.** b