

# THE ASIAN SCHOOL

## Class-10

### ch10

#### A. Application Based the following

(1\*10)

1. Amit's computer is not working properly. The executable files and programs with extensions like .com, .exe, .ovl, .drv, .sys, on his PC have got infected. What type of virus has entered into Amit's computer?

Ans: program virus has infected, as it affects the system executable files.

2. Your friend Karan had installed a program on your computer. You recently noticed that it was secretly monitoring and collecting information from your computer without your knowledge. What type of program did Karan install in your PC?

Ans: karan installed spyware on the computer.

3. Lily's computer has got infected with a virus. It has disrupted the normal functioning of her computer. Which software should she install to remove the virus from her PC?

Ans: She must install some anti-virus on her computer. For e.g. McAfee, AVG, F-PROT

4. Vijay has some crucial project files on his computer. He is afraid that he might lose these files if his computer crashes. So, he has created a copy of these files and stored them on a hard disk. What is the term used for these additional copies?

Ans: He must create a backup of that. An offline backup can be created.

5. Sheena has sent you an encrypted file that contains some confidential data. You are unable to understand the content as it is an unreadable code. What process can convert this file into a readable format again?

Ans: Encryption converts readable into unreadable and decryption converts it back to readable format.

6. Varun has found a new useful software on the Internet and installed it on his system. After running it, his computer has started behaving abnormally. The desktop has changed by itself and some silly icons can be seen on it. What type of malicious program has infected Varun's system?

Ans: Virus has infected the system.

7. Rahul has an e-mail account that has started receiving unwanted bulk e-mails which include offensive language and commercial advertisements. What do we call this category of e-mails?

Ans: They are called as spam or junk mail.

8. XYZ has made an illegal intrusion into a bank website and stolen private credit card information. Name the process that XYZ has used to make an unauthorized access.

Ans: It is called as phishing.

9. Hemant has a computer that has suffered from logical damage. He is not able to access his data. What type of utilities can Hemant use to restore the original data on his system?

Ans: If he has created the backup of the data, he can restore the information.

10. Dhruv has installed a software on his computer that has the capability to protect a server, a network and even an individual PC from most of the viruses and hackers. What is this software called?

Ans: He has installed firewall.

### **B. Answer the following**

**(2\*7)**

1. What is a virus? Write its types.

Ans: Virus is a kind of malware which replicates itself with the help of a host

program. It can consume a lots of space in memory and processing time of CPU.

2. List the problems that can be caused by a virus in a computer.

Ans: Virus can cause multiple problems.

(i) It can attach itself with a program file and can replicate and cause the program's processing by CPU again and again, taking all CPU's time. It can attach itself to an email or network file and can infect other computers.

(ii) It can infect the boot sector of Hard disk to cause loss of all files information stored on hard disk .

(iii) It can cause reduced computer performance. Computers cab become slower over time due to the amount of available hard drive space decreases.

(iv) The stored information can be corrupted.

3. Describe the term Trojan Horse.

Ans: Trojan horse looks like a legitimate program but is destructive and damage the contents of an application file.

4. Define Spam.

Ans: They are unsolicited mails from unknown senders. For e.g. Advertisement emails .

5. What is the function of an Antivirus software?

Ans: It is computer **software** used to prevent, detect and remove malicious **software**. **Antivirus software** was originally developed to detect and remove computer viruses, hence the name.

Few functions are:

### Real-time Protection

Most [antivirus](#) programs offer real-time protection. This means that the [antivirus](#) program protects your computer from incoming threats. Consequently, even if a virus has not infected your computer you should consider acquiring an antivirus program for the

purpose of preventing future infections.

#### Threat Detection

**Most antivirus programs offer threat detection. This means that the antivirus program can scan your entire computer in search of viruses. Not all antivirus programs are created equal and some antivirus programs have a higher detection rate than others.**

#### Automatic Updates

**Most antivirus programs offer automatic updates. Automatic updating is important because an out of date antivirus program will not be able to detect the newest viruses. Moreover, if an antivirus program only offers manual updates you may forget to update the antivirus program and your computer may become infected with a new virus.**

#### Alerts

**Most antivirus programs have the ability to alert you when a program is trying to access your computer. An example would be an online application. Many of the programs that attempt to access your computer are harmless or downloaded voluntarily and thus the antivirus program will give you the option of allowing or preventing the access.**

#### Additional Functions

**Depending on the antivirus software, it may perform a host of additional functions. These may include outbound email protection, instant messaging protection, identity theft protection and pop-up blocking.**

6. What is the role of a hacker? What do you understand by ethical hacking?

Ans: A hacker is a person who accesses the information without the knowledge of the owner. An **ethical hacker** is a computer and networking expert who systematically attempts to penetrate a computer system or network on behalf of its owners for the purpose of finding security vulnerabilities that a malicious **hacker** could potentially exploit.

7. Explain the term backup. How is it useful?

Ans: a backup, or the process of backing up, refers to the **copying** and **archiving** of computer data so it may be used to restore the original after a data loss event. The verb form is to back up in two words, whereas the noun is backup.

Having duplicate copies of your most important information saved in a remote location keeps it safe in case anything goes badly wrong with your computer.

When you think about it there are a number of ways files can be lost unexpectedly...

**Computer crashes** – always happen when you least need it, and can lead to data loss.

**Virus Infection** – aggressive malicious viruses can corrupt files and disable computers.

**Hard drive failure** - hard drives have a finite lifetime and can fail suddenly and without warning. The sudden death of a hard drive can cause the painful loss of months or years of irreplaceable files and the timing can be catastrophic – if this happens close to a work or college deadline it could be a nightmare scenario.

**Physical computer damage** – your files are more at risk if you use a laptop. Light and portable comes at the price of reduced durability. Laptops are sensitive and are easily damaged if dropped or have drinks spilled over them.

**Theft** – computers are sought after by thieves and cannot always be kept secure whilst travelling.

### C. Answer The Following

(3\*12)

1. What do you understand by the term Worm?

Ans: A computer worm is self-replicating malware that duplicates itself to spread to uninfected computers. Worms often use parts of an [operating system](#) that are automatic and invisible to the user. It is common for worms to be noticed only when their uncontrolled replication consumes system resources, slowing or halting other tasks.

2. What do you understand by the term virtual school? How is it affecting education?

Ans: **Virtual school** refers to an institution that is not "brick and mortar" bound. All student services and courses are conducted through Internet technology. The **virtual school** differs from the traditional **school** through the physical medium that links administrators, teachers, and students.

3. What is the main difference between a computer worm and a Trojan horse?

Ans: The basic **difference between a Trojan and worm** is in their functionality. **Trojan horse** is: An imposter that claims to be something affordable but actually is malicious. The main **difference between virus and Trojan horse** is that the former can't replicate itself. ... Often **worms** exist within other files.

4. How is the Online backup system different from the Offline backup system?

Ans: **online backup** is a method of offsite data storage in which files, folders, or the entire contents of a hard drive are regularly backed up on a remote server or computer with a network connection. ... This is sometimes called Web-based**backup**.Offline backup means that the data will be backup at the local system on local hard drive or any other secondary storage device.

5. Compare hackers and crackers.

- Ans: Hackers break into the security systems for the sole purpose of checking the holes in the system and works on rectifying these while as the Cracker breaks into the security system for criminal and illegal reasons or for personal gains. a cracker keeps the knowledge of any vulnerability n a security system to himself and uses it to his own advantage, the hacker does so in order to aware the concerned company or an individual about the possible breaking that could lead them to considerable losses at the hands of the Crackers.

6. Write the steps to prevent a virus from entering into a computer.

Ans: A computer virus is a software program which is able to replicate itself and spread from one infected computer to another or cause your computers firewall to be compromised and open to attackers. The infected objects can be system, program or document files. After

infecting your computer, it might slow it down, damage the contents of the infected files, mislay the data or defect your computer systems normal operation

Ways to prevent a virus are:

1. **Don't open unknown attachments in emails or do a virus scan after opening them.** (If we get an email from a person that contains one or more viruses, the viruses may infect files in the computer. The viruses might also send emails to people from your email address book or email folders automatically).
2. **Download files only from trusted sites.** If we download a program or a data file from the Internet or other shared networks, viruses might be transferred to your computer. Sometimes the free software programs on the Internet have viruses especially if you are downloading from sources such as Torrent or Usenet newsgroups.
3. **do a virus scan for files/data after peripheral devices are connected to your computer.** The devices such as MP3 players, USB thumb drives, memory cards or CD drives are also means of spreading viruses.
4. keep your Anti virus software up to date as an outdated anti virus definition can be as bad as no anti virus software
5. Install firewall.

7. What do you understand by data recovery techniques? Explain.

Ans: Data recovery is the process of restoring data that has been lost, accidentally deleted, [corrupted](#) or made inaccessible. causes of data loss include power outages, natural disasters, equipment failures or malfunctions, accidental deletion of data, unintentionally formatting a hard drive, damaged hard drive read/write heads, software crashes, logical errors.

7. What are the benefits of ICT in healthcare?

Ans:

Benefits of ICT in healthcare:

- **Telemedicine:** Telemedicine can be defined as the use of electronic communication technology to exchange patient information and provision of health care services at remote locations. Global Telemedicine has gone far beyond providing health care services alone.
- **Health and Education :** When ICT is applied to medical education, it is possible to make high quality education available.
- **Hospital Management System in remote areas is strengthened:** It is common experience that work places in the health systems are not adequately governed especially in remote areas. The management of medical colleges and district hospitals can be strengthened significantly with the application of online Hospital Management System
- **Health Research :** ICT can potentially transform the medical scene in India, by bringing about a sea-change in medical research. From traditional clinical research to the modern synthetic biology-based research, the opportunity is immense. Work on problems such as Cancer prevention, screening, diagnosis, and therapy can benefit from inter disciplinary cooperation. Medical fraternity has availed such benefits when MRI and Nuclear Imaging was integrated into medicine a few decades ago.
- **Health and Management of Data :** Electronic Medical Records (EMR), is a fundamental pre-requisite in using ICT seamlessly in healthcare. While EMR is available in several forms, size, shape, and format, Indian medical community with a specific mandate should standardize EMR, create and establish ICT platforms for using EMR based systems, for universal benefits.

9. What are the various security provisions in E-commerce?

Ans: Following are the essential requirements for safe e-payments/transactions

–

- **Confidentiality** – Information should not be accessible to an unauthorized person. It should not be intercepted during the transmission.
- **Integrity** – Information should not be altered during its transmission over the network.

- **Authenticity** – There should be a mechanism to authenticate a user before giving him/her an access to the required information.
- **Encryption** – Information should be encrypted and decrypted only by an authorized user.

#### Measures to ensure Security

Major security measures are following –

- **Encryption** – It is a very effective and practical way to safeguard the data being transmitted over the network. Sender of the information encrypts the data using a secret code and only the specified receiver can decrypt the data using the same or a different secret code.
- **Digital Signature** – Digital signature ensures the authenticity of the information. A digital signature is an e-signature authenticated through encryption and password.
- **Security Certificates** – Security certificate is a unique digital id used to verify the identity of an individual website or user.

#### Security Protocols in Internet

##### Secure Socket Layer (SSL)

It is the most commonly used protocol and is widely used across the industry. It meets following security requirements –

- Authentication
- Encryption
- Integrity
- Non-reputability



10. What is a Boot Virus?

Ans: A **boot sector virus** is a type of **virus** that infects the **boot sector** of floppy disks or the Master **Boot**Record (MBR) of hard disks (some infect the **boot sector** of the hard disk instead of the MBR).. the infected code runs when the system is booted from an infected disk, but once loaded it will infect other floppy disks when accessed in the infected computer. While **boot sector viruses** infect at a BIOS level, they use DOS commands to spread to other floppy disks.

11. What are the various techniques of data backup? Explain any one.

Ans: There have been four basic types of backups: full, incremental, differential and online backup.

Full backup: It is a full copy of your entire data set. Although full backups arguably provide the best protection, most organizations only use them on a periodic basis because they are time consuming, and often require a large number of tapes or disk.

### **Incremental backup**

Because full backups are so time consuming, [incremental backups](#) were introduced as a way of decreasing the amount of time that it takes to do a backup. Incremental backups only backup the data that has changed since the previous backup.

### **Differential backups**

A [differential backup](#) is similar to an incremental backup in that it starts with a full backup, and subsequent backups only contain data that has changed. The difference is that while an incremental backup only includes the data that has changed since the previous backup, a differential backup contains all of the data that has changed since the last full backup.

**Online data backup** : It is also called as remote **data backup**. It is a method of

off-site storage in which **data** is regularly backed up over a network on a remote server, typically hosted by a service provider.

12. Explain the impacts of ICT on society.

**Ans: Positive and negative impact of ICT on society**

positive impact:

A.) Faster communication speed

- – In the past, it took a long time for any news or messages to be send. Now with the internet, news or messages are sent via
- e-mail to friends,business partner or anyone efficiently.
- – with the capability of bandwidth, broadband and connection speed on the internet, any information can travel fast at an instant. It saves time and is inexpensive

B.) Lower Communication Cost

- – Using the internet is cost-effective than the other mode of communication than the other mode of communication such as telephone, mailing or Korea Service. It allows people to have access to large amounts of data at a very low cost.
- – With the internet we do not have to pay for any basic services provided by the internet. Furthermore, the cost of connection to the internet is relatively cheap.

C.) Paperless environment

- – ICT technology has created the term paperless environment. This term means information can be stored and retrieved through the digital medium instead of paper. Online communication via email, online chat and instant messages also helps in creating the paperless environment.

D.) Effective Sharing of Information

- – People can share and exchange opinions, news and information through discussion groups, mailing list and forums on the internet. This enable knowledge sharing which will contribute to the development of a knowledge based society

negative impact:

A.) Social problems

- There are some of negative effects of ICT.
- Nowadays, people tend to choose online communication rather than having real time conversations.
- People tend to become more individualistic and introvert theft, hacking, pornography and online gambling. This will result in moral decadent and generate threat to the society

B.) Health Problems

- A computer may harm the user if they use it if they use it for a long hours frequently.
- Computers users are also exposed to bad posture, eyestrain, physical and mental stress.
- In order to solve the health problems, an ergonomic chair can reduced back strain and a screen filter is to minimize eyestrain.

C.) It waste time