

Web Applications and Security

Fastrack« Revision

- ▶ **Computer Accessibility:** Computer accessibility refers to the options that make a computer system easy to use for all, even for the people having disabilities.
Accessibility options are also referred as **Assistive Technology** as these help disabled people to use computers in a comfortable and efficient manner so they can also take full advantage of the computer.
- ▶ **Ease of Access Center:** The Ease of Access Center window has various utilities to enhance accessibility of the computer. Let us learn about them.
 - ▶ **Start Magnifier:** This tool has a display utility to increase text readability by displaying a magnified selected text in a separate window or screen.
 - ▶ **Start Narrator:** This tool has a text-to-speech utility to read the contents displayed on screen.
 - ▶ **Start On-Screen Keyboard:** This tool has a virtual keyboard displayed on the screen to enable typing of data using a joystick or any other pointing device.
 - ▶ **Set-up High Contrast:** This tool has a utility to increase the colour contrast on the screen for making it easier to read.
- ▶ **Launching Ease of Access Center:** Click on start → All programs → Accessories → Ease of Access → Ease of Access Center, to open the Ease of Access Center.
- ▶ **Other Basic Accessibility Features:** The other basic accessibility features listed under the Explore all settings section on the Ease of Access Center are as follows. Let us learn about them.
 - ▶ **Use the Computer Without a Display:** This feature is very useful for the people who are unable to view things on the screen and are having severely impaired vision.
 - ▶ The **Turn on narrator** option enables the Narrator to read aloud the text displayed on the screen and explains the various events such as appearance of error messages and notifications while using the computer.
 - ▶ The **Turn on Audio Descriptor** option describes what is happening in a video.
 - ▶ The **Turn off All Unnecessary animations** option is used for turning off all the animations that are not required or are unnecessary such as fading effects, etc.
 - ▶ **Make the Computer Easier to See:** This feature lets us adjust various settings related to the visual display of the computer screen. It is useful for the people who have eyesight problem.
 - The **Choose a High Contrast Theme** setting allows us to adjust a high-contrast colour scheme which allows some text and images on the computer screen to appear differently and easier to recognise.
 - The **Turn on Audio Description** setting allows audio descriptions to play whenever we log on to our computer.
 - The **Adjust the colour and transparency borders** setting enables us to change the look of window borders for making them easier to see.
- ▶ **Use the Computer Without a Mouse or Keyboard:** This feature is useful for the people who are not capable enough or have some difficulty in using the keyboard or mouse. The **Use On-Screen Keyboard** setting is used to activate the on-screen keyboard.
- ▶ **Make the Mouse Easier to Use:** This feature helps in deciding the looks of a pointer on screen or making it appear larger on the screen so that a person with visual disability can see the pointer on the screen.
- ▶ **Make the Keyboard Easier to Use:** This feature is useful for making the usage of keyboard easier for the people who have difficulty in using the keyboard, normally.
 - The **Turn on Mouse Keys** option allows using of arrow keys on our keyboard or the numeric keypad to move the pointer on screen instead of using mouse.
 - The **Turn on Sticky Keys** option lets us use multiple shortcut keys (such as **Ctrl + Alt + Delete**) by pressing one key at a time instead of pressing all the three keys together.
 - The **Turn on Toggle Keys** option plays a tone when the **Caps Lock**, **Num Lock**, or **Scroll Lock** keys are pressed.
 - The **Turn on Filter Keys** option is helpful for ignoring keystrokes that have taken place in rapid succession, or keystrokes that are being pressed for several seconds inadvertently.
- ▶ **Serial Key:** Serial key is a string of characters or equivalent access code that is input into a program to activate it. It is an accessibility feature that assists people that have difficulty using a keyboard or a mouse or both.
- ▶ **Computer Network:** A computer network is a collection of computers or other hardware devices that are connected together using special hardware and software, which enables us to exchange information and resources.
- ▶ **Node:** Each computer in the network is called a node. There is no limit to the distance between two computers in a network.
- ▶ **Advantages of a Computer Network:**
 - ▶ Exchange of Information/File Sharing
 - ▶ Resource Sharing

- Reduced Costs
- Better Storage Capacity
- ▶ **Disadvantages of a Computer Network:**
 - Data Security
 - Lack of Robustness
 - Expensive Set-up Cost
 - Threat to Virus and Malware
- ▶ **ARPANET:** Networks came into existence when Advance Research Project Agency (ARPA) started working on a network, in 1962. ARPA launched its first successful long distance communication network, in 1969, with the name ARPANET. It consisted of four universities, which interconnected the researchers working on the project at that time.
- ▶ **Computer Network Components:** The following are the basic components of a computer network:
 - **Sender/Transmitter:** The transmitter is the device, such as a computer, workstation, telephone handset or video camera, that sends a message.
 - **Receiver:** It is also a device such as a computer, workstation, telephone handset or a video camera, that receives a message.
 - **Medium:** The physical path by which a message travels from the sender to receiver is called as a transmission medium. For example, twisted pair cable, fibre-optic cable, coaxial cable, laser or radio waves.
 - **Message:** The message is the actual data which is to be transmitted for communication.
 - **Protocol:** A protocol is a set of guidelines that controls the data communication.

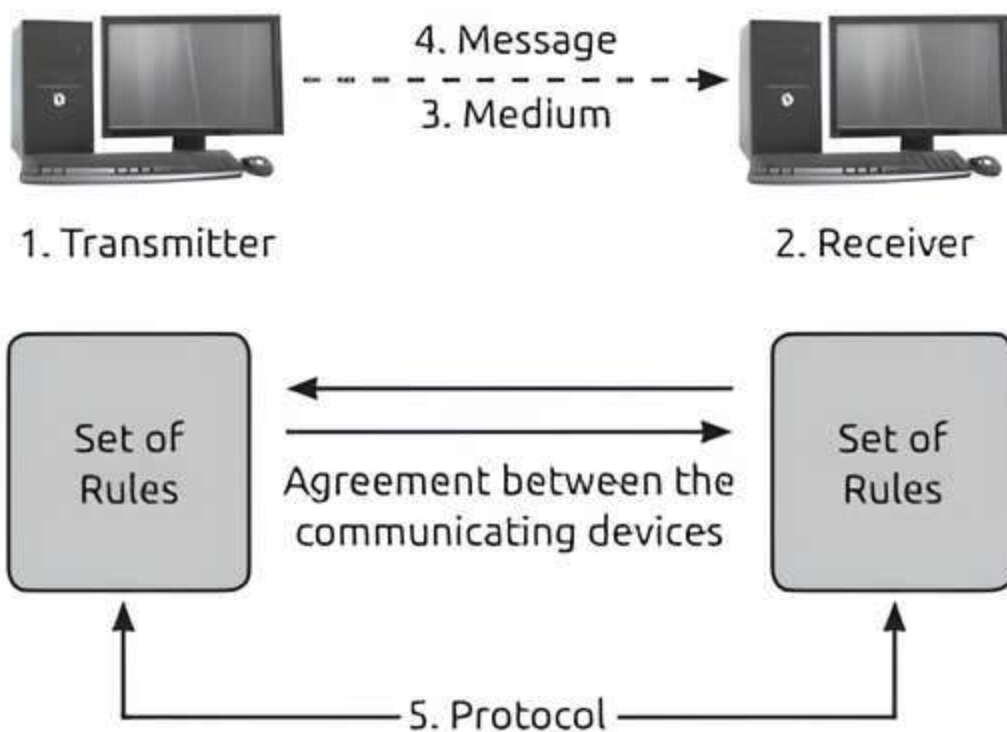
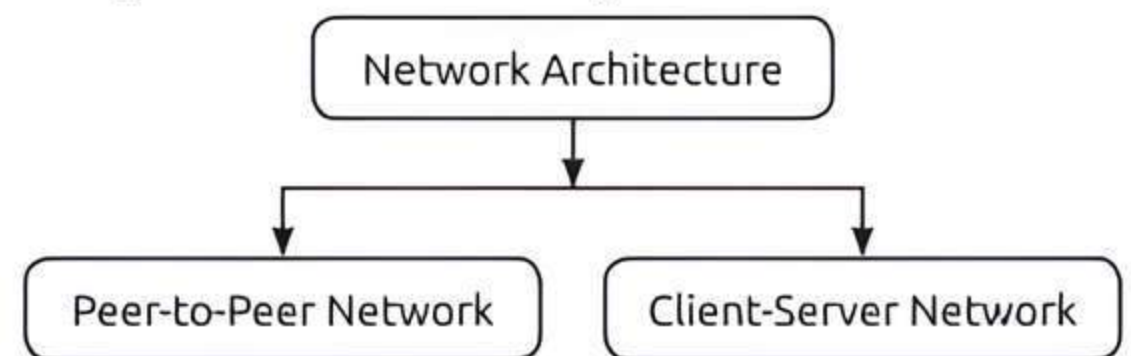


Fig. Relationship among the five components of network

- ▶ **Types of Computer Network:** Computer networks can be classified on the basis of geographical area covered by a network, into the following categories:
 - **Personal Area Network (PAN):** PAN is the smallest network which is very personal to a user. This may include Bluetooth-enabled handheld devices or infrared enabled devices. PAN's connectivity range is up to 10 metres. PAN may include wireless computer keyboard and mouse, Bluetooth enabled headphones, wireless printers, TV remotes and much more.
 - **Local Area Network (LAN):** LAN covers a small area. It is a privately-owned small network that spreads across a small campus or a building or from one room to a campus of a few kilometres.

Usually, Local Area Network can be utilised in offices, schools, colleges or universities. The network inside your school's computer lab or a network within a small office are some examples of LAN.

- **Metropolitan Area Network (MAN):** MAN is an extension of Local Area Network that can connect computers in a big city. MANs are mainly owned by large organisations to interconnect all their branches, across a city.
- **Wide Area Network (WAN):** WAN is the biggest type of network available for the computer systems. As the name suggests, this network covers a wide area which may spread across the cities or different countries. A Wide Area Network contains many sophisticated and costly devices that are generally not used in other networks, such as Local and Metropolitan Area Networks. The examples of few of these devices are satellites, mobile phones, routers, bridges and gateways.
- ▶ **Network Architecture:** Network Architecture is an overall design of a computer hardware and their functional organisation and configuration. Computer networks are designed in two different ways.



- **Peer-to-Peer Network:** Peer means equal and therefore in a peer-to-peer network, each computer or node is equal to other computers in terms of the resources that it can access and share.
- **Client-Server Network:** In a **client-server network**, there is a powerful central computer which has more resources than the other computers connected to the network. This central computer is known as the **Server** and the other computers are known as **Clients** or **Nodes** or **Workstations**.
- ▶ **Network Topology:** Network topology refers to the basic geometric layout according to which the server and clients are connected *via* a channel. The three most common network topologies are bus, ring and star.
 - **Bus Topology:** Bus topology is most commonly used in LANs wherein the server, clients and shared resources are all directly connected to a single common channel. This common channel is called as the bus. The channel runs through the network from one end to another. The common channel has terminators at each end. Only one computer can transmit over the network at a time.
 - **Ring Topology:** In Ring topology, all the computers are connected in a large closed-loop circuit so that each computer is linked to two adjacent computers, on either side. In this topology, the message sent by a sender is received by every client in the network. But the message is read only by the receiver to which it was addressed.

- ▶ **Star Topology:** In Star topology, all the clients are individually connected to a centrally located server *via* a direct channel. This topology was commonly used with the mainframe computers.
The entire communication over the network takes place through the central server.
- ▶ **Network Devices:** Network devices are the components that help us to connect computers or other electronic devices together so that they can share data or resources, like printers or scanners.
 - ▶ **Hub:** A network hub is a networking device that is used to help us in connecting multiple network hosts. A network hub is also used for data transfer.
 - ▶ **Switch:** A switch is more intelligent than a hub. While a hub only forwards the data, a switch does filtering and forwarding which is a more prudent way of dealing with the data packets.
 - ▶ **Router:** A router is a network device which is responsible for routing data traffic from one jammed network to another free network.
 - ▶ **Bridge:** A bridge connects two subnetworks, which are a part of same network. A bridge works as a router that connects two different types of networks.
 - ▶ **Repeater:** A repeater is an electronic device that amplifies the received signal. It receives a signal and retransmits it with a higher level or a higher power so that the signal can travel longer distances before fading out.
 - ▶ **Gateway:** A gateway is a network node that provides access to another network that uses different protocols and enables data to be transmitted from one node to another.
- ▶ **Internet:** The term Internet stands for **International Network**. It is a worldwide system of computer networks. It is the largest public network that allows users to get connected with each other all over the world and to exchange information with each other. An Intranet is a private network that is contained within an enterprise. It may consist of many interlinked Local Area Network and also use leased lines in the Wide Area Network.
- ▶ **Working of the Internet:** The Internet network is based on the **Client and Server** architecture of the network model.
- ▶ **Server:** A Server computer is a core component of the network, which provides services to the clients and controls the access to hardware, software and other resources.
- ▶ **Clients:** Clients are the computers that normally request and receive information or the services over the network.
- ▶ **Clients and Server Network Model:** The client computer is the computer on to which we want to access the Internet. After acquiring a physical Internet connection, a request is sent to the server computer requesting for a web page using an application program known as the **web browser**. The web browser sends the request to a server computer, which accepts the request and starts sending the information from the server computer to the client computer.
- ▶ **World Wide Web:** The World Wide Web (WWW), often called as the **Web**, is a collection of information arranged in the form of documents that may contain text, hyperlinks, multimedia (*i.e.*, audio and video). It is an **information-sharing** model that is built on the Internet.
- ▶ **Basics of WWW:** The working of WWW is based on the following web technologies:
 - ▶ **HTML (Hypertext Markup Language):** A language that is used to create web content that travel over the web.
 - ▶ **HTTP (Hypertext Transfer Protocol):** It is the protocol that communicates and transports documents over a large network like the Internet.
 - ▶ **Web Servers:** These are the host computers that store all the web content.
 - ▶ **Web Browser:** A web browser is an application program installed at client's computer that sends the request to a web server for viewing the web content, for example, the Internet Explorer, Mozilla Firefox, Baidu, Google Chrome, etc.
- ▶ **Ways to Connect to the Internet Services:** Internet services enable the user to access and gain information through the use of the Internet. There are different ways to connect laptops, desktops, mobile phones and tablets to the Internet, for example, dial-up, broadband, wireless services and much more. Let us learn about them.
 - ▶ **Dial-Up:** In the dial-up connection, a user needs to link his/her telephone line to the computer through a modem. A modem connects to the Internet after the computer dials a phone number. It works as an interface between the computer and the telephone line. It converts analog signals to digital signals and sent them through telephone lines, in order to connect to the Internet.
 - ▶ **Broadband:** It is a high-speed Internet connection. It is provided through either the cable or telephone companies. It is the one of the fastest options to transfer data.
 - ▶ **Cable Internet Connection:** It is also a form of broadband access. It provides the Internet through a cable modem, which is provided by the cable operator.
 - ▶ **Wireless:** Wireless networking is also known as **WiFi**. It is a way of getting the Internet without wires. It allows you to connect several computers at once and from any location which is in its network range.
 - ▶ **Mobile:** Many cell phone and smartphone providers offer different plans to access the Internet. For this, you require a device called a **dongle**. Mobile Internet connections have very good speeds to access the Internet.
 - ▶ **Satellite:** In a satellite Internet connection, the transfer of data is through a satellite. Satellite Internet equipment is made up of three main components: an **orbiting satellite** in space, a **satellite dish** mounted on your home and a **modem** that transmits Internet signals from the dish to your computer.
- ▶ **ISP:** An Internet Service Provider (ISP) is an organisation that provides services accessing and using the Internet.
- ▶ **Hotspot:** Hotspot is based on the WiFi technology. It allows electronic devices to connect to the Internet or

exchange data wirelessly through radio waves in place of the telephone or cable networks.

- ▶ **Instant Messaging:** A communication service over the Internet which allows instant transmission of text-based messages from the sender to receiver is known as Instant Messaging (IM).
- ▶ **Types of Instant Messaging Softwares:** There are two types of instant messaging software:
 - ▶ **Web-Based Instant Messaging Software:** These are accessed *via* a web browser. There is no need to download and install any software on the computer system for using them.
Example: Meebo, Kool IM, Yahoo!
 - ▶ **Application-Based Messenger Software:** Application-based messenger software are the messengers that are downloaded and installed to a user's computer.
Example: Skype, Google Talk, Hike Messenger
- ▶ **Google Hangouts:** Google Hangouts is a free instant messenger software developed by **Google**. It can easily be downloaded for free from the Internet. It supports different platforms such as Windows, Linux, Mac OS, etc.
- ▶ **Blog:** A website in which articles are posted regularly and displayed on reverse sequential order is known as a blog.
- ▶ **Blogger:** The person who writes a blog.
- ▶ **Bloggng:** Authoring, maintaining or adding an article on the existing blog is known as blogging.
- ▶ **Types of Blogs:** The blogs can be of different types, some of which are as follows:
 - ▶ **Personal Blogs:** These blogs are developed by a user for his/her personal use. It is just like maintaining a personal diary, online.
 - ▶ **General Blogs:** These blogs contain information, articles and discussions related to a particular subject.
 - ▶ **Organisational Blogs:** These blogs are created to generate business. These types of blogs are generally used by organisations, corporations, etc.
- ▶ **Blog Desk:** Blog Desk is a free offline blog editor that can easily be downloaded free from the Internet and installed on a computer system.
- ▶ **Online Transaction:** An online transaction is a financial transaction that happens in real-time using the Internet.
- ▶ **Cookies:** Cookies are small files which are stored on a user's computer. These files contain the programs that are created on our local computer when we visit websites.
- ▶ **Virus Threats:** The term **VIRUS** stands for **Vital Information Resource Under Seize**. A computer virus is similar to a biological virus. When a biological virus attacks us, it makes us feel sick. It disrupts us from functioning normally and often requires something powerful to get rid of it. In the same manner, a computer virus is capable to replicate itself persistently. Computer viruses infect computer programs and files.
- ▶ **Symptoms of a Computer Virus:** Some of the common symptoms that are exhibited by a computer, in case of a virus attack, are as follows:
 - ▶ Unusual messages start appearing on the screen while working.
 - ▶ The computer tends to run slower than the normal.
 - ▶ The space on the disk is reduced.
- ▶ Applications take a long time to load and may not work properly.
- ▶ **Types of Computer Virus:** There are many different types of computer viruses:
 - ▶ **Resident Viruses:** They are permanent viruses that reside in the RAM of a system. They can interfere and disturb the normal working of a computer. Some examples of such viruses are Jerusalem, Onehalf, Magistr, Junkie and Satanbug.
 - ▶ **Non-resident Viruses:** They are similar to the resident viruses except that these do not reside in the RAM of a system, rather they reside in a module of a program.
 - ▶ **Program Viruses:** These infect the files with the extension .EXE, .COM, .SYS, .OVL and .SCR. The program files are used by the virus as they are easy to attack and they have simple format to which the virus can attach itself.
 - ▶ **Macro Viruses:** Macro language is used in the Macro virus, for its programming. It is a set of commands written by the user to be executed later. Data files are affected by these viruses.
 - ▶ **Trojan Horse:** It is a program which appears to be useful. Confidential information is stolen and passed using this virus. A Trojan horse enters the computer with the help of the users. The users install it under the wrong impression that it is a useful and harmless program.
 - ▶ **Malware:** It refers to the program which harms the computer and comes into the computer without the user's consent. Malware is the short name of Malicious Software. It slows down the computer and networks. It is actively destructive and annoying.
 - ▶ **Spyware:** Spyware is a kind of malware that is sent to someone's computer intentionally to steal information such as e-mail passwords, credit card password, etc.
 - ▶ **Worms:** This virus is a program which is capable of reproducing and spreading itself to another computer system with the help of the computer network. This type of virus does not cause direct damage to the files and the programs.
 - ▶ **Boot Virus:** The boot records of hard disk are infected by this virus. These viruses are more dangerous than the program virus. Some examples of these viruses are Disk killer and Stoned virus.
- ▶ **Spamming:** The unwanted e-mails that come in bulk from strange and unknown sources are called **spam**. Spamming is the process of sending same copies of e-mails to a large number of people, worldwide. Usually spams are sent with the purpose of advertising by commercial agencies.
- ▶ **Phishing:** Phishing is a form of fraud in which the attacker tries to steal or take out information such as login credentials or account information.
- ▶ **E-mail Spoofing:** E-mail spoofing is the forgery of an e-mail header so that the message appears to have originated from someone or somewhere other than the actual source.
- ▶ **Accident:** It is an unplanned, undesigned and unexpected event that may happen all of a sudden and may lead to unwanted or unprecedented results/outcomes.

- ▶ **Emergency:** Any unexpected situation that needs immediate attention, intervention or action to prevent a worse situation is an emergency.
- ▶ **Hazards:** A hazard may be any object, situation or behaviour that has the potential to cause injury, ill health or damage to property or the environment.
- ▶ **Types of Hazards:** Hazards can be of different types, depending on the industry and the environment in which the employees work. The different types of hazards are as follows:
 - ▶ **Physical Hazards:** They are environmental factors that can harm an employee without necessarily touching them.
 - ▶ **Chemical Hazards:** They are present when a worker is exposed to any chemical preparation in the workplace, in any form (solid, liquid or gas).

- ▶ **Biological Hazards:** They include exposure to harm or disease from working with animals, people or infectious plant materials. Viruses, bacteria, insects, animals, etc., can cause adverse health impacts.
- ▶ **Safety Hazards:** These are hazards that create unsafe working conditions which can cause injury, death or illness. For example, exposed wires or a damaged carpet might result in a tripping hazard.
- ▶ **Ergonomic Hazards:** They are the result of physical factors that can cause musculoskeletal injuries.
- ▶ **Psychosocial Hazards:** They include those hazards that can have an adverse effect on an employee's mental health or well-being, for example, sexual harassment, victimisation, stress and workload demands.



Practice Exercise



Multiple Choice Questions ↘

- Q 1. Which of the following is a benefit of the computer networks?**
- Less cost
 - Less reliability
 - Down performance
 - Rigid working environment
- Q 2. Which of the following is a type of network?**
- SAN
 - NAN
 - TAN
 - MAN
- Q 3. Which of the following devices is a network connecting device?**
- Hub
 - Mouse
 - Printer
 - Monitor
- Q 4. Which type of network is used to connect two computers and a printer?**
- PAN
 - LAN
 - WAN
 - MAN
- Q 5. Which of the following is the full form of LAN?**
- Local Area Network
 - Land Area Network
 - Large Area Network
 - None of these
- Q 6. Which of the following is the full form of IM?**
- Instant Messaging
 - Instant Message
 - Internal Messaging
 - None of these
- Q 7. What is the full form of HTML?**
- Hypertext Manipulating Links
 - Hypertext Manipulation Language
 - Hypertext Managing Links
 - Hypertext Markup Language
- Q 8. What is the full form of Internet?**
- Internet Network
 - International Network
 - Inter Network
 - Intra Network

- Q 9. is an accessibility function which is designed for people who have vision impairment or cognitive disabilities. [CBSE 2023]**
- Filter Keys
 - Sound Keys
 - Toggle Keys
 - Sticky Keys
- Q 10. Which of the following you must have in order to use Google Hangouts?**
- Yahoo id
 - Google id
 - Microsoft Id
 - None of these
- Q 11. In which of the following, title of the blog is specified?**
- Menu bar
 - Blog area
 - Title box
 - Category list
- Q 12. Which of the following is a concern related to the Internet security?**
- Data privacy
 - Confidentiality
 - Integrity
 - All of these
- Q 13. Which of the following viruses can infect an Excel document?**
- Boot virus
 - Program virus
 - Macro virus
 - All of these
- Q 14. What is the full form of VIRUS?**
- Vital Information Resource Under Seize
 - Vast Information Resource Under Seize
 - Vital Information Record Under Seize
 - None of the above
- Q 15. Which of the following viruses resides in the RAM of a computer system?**
- Non-resident virus
 - Resident virus
 - Boot Sector virus
 - Creeper virus
- Q 16. What involves the forgery of an e-mail header so that the message appears to have originated from someone or somewhere other than the actual source?**
- Spamming
 - Phishing
 - Hacking
 - E-mail spoofing
- Q 17. A is an unplanned event that may happen all of a sudden and may lead to unwanted or unprecedented results/outcomes. [CBSE 2023]**
- emergency
 - hazard
 - accident
 - illness

- Q 18. Which of the following hazards are the result of physical factors that can cause musculoskeletal injuries?**
a. Biological hazards b. Safety hazards
c. Ergonomic hazards d. Psychosocial hazards
- Q 19. Which of the following is not a benefit of the computer network?**
a. Less cost
b. Increased reliability
c. Improved performance
d. Lack of robustness
- Q 20. Which of the following is not a type of network?**
a. TAN b. LAN
c. WAN d. MAN
- Q 21. provides Internet access by transmitting digital data over wires of a local telephone network.**
[CBSE 2023]
a. HSDPA b. P2P
c. DSL d. Modem
- Q 22. Which type of network will be used to connect five computers and a printer?**
a. PAN b. LAN
c. WAN d. MAN
- Q 23. Which of the following is the full form of MAN?**
a. Metropolitan Access Network
b. Metro Access Network
c. Metro Area Network
d. Metropolitan Area Network
- Q 24. Which of the following is the full form of ISP?**
a. Internet Service Provider
b. Internet Service Promoter
c. Internet Service Promotion
d. None of the above
- Q 25. Which of the following terms defines an area where WiFi access is available?**
a. Hotlink b. Hyperlink
c. Hyperspot d. Hotspot
- Q 26. What is the other name for wireless networking?**
a. Androld b. Mobile
c. WiFi d. None of these
- Q 27. Which of the following are used as satellite Internet equipment?**
a. Satellite b. Dish
c. Modem d. All of these
- Q 28. Which is no physical wired connection between sender and receiver to communicate, called?**
a. Dial-up b. Wireless
c. Broadband d. All of these
- Q 29. Which of the following folders in the Control Panel contains accessibility options?**
a. Device Manager b. Ease of Access Center
c. Font d. Personalisation
- Q 30. Which of the following options activates the Sticky keys?**
a. Turn on Sticky Keys b. Turn on Filter Keys
c. Turn on Toggle Keys d. None of these
- Q 31. Google Hangouts is the product of which company?**
a. Microsoft b. Google
c. Yahoo d. Oracle
- Q 32. When was Google talk discontinued?**
a. 2015 b. 2010 c. 2008 d. 2004
- Q 33. Which of the following is an example of blogging website?**
a. www.yahoo.com b. www.gmail.com
c. www.blogspot.com d. www.google.com
- Q 34. Which of the following is an offline blog editor developed by Microsoft?**
a. BlogDesk b. Qumana
c. Windows Live Writer d. Marsedit
- Q 35. Which of the following blog editor is especially mean for MAC computers and is a paid software?**
a. BlogDesk b. Qumana
c. Windows Live Writer d. Marsedit
- Q 36. Which of the following is the correct full form of WYSIWYG?**
a. What You Saw Is What You Get
b. What You See Is What You Get
c. What You Saw Is What You Got
d. None of the above
- Q 37. Which of the following contains commands that are used to write, edit, format, save and publish blogs?**
a. Menu bar b. Blog area
c. Title box d. Category list
- Q 38. Which of the following is the correct full form of EFT?**
a. Electric Funds Transfer
b. Electronic Funds Transfer
c. Electronic Funds Transformation
d. None of the above
- Q 39. Which of the following is an example of Web-based instant messaging software?**
a. MS Word b. Facebook
c. Meebo d. Gmail
- Q 40. Networks in which certain computers have special dedicated tasks, providing services to other computers (in the network) are called networks.**
[CBSE 2023]
a. hierarchical b. dedicated server
c. peer-to-peer d. client-server
- Q 41. is the process of emptying a place in case of an emergency, disaster.**
[CBSE 2023]
a. Emergency b. Accident
c. Drill d. Evacuation
- Q 42. Which of the following viruses infects the boot records on the hard disk?**
a. Macro b. Malware
c. Boot Virus d. Worm
- Q 43. Which of the following is an example of an antivirus software?**
a. Quick Heal Total Security
b. Norton Antivirus
c. McAfee Antivirus
d. All of the above

- Q 44. A worker will always perform to the best to his ability. [CBSE 2023]
- a. fast working b. highly educated
c. happy and healthy d. stressed
- Q 45. Computer accessibility or friendliness of computer is known as
- a. technology b. assistance technology
c. assistive technology d. None of these
- Q 46. Identify the cognitive impairment from the following:
- a. Dyslexia b. ADHD
c. Autism d. All of these
- Q 47. Keyboard accessibility options are useful for those which have
- a. Physical Disabilities b. Vision Impairment
c. Both a. and b. d. None of these

Fill in the Blanks Type Questions ↘

- Q 48. Computers have evolved into a device.
- Q 49. We can share different on a computer network.
- Q 50. Computers have really converted the world into a small
- Q 51. Accessibility options are also referred as
- Q 52. Ease of Access Centre is also a part of folder.
- Q 53. Computers include options which make the computer more easy to use for the people having disabilities.
- Q 54. The is also known as web or net.
- Q 55. Each computer in a network is called a
- Q 56. MAN is an extension of
- Q 57. is an example of Wide Area Network.
- Q 58. Name the device that converts digital signal to analog that can travel over phone lines.
[CBSE SQP 2022, Term-2]
- Q 59. key is an accessibility function which is designed for people who have vision impairment or cognitive disabilities. [CBSE SQP 2022, Term-2]
- Q 60. Networks in which certain computers have special dedicated tasks, providing services to other computers (in the network) are called..... network. [CBSE SQP 2022, Term-2]
- Q 61. is an organisation which provides you with access to the internet *via* dial-up or direct or wireless connection. [CBSE SQP 2022, Term-2]
- Q 62. is the software or hardware security device that analyses the network traffic and determines if the traffic should be allowed or not. [CBSE SQP 2022, Term-2]
- Q 63. immediate assistance is provided to the injured to save life and minimise health loss till the proper medical aid/facility is provided.
[CBSE SQP 2022, Term-2]



Assertion & Reason Type Questions ↘

Directions (Q. Nos. 64-74): In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not correct explanation of Assertion (A).
c. Assertion (A) is true, but Reason (R) is false.
d. Assertion (A) is false, but Reason (R) is true.
- Q 64. **Assertion (A):** Make the computer easier to see feature lets you adjust various settings related to the visual display of the computer screen. It is useful for the people who have eyesight problem. **Reason (R):** The change the colour and size of mouse pointers setting is helpful in increasing the size of mouse pointer, or changing the colour to make it easier to view on the screen.
- Q 65. **Assertion (A):** The Turn on Mouse Keys option lets you use multiple shortcut keys (such as Ctrl + Alt + Delete) by pressing one key at a time instead of pressing all the three keys together. This option is helpful for the people who can work with both hands and use all fingers. **Reason (R):** The Use On-Screen Keyboard setting is used to activate the on-screen keyboard. You can press the keys of the on-screen keyboard by using the pointing device such as mouse or joystick.
- Q 66. **Assertion (A):** Computer networks have made our lives easier. From the World Wide Web (WWW) to the Local Area Network (LAN), computers have become indispensable in our daily life. **Reason (R):** Toggle key is a string of characters or equivalent access code that is input into a program to activate it. It is an accessibility feature that assists people that have difficulty using a keyboard or a mouse or both.
- Q 67. **Assertion (A):** A computer network is a collection of computers or other hardware devices that are connected together using special hardware and software, which enables us to exchange information and resources. **Reason (R):** There is no limit to the distance between two computers in a network. It can vary from a few meters to thousands of kilometers. Each computer in the network is called a node.
- Q 68. **Assertion (A):** Through a computer network, peripherals such as, printers, scanners, fax machines and modems can be shared among different users. **Reason (R):** In a computer network, application programs and other costly software are installed on one central computer. Users connected to a network can access these programs or software through the central computer.

Q 69. Assertion (A): The protocol is the device, such as a computer, workstation, telephone handset, or video camera that sends a message.

Reason (R): The physical path by which a message travels from the sender to receiver is called as a transmission medium. For example, twisted pair cable, fiber-optic cable, coaxial cable, laser or radio waves.

Q 70. Assertion (A): PAN is the smallest network which is very personal to a user. This may include Bluetooth-enabled handheld devices or infrared enabled devices. PAN's connectively range is up to 10 meters.

Reason (R): PAN may include wireless computer keyboard and mouse, Bluetooth enabled headphones, wireless printers, TV remotes and much more.

Q 71. Assertion (A): In a client-server network, there is a powerful central computer which has more resources than the other computers connected to the network.

Reason (R): Client-Server networks typically consist of two parts. The front-end of the application is what the user sees and interacts directly. The back-end part interacts with the shared resources such as databases, printers, or high power processors.

Q 72. Assertion (A): Network topology refers to the basic geometric layout according to which the server and clients are connected *via* a channel.

Reason (R): The computers on the network need to be arranged according to a specific topology to provide specific level of access to the network.

Q 73. Assertion (A): Ring topology is most commonly used in LANs wherein the server, clients and shared resources are all directly connected to a single common channel. This common channel is called as the bus.

Reason (R): The channel runs through the network from one end to another. The common channel has terminators at each end. Only one computer can transmit over the network at a time.

Q 74. Assertion (A): Network devices are the components that help us to connect computers or other electronic devices together so that they can share data or resources, like printers or scanners.

Reason (R): Through a computer network, peripherals such as, printers, scanners, fax machines and modems can be shared among different users.

Answers

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (a) | 2. (d) | 3. (a) | 4. (b) | 5. (a) |
| 6. (a) | 7. (d) | 8. (b) | 9. (c) | 10. (b) |
| 11. (c) | 12. (d) | 13. (b) | 14. (a) | 15. (b) |
| 16. (b) | 17. (c) | 18. (c) | 19. (d) | 20. (a) |
| 21. (c) | 22. (b) | 23. (d) | 24. (a) | 25. (d) |
| 26. (c) | 27. (d) | 28. (b) | 29. (b) | 30. (a) |
| 31. (b) | 32. (a) | 33. (c) | 34. (c) | 35. (d) |

- | | | | | |
|------------------------|---------|--------------------------|---------|---------|
| 36. (b) | 37. (a) | 38. (b) | 39. (c) | 40. (d) |
| 41. (d) | 42. (c) | 43. (d) | 44. (c) | 45. (c) |
| 46. (d) | 47. (c) | | | |
| 48. versatile | | 49. peripherals | | |
| 50. global village | | 51. assistive technology | | |
| 52. accessories | | 53. accessibility | | |
| 54. Internet | | 55. node | | |
| 56. Local Area Network | | 57. Internet | | |
| 58. MODEM | | 59. Toggle Key | | |
| 60. Client-Server | | 61. ISP | | |
| 62. Firewall | | 63. First Aid | | |
| 64. (b) | 65. (d) | 66. (c) | 67. (b) | 68. (b) |
| 69. (d) | 70. (a) | 71. (b) | 72. (b) | 73. (d) |
| 74. (b) | | | | |

Case Study Based Type Questions

Case Study 1

The school offers WiFi to the students of Class XII. For communication, the network security-staff of the school is having a registered URL "schoolwifi.edu". On 17th September, 2017, e-mails were received by all the students regarding expiry of their passwords. Instructions were also given renew their password within 24 hours by clicking on particular URL provided.

Q 1. Specify which type of cybercrime is it?

- | | |
|-------------------|-------------|
| a. Spamming | b. Phishing |
| c. Identity theft | d. Hacking |

Q 2. URL stands for

- | |
|------------------------------|
| a. Universal Resource Loader |
| b. Uniform Resource Locator |
| c. United Research Loader |
| d. Uniform Resource Loader |

Q 3. Unsolicited commercial e-mail is known as:

- | | |
|------------|------------|
| a. Malware | b. Virus |
| c. Spam | d. Spyware |

Q 4. WiFi stands for

- | |
|---|
| a. Wireless Internet Frequent Interface |
| b. Wireless Functioning |
| c. Wireless Fidelity |
| d. Wire Free Internet |

Answers

- | | | | |
|--------|--------|--------|--------|
| 1. (b) | 2. (b) | 3. (c) | 4. (c) |
|--------|--------|--------|--------|

Case Study 2

E-mail: It is an electronic version of sending and receiving letters. The e-mail is transmitted between computer systems, which exchange messages or pass them onto other sites according to certain Internet protocols or rules for exchanging e-mail. You can send e-mail from your computer at any time to any address around the world and your electronic letter or e-mail will arrive at its

destination in seconds after you send it, even if the receiver is not online. For sending and receiving an e-mail, you must have an e-mail account, which is either a web based online e-mail account or an e-mail account on your ISP server. Web based online e-mail account can be created through many sites like Gmail, Yahoo mail, Rediffmail, etc.

Q 1. Which of the following is always a part of e-mail address?

- a. Period(.)
- b. Space()
- c. At sign(@)
- d. Underscore(_)

Q 2. Which among the following is an area of e-mail that is short description of the message?

- a. Subject
- b. Cc
- c. Bcc
- d. Attachment

Q 3. Identify the software that helps you in sending and receiving an e-mail.

- a. MS-Office
- b. Internet explorer
- c. Gmail
- d. None of these

Q 4. Junk mail is also called:

- a. Crop
- b. Spoof
- c. Spam
- d. Sniffer script

Answers

1. (c) 2. (a) 3. (c) 4. (c)

Case Study 3

Sumit has to prepare a project on “Swachh Bharat Shreshth Bharat”. He decides to get information from the internet. He downloads three webpages (webpage 1, webpage 2, webpage 3) containing information on the given topic.

- (i) He read a paragraph on from webpage 1 and rephrased it in his own words. He finally pasted the rephrased paragraph in his project.
- (ii) He downloaded three images of from webpage 2. He made a collage for his project using these images.
- (iii) He also downloaded an icon from webpage 3 and pasted it on the front page of his project report.

Q 1. What is described in step 1?

Q 2. What type of act is defined in step 2?

Q 3. What type of act is defined in step 3?

Q 4. What is a website?

Answers

- 1. Step 1 an example of paraphrasing.
- 2. Step 2 is an act of plagiarism.
- 3. Step 3 is an act of copyright infringement.
- 4. A website is a collection of webpages.

Case Study 4

Smridh has recently changed his school, so he is not aware of the people, but someone is posting negative, demeaning comments on his social media profile. He is also getting repeated mails

from unknown people. Everytime he goes online, he finds someone chasing him online.

Q 1. Smridh is a victim of which attack?

Q 2. What is the term used for a set of moral principles that governs the behaviour of a group or individual and regulates the use of computers?

Q 3. Smridh needs to protect his personal information or data from unintentional and intentional attacks and disclosure. Name the term.

Q 4. Define Phishing.

Answers

- 1. Cyber stalking
- 2. Computer ethics
- 3. The term used is Privacy
- 4. The act of fraudulently acquiring someone's personal and private information, such as online account names, login information and passwords is called as Phishing.

Case Study 5

Types of Computer Network: Generally, networks are classified on the basis of geographical area covered. A network can be as small as the distance between your mobile phone and its bluetooth headphone and can be as large as the Internet covering the whole Earth. Computer networks can be classified on the basis of geographical area covered by a network, into the following categories:

- (i) Personal Area Network
- (ii) Local Area Network
- (iii) Metropolitan Area Network
- (iv) Wide Area Network

Q 1. Define PAN.

Q 2. The network inside your school's computer lab or a network within a small office are examples of which type of network?

Q 3. What is the maximum PAN's connectivity range?

Q 4. Which is the biggest type of network available for the computer systems?

Answers

- 1. Personal Area Network (PAN) is a computer network that connects computers/devices within the range of an individual person. As PAN provides a network range within a person's range typically within a range of 10 meters (33 feet) it is called as Personal Area Network.
- 2. LAN (Local Area Network)
- 3. 10 metres.
- 4. WAN (Wide Area Network).



Very Answer Type Questions ↘

Q 1. What do you mean by the term accessibility?

Ans. Accessibility refers to the options that make a computer system easy to use for all, even for the people having disabilities. Accessibility options are also referred as Assistive Technology.

Q 2. Write the steps to open Ease of Access Center.

Ans. Click on Start → All program → Accessories → Ease of Access → Ease of Access Center are the steps to open the Ease of Access Center.

Q 3. Write the advantages of Turn on Narrator accessibility feature.

Ans. The Turn on Narrator option enables the Narrator to read aloud the text displayed on the screen and explains the various events such as appearance of error messages and notifications while using the computer.

Q 4. What is the use of fine tune display accessibility feature?

Ans. The fine tune display effects setting enables us to customise how various items appears on our desktop.

Q 5. Define filter keys.

Ans. The filter keys option is helpful for ignoring keystrokes that have taken place in rapid succession, or keystrokes that are being pressed for several seconds inadvertently.

Q 6. Write the advantage of the feature that make the mouse easier to use.

Ans. This feature helps in deciding the looks of a pointer on screen or making it appear larger on the screen so that a person with visual disability can see the pointer on the screen.

Q 7. Explain the Turn on Audio Description.

Ans. The Turn on Audio Description setting allows audio descriptions to play whenever we log on to our computer.

Q 8. Define the term Serial key.

Ans. Serial key is a string of characters or equivalent access code that is input into a program to activate it. It is an accessibility feature that assists people who have difficulty using a keyboard or a mouse or both.

Q 9. Explain the Underline keyboard shortcuts and access keys option.

Ans. The Underline keyboard shortcuts and access keys option is helpful in making the keyboard accessibility easier in dialog boxes by highlighting access keys for the controls present in them.

Q 10. What do you mean by the Turn on Text captions for spoken dialog?

Ans. The Turn on text captions for spoken dialog option allows Windows to display text captions instead of sounds for indicating the happening of an activity on the computer.

Q 11. Define Computer Network.

Ans. A computer network is a collection of computers or other hardware devices that are connected together using special hardware and software, which enables us to exchange information and resources.

Q 12. What is a node?

Ans. Each computer attached in a network is called a node.

Q 13. How can software be shared in a network?

Ans. In a computer network, application programs and other costly software are installed on one central computer. Users connected to a network can access these programs or software through the central computer.

Q 14. Into how many categories can computer networks be classified, on the basis of geographical area?

Ans. Computer networks can be classified on the basis of geographical area covered by a network, into the following categories:

- (i) Personal Area Network
- (ii) Local Area Network
- (iii) Metropolitan Area Network
- (iv) Wide Area Network

Q 15. Explain Personal Area Network with example.

Ans. PAN is the smallest network which is very personal to a user. This may include Bluetooth-enabled handheld devices or infrared enabled devices. PAN's connectivity range is up to 10 metres.

Example: PAN may include wireless computer keyboard and mouse, bluetooth enabled headphones, wireless printers, TV remotes and much more.

Q 16. Define the following terms:

- (i) **Server**
- (ii) **Client**

Ans. (i) Server: The central computer in the client-server network is known as server. It is responsible for providing all the information and resources to the clients.

(ii) Client: The other computer rather than the central computer in the client-server model is known as client. It is also known as clients or nodes or workstations.

Q 17. Describe the parts of client-server networks.

Ans. Client-Server networks typically consist of two parts. The front-end of the application is what the user sees and interacts directly. The back-end part interacts with the shared resources such as databases, printers, or high power processors.

Q 18. What do you mean by Network Topology?

Ans. Network topology refers to the basic geometric layout according to which the server and clients are connected via a channel. The three most common network topologies are bus, ring and star.

Q 19. What do you understand by the term Network devices?

Ans. Network devices are the components that help us to connect computers or other electronic devices together so that they can share data or resources, like printers or scanners.

Q 20. Explain Router.

Ans. A router is a network device which is responsible for routing data traffic from one jammed network to another free network.

Q 21. What do you mean by the term Intranet?

Ans. An Intranet is a private network that is contained within an enterprise. It may consist of many interlinked Local Area Network and also use leased lines in the Wide Area Network.

Q 22. Write one advantage and one disadvantage of the Internet.

Ans. Advantage: The Internet provides information on any topic. Search engines are the best examples of retrieving information from the Internet.

Disadvantage: A lot of incorrect information is also available on the Internet. Anyone can post anything, and it can be misleading.

Q 23. Write any two characteristics of Internet.

Ans. The characteristics of Internet are as follows:

(i) A web browser is an application program that is used to access the websites and web pages on the Internet.

(ii) The Internet utilises the TCP/IP protocol and is accessed using a computer modem, broadband, 3G, 4G, or network that is connected through an ISP.

Q 24. Define the term medium in computer network.

Ans. The physical path by which a message travels from the sender to receiver is called as a transmission medium. For example, twisted pair cable, fibre-optic cable, coaxial cable, laser or radio waves.

Q 25. Write any one major use of computer network.

Ans. One of the major use of computer network is communication. Using a computer network, different people can communicate with each other across the globe. People can communicate at a very low cost using tools, such as e-mail, chatting, telephone, video conferencing, groupware and SMS services.

Q 26. What is Broadband?

Ans. Broadband is a high-speed Internet connection. It is provided through either the cable or telephone companies. It is one of the fastest options to transfer data.

Q 27. What do you understand by the term protocol?

Ans. A protocol is a set of guidelines that controls the data communication. It represents a natural agreement between the communicating devices.

Q 28. Define the term web browser with example.

Ans. A web browser is an application program installed at client's computer that sends the request to a web server for viewing the web content. For example, the Internet Explorer, Mozilla Firefox, Baidu, Google Chrome, etc.

Q 29. Write the full form of following terms:

(i) ISP (ii) WWW

(iii) W3C (iv) HTTP

Ans. (i) ISP: Internet Service Provider

(ii) **WWW:** World Wide Web

(iii) **W3C:** World Wide Web Consortium

(iv) **HTTP:** Hypertext Transfer Protocol

Q 30. What do you understand by Hotspot?

Ans. Hotspot is based on the WiFi technology. It allows electronic devices to connect to the Internet or exchange data wirelessly through radio waves in place of the telephone or cable networks.

Q 31. Define the term WAP.

Ans. WAP stands for Wireless Access Point. It is a device that connects wireless communication devices to form a wireless network.

Q 32. Give some examples of Instant Messaging application.

Ans. Some examples of the Instant Messaging application are Jabber, Hike Messenger, Yahoo! Messenger, Google Talk, Google Hangouts, Skype, etc.

Q 33. What do you mean by the term Google Hangouts?

Ans. Google Hangouts is a free instant messenger software developed by Google. It can easily be downloaded for free from the Internet. It supports different platforms such as Windows, Linux, Mac OS, etc.

Q 34. Define Organisational blogs.

Ans. Organisational blogs are the blogs created to generate business. These types of blogs are generally used by organisations, corporations, etc.

Q 35. Define blogging.

Ans. Authoring, maintaining or adding an article on the existing blog is known as blogging.

Q 36. Explain the term BlogDesk.

Ans. The BlogDesk is an offline desktop blog editor used for offline blog creation. BlogDesk is a free offline blog editor that can easily be downloaded free from the Internet and installed on a computer system.

Q 37. Define the following terms:

- (i) **Qumana** (ii) **MarsEdit**

Ans. (i) Qumana: It is a free offline blog editor that supports both windows and Mac operating system.

(ii) MarsEdit: It is an offline blog editor especially meant for Mac computers. It is a paid software.

Q 38. Give some examples of the websites using which you can create and publish your blogs.

Ans. Some of the blogging websites that allow us to create and publish our blogs are www.blogspot.com, www.blogger.com, WordPress.com, etc.

Q 39. Write any two features of BlogDesk.

Ans. The two features of BlogDesk are as follows:

(i) It is an offline blog editor, so we can work in it even if we are not connected to the Internet.

(ii) It also has inbuilt help facility to help us while working in it.

Q 40. Distinguish between browsing history and download history.

Ans. Browsing History: This is the list of all the web pages that we have visited.

Download History: This is the list of all the files that we have downloaded.

Q 41. What are the factors on which the effectiveness of a password depends?

Ans. The effectiveness of a password depends on the following factors:

(i) Security mechanism of the software.

(ii) User's involvement in generating a strong password.

Knowledge BOOSTER



Password effectiveness is checked by most of the websites when a user attempts to register for the first time or when they change password.

Q 42. What are the different threats to Internet security?

Ans. Virus attacks, spamming, phishing, hacking of information, etc., are different types of threats to information security that may lead to loss of information and corruption of data.

Q 43. How is a computer virus different from a biological virus?

Ans. A computer virus is different from a biological virus as biological virus harms human body whereas computer virus harms the computer system.

Q 44. What type of virus was Melissa?

Ans. Melissa virus (March 1999) was so powerful virus that it forced Microsoft and many other large companies to turn off their e-mail systems until the virus could be removed completely.

Q 45. Explain Boot virus.

Ans. Boot virus is one that infects the boot records of hard disk. These viruses are more dangerous than the program virus. Some examples of these viruses are Disk killer and Stoned virus.

Q 46. What do you mean by chat spoofing?

Ans. When a computer system or a user of a computer masquerades to be another while engaging in a chat, it is known as chat spoofing.

Q 47. Explain Evacuation.

Ans. Evacuation is the process of emptying a place in case of an emergency or disaster.

Q 48. What is 360 Total Security program?

Ans. 360 Total Security is a complete free security suite, provided by the leading Chinese security company, Qihoo. It can easily be downloaded free from the Internet and can be used to safeguard the system against different security threats.

Q 49. What do you mean by Phishing?

Ans. Phishing is a form of fraud in which the attacker tries to steal or take out information such as login credentials or account information.

Q 50. Define the term Cookies.

Ans. Cookies are small files which are stored on a user's computer. These files contain the programs that are created on our local computer when we visit websites.

Q 51. Differentiate between cookies and cache files.

Ans. Cookies: Cookies store website specific information that may or may not be important.

Cache: It stores HTML files and images from the website we have visited and displays those if it does not delete any changes to them when we choose to visit the site again.

Q 52. Write any two basic fire safety rules in an organisation.

Ans. The two basic fire safety rules in an organisation are:

(i) Regularly take care of the maintenance of safety equipment.

(ii) Install fire escape plans at proper level.

Q 53. What do you understand by the term Accident?

Ans. Accident is an unplanned, undesigned and unexpected event that may happen all of a sudden and may lead to unwanted or unprecedented results/outcomes.

Q 54. Define the term Hazard.

Ans. Any unexpected situation that needs immediate attention, intervention or action to prevent a worse situation is an emergency.

Q 55. Differentiate between Ergonomic hazards and Psychosocial hazards.

Ans. Ergonomic Hazards: They are the result of physical factors that can cause musculoskeletal injuries.

Psychosocial Hazards: They include those hazards that can have an adverse effect on an employee's mental health or well-being, for example sexual harassment, victimisation, stress and workload demands.

Q 56. What does a healthy lifestyle includes?

Ans. A healthy lifestyles includes:

- (i) A balanced diet and healthy eating habits
- (ii) Staying hydrated
- (iii) Good-quality sleep
- (iv) Thinking positive

Q 57. Define networking.

Ans. A computer network is a collection of computers that allow sharing of resources and information.

Q 58. Give any four advantages of networking.

Ans. Four advantages of networking are:

- (i) Data Sharing
- (ii) Files Transfer
- (iii) Hardware Sharing
- (iv) Internet Access Sharing

Q 59. Explain the term packet with reference to data transfer.

Ans. Data transfer over the network is divided into small segments called packet. Each packet is sent from one computer to another computer until it finds its destination.

Q 60. Explain WiFi and its significance.

Ans. WiFi stands for wireless fidelity. WiFi is a popular technology that allows an electronic device such as computers or mobile phones to exchange data wirelessly over a network.

WiFi is used where cables cannot be run (such as old buildings, outdoor areas) to provide network and Internet access.

Q 61. Expand and explain the term WAN. [CBSE 2023]

Ans. WAN stands for Wide Area Network. WAN is the biggest type of network available for the computer system. This network covers a wide area which may spread across the cities or different countries. It enables the users and computers in one location to communicate with users and computers in other locations.

Q 62. List any four application based instant messaging software.

Ans. Four application based instant messaging software are:

- (i) Google Talk
- (ii) Yahoo! Messenger
- (iii) Skype
- (iv) Windows Live Messenger

Q 63. What do you mean by instant messages?

Ans. Instant Messaging (IM) is a form of communication over the Internet that offers an instantaneous transmission of text-based messages from sender to receiver.

Q 64. (i) Identify the following network/Internet connectivities as wired or wireless:

- (a) **Dial-up**
- (b) **WiMax**

(ii) Give any one feature of Instant Messaging.

- Ans.** (i) (a) **Wired**
(b) **Wireless**

Two key features of Instant Messaging are:

- (ii) (a) Text Messages can be sent to one or more person.
- (b) Audio and Video calling and conferencing.

(Any one)

Q 65. State any two rules and etiquettes to be followed while chatting on the Internet.

Ans. Two rules and etiquettes to be followed while chatting on the Internet are:

- (i) Messages should be short and to the point.
- (ii) Always introduce by name if the screen name doesn't reflect it.

Q 66. What are the basic needs to use instant messaging (chat) software?

Ans. The basic needs to use instant messaging (chat) software are:

- (i) A valid instant messaging account.
- (ii) An active internet connection.

Q 67. Differentiate between web page and website.

Ans. A single HTML document is called a web page. A collection of web pages is called web site.

Q 68. Explain the purpose of Internet Security.

Ans. Internet security is a branch of computer security specifically related to the Internet. Its objective is to establish rules and measures to use against attacks over the Internet.

Q 69. Name different kinds of online threats.

Ans. Different kinds of online threats are:

- (i) **Phishing**
- (ii) **E-mail spoofing**
- (iii) **Chat spoofing**

Q 70. Enlist any two basic safety rules to follow at workplace.

Ans. Basic safety rules to follow at workplace are:

- (i) **Fire safety**
- (ii) **Falls and slips**



Short Answer Type Questions ↘

Q 1. Write the advantages of a Computer Network.

Ans. Advantages of a Computer Network: The following are the main advantages of computer networks.

(i) **Exchange of Information/File Sharing:** The major advantage of a computer network is that it allows file sharing. Users on a network can easily share or exchange files or information among themselves.

(ii) **Resource Sharing:** Resource sharing is another important advantage of a computer network.

(iii) **Reduced Costs:** When we share software and hardware resources, the cost of buying resources is reduced.

(iv) **Flexible Working Environment:** A user can log on to a computer anywhere on the network and can access his/her files and data. This offers a flexible working environment.

Q 2. Discuss flexible working environment as an advantage of the computer networks.

Ans. A user can log on to a computer anywhere in the network and can access his/her files and data. This offers a flexible working environment. For example, if a person is not able to go to office because of any reason, he/she can get connected with his/her company's network and thus, can work from home.

Q 3. Differentiate between LAN and MAN.

Ans. Local Area Network (LAN): LAN covers a small area. It is a privately-owned small network that spreads across a small campus or a building or from one room to a campus of a few kilometres.

Metropolitan Area Network (MAN): MAN is an extension of Local Area Network that can connect computers in a big city. MANs are mainly owned by large organisations to interconnect all their branches, across a city.

Q 4. What is Peer-to-Peer network?

Ans. Peer means equal and therefore in a peer-to-peer network, each computer or node is equal to other computers in terms of the resources that it can access and share. All the computers in this type of network act both as the supplier as well as the consumers of resources. It treats all the devices as having the equivalent capability. In this network, each computer shares its resources such as CPU, hard disk or hardware such as printers, with other computers on the network.

Q 5. Define Ring Topology.

Ans. In Ring topology, all the computers are connected in a large closed-loop circuit so that each computer is linked to two adjacent computers, on either side. In this topology, the message sent by a sender is received by every client in the network. But the message is read only by the receiver to which it was addressed.

Q 6. Distinguish between Hub and Switch.

Ans. Hub: A network hub is a networking device that is used to help us in connecting multiple network hosts. A network hub is also used for data transfer.

Switch: A switch is more intelligent than a hub. While a hub only forwards the data, a switch does filtering and forwarding which is a more prudent way of dealing with the data packets.

Q 7. Differentiate between Repeater and Gateway.

Ans. Repeater: A repeater is an electronic device that amplifies the received signal. It receives a signal and retransmits it with a higher level or a higher power so that the signal can travel longer distances before fading out.

Gateway: A gateway is a network node that provides access to another network that uses different protocols and enables data to be transmitted from one node to another.

Q 8. How to clear the cache and cookies on web browser?

Ans. Follow the steps below for how to clear web history on the Mozilla Firefox browser:

- (i) Click on the upper right of the browser toolbar.
- (ii) Click **History**.
- (iii) Click **Clear Recent History**.
- (iv) Click the drop-down menu next to Time range to clear and select **Everything**.
- (v) Place a check mark next to the following options user Details:
 - (a) Browsing and Download History
 - (b) Form and Search History
 - (c) Cookies
 - (d) Cache
 - (e) Active Logins
 - (f) Offline Website Data
 - (g) Site Preferences
- (vi) Click on **Clear Now** button.

The window will close and the items we have selected will be cleared.

Q 9. Write some features of an Instant Messaging software.

Ans. The following are some distinct features of an instant messaging software:

- (i) These softwares can be used for one-to-one or group conversation, in the form of conference in real-time.
- (ii) They offer chat rooms where we can chat with multiple people at the same time.
- (iii) Files can easily be transferred to any account in these by simply dragging and dropping in the chat window.
- (iv) Messages can be replied, forwarded to a single person or to a whole group.

Q 10. How many types of instant messaging software are there? Write about them.

Ans. There are two types of instant messaging software.

- (i) Web-based instant messaging software.
- (ii) Application-based instant messaging software.

Web-based instant messaging software are the instant messengers that are accessed via a web browser. There is no need to download and install any software on the computer system for using them. We can use a messenger in a web browser.

Application-based messenger software are the messengers that are downloaded and installed to a user's computer. Many of such application-based instant messengers are available for free on the Internet and can easily be downloaded and installed on a computer.

Q 11. What are the different requirements for downloading Google Hangouts?

Ans. The following are the requirements that must be supported for downloading Google Hangouts on a computer system.

Google Hangouts support the following operating systems.

- (i) Mac OS X
- (ii) Windows
- (iii) Ubuntu
- (iv) Linux

Google Hangouts supports the following web browsers.

- (i) Safari
- (ii) Google Chrome
- (iii) Microsoft Internet Explorer

Requirements to make live audio/video calls are:

- (i) Broadband connection of the Internet
- (ii) Web camera
- (iii) Microphone
- (iv) Speakers


Q 12. Write all the steps for starting a New Voice or Video call with a contact in Google Hangouts.

Ans. Perform the below mentioned steps to start a new voice or video call with a contact in Google Hangouts.

Step 1: Click on the person's name in the contact list whom we want to call.

Step 2: A Hangouts window will appear. Click on the Video call  button in the upper-left corner of the Hangouts window.

Step 3: We must allow Google Hangouts to access the microphone and camera of our computer system. In order to make a video call.

Step 4: After that click on the Call  button to initiate a call.

Q 13. Write about different types of blogs.

Ans. Different types of blogs are as follows:

(i) **Personal Blogs:** These blogs are developed by a user for his/her personal use. It is just like maintaining a personal diary, online. It is generally created by an individual and not by an organisation. Generally, personal blogs are viewed by the immediate family members and friends of the blogger.

(ii) **General Blogs:** These blogs contain information, articles and discussions related to a particular subject. Examples of the general blogs are art blogs, fashion blogs, music blogs and political blogs.

(iii) **Organisational Blogs:** These blogs are created to generate business. These types of blogs are generally used by organisations, corporations, etc.

Q 14. Write some of the points which should be remember while writing a blog.

Ans. Some of the points which we should remember while writing a blog are as follows:

- (i) The blog should be written in a lucid language.
- (ii) Select an engaging and current topic and then select an interesting title. A prominent headline and entering opening statement is the key to attract the people.
- (iii) Understand the target audience. Have a clear understanding of their interest and what do they want to know about.
- (iv) Make sure the blog is very well-structured.

Q 15. Define BlogDesk. Write all the steps for publishing the blog post.

Ans. BlogDesk is a free offline blog editor that can easily be downloaded free from the Internet and installed on a computer system.

Perform the below mentioned steps to publish the blog post.

Step 1: Click on the Publish Post option on the File menu.

Step 2: A confirmation message will appear. Click on the Yes button.

Step 3: The blog post will get published on the blog.

Q 16. Define the following Hotspots:

- (i) **WIMAX**
- (ii) **WiFi**

Ans. (i) WIMAX: It is a wireless communications standard designed to provide mobile broadband connectivity across cities and countries through a variety of devices.

(ii) WiFi: It is a popular technology that allows an electronic device such as computers or mobile phones to exchange data wirelessly over a network.

Q 17. Explain the term 'computer virus'.

Ans. A computer virus is a program or piece of code that is loaded on to the computer without our knowledge and runs against our wishes. A computer virus can easily attach itself to other files and programs.

The data on the computer can be erased or corrupted by the virus present in the computer. A virus may or may not be destructive. Until the computer is shut down, most viruses stay active. On shutting down the computer, the virus is removed from the memory of the computer but not from the infected files and programs.

Q 18. Discuss the difference between a Resident virus and a Non-resident virus.

Ans. Resident Viruses: They are permanent viruses that reside in the RAM of a system. They can interfere and disturb the normal working of a computer. They can corrupt files and currently used applications in a computer. Some examples of such viruses are Jerusalem, Onehalf, Magistr, Junkie and Satanbug.

Non-resident Viruses: They are similar to the resident viruses except that these do not reside in the RAM of a system, rather they reside in a module of a program. It may select one or more files to infect, each time the module is executed.

Q 19. What are the benefits of online shopping?

Ans. Some benefits of online shopping are as follows:

- (i) Online shopping is very convenient. We can get products at home.
- (ii) Online shopping's websites provide millions of choices of products.
- (iii) They offer huge discount on goods and services.
- (iv) Online shops give us the opportunity to shop 24 × 7 and also reward us with cashback.
- (v) Sending gifts to relatives and friends is easy by online shop. (Any four)

Q 20. What is Trojan horse?

Ans. For passing the user's data to someone else, Trojan horse virus is used. It is a program which appears to be useful. Confidential information is stolen and passed using this virus. A Trojan horse enters the computer with the help of the users. The users install it under the wrong impression that it is a useful and harmless program.

Q 21. Mention the two ways of spoofing sender information.

Ans. Spoofing of sender information can be done in the following two ways:

- (i) Mimicking a trusted e-mail address or domain by using alternate letters or numbers to appear only slightly different from the original.
- (ii) Disguising the 'from' field to be the exact e-mail address of a known or trusted source.

Q 22. What is an Antivirus?

Ans. For protecting the computer from virus and detecting the virus on the computer, it is necessary to have an antivirus software. An Antivirus software is an application designed for detecting and removing the viruses from the computer system.

The antivirus software starts up automatically when the computer starts up. It keeps a check on the running files and programs. The software tries to remove the virus once it is detected.

Q 23. How is Spyware different from Malware?

Ans. Malware: It refers to the program which harms the computer, and comes into the computer without the user's consent. Malware is the short name of Malicious Software. It slows down the computer and networks. It is actively destructive and annoying.

Spyware: Spyware is a kind of malware that is sent to someone's computer intentionally to steal information such as e-mail passwords, credit card password, etc.

Q 24. Define the term First Aid. Also provide some first-aid tips.

Ans. First aid is the immediate and basic assistance provided to the injured person to save life and minimise health loss till the proper medical aid/facility is provided.

Some first aid tips are as follows:

- (i) Reassure the injured so that they remain calm and do not panic.
- (ii) Keep the injured warm and comfortable if they are under shock.

Q 25. What are the things that every organisation must ensure for evacuation in case of any emergency?

Ans. Every organisation must ensure the following points for evacuation in case of any emergency:

- (i) The organisation must have an evacuation policy, and all the employees must know about this policy.
- (ii) The organisation must have a designated assembly point for emergencies. It should ensure that every employee/worker knows where it is.

Q 26. Distinguish between Physical Hazards and Chemical Hazards.

Ans. Physical Hazards: They are environmental factors that can harm an employee without necessarily touching them.

Chemical Hazards: They are present when a worker is exposed to any chemical preparation in the workplace, in any form (solid, liquid or gas).

Q 27. What are the different types of accidents that cause hazardous result or injury?

Ans. The different types of accidents that cause hazardous result or injury are:

- (i) Accidents at workplace such as fall and trip accidents, fire accidents.
- (ii) Industrial disease/illness.
- (iii) Medical negligence accidents.
- (iv) Road traffic accidents.
- (v) Personal negligence accidents.
- (vi) Sports-related accidents.

Q 28. Write some ways for reducing the source of Hazards.

Ans. Some of ways in which the sources of hazards at workplaces can be reduced are as follows:

- (i) The workstation should provide sufficient space for the user to alter position comfortably.
- (ii) The keyboard should have clearly legible symbols on the keys.
- (iii) The display screen should display well-defined characters of adequate size and spacing.
- (iv) The work area should provide adequate space for the user.

Q 29. Discuss the habits required for a healthy lifestyle.

Ans. A healthy lifestyle requires the following habits:

- (i) A balanced diet and healthy eating habits.
- (ii) A healthy mind.
- (iii) Staying hydrated.

- (iv) Physical and social activities.
- (v) Good quality sleep.
- (vi) Stress management.
- (vii) Enjoying free-time.
- (viii) Thinking positive and goal setting. (Any four)

Q 30. Expand the following terms:

- (i) DSL (ii) ISP
- (iii) Modem (iv) WWW

- Ans.** (i) DSL: Digital Subscriber Line.
 (ii) ISP: Internet Service Provider.
 (iii) Modem: Modulator and Demodulator.
 (iv) WWW: World Wide Web.

Q 31. Expand the following terms:

- (i) P2P (ii) LAN
- (iii) MAN (iv) WAN

- Ans.** (i) P2P: Peer-to-Peer
 (ii) LAN: Local Area Network
 (iii) MAN: Metropolitan Area Network
 (iv) WAN: Wide Area Network

Q 32. Explain P2P Architecture and how it is different from Client-Server Architecture?

Ans. Networks in which all computers have an equal status are called peer-to-peer networks. Generally in such a network each terminal has an equally competent CPU. Networks in which certain computers have special dedicated tasks, providing services to other computers (in the network) are called client-server networks. The computer(s) which provide services are called servers and the ones that use these services are called clients.

Q 33. What is a blog? Explain its use.

Ans. A blog is a discussion style site used by non-technical (or technical) users for creating personal web pages. Blogs are similar to an online personal diary and simple to use.

We can use a blog to convey messages about events, announcements, news, reviews, etc.

Q 34. List any four websites that provide blog service.

- Ans.** Four websites that provide blog service are:
- (i) www.WordPress.com
 - (ii) www.blogger.com
 - (iii) www.blog.com
 - (iv) www.weebly.com

Q 35. What do you mean by publishing a post?

Ans. Publishing a post means to make the post public. Once we finished typing the content, we need to publish the post for others to see. To view the post, you can type the blog address in the address bar of the web browser.

Q 36. Explain the purpose of an offline blog editor.

Ans. Whenever we do not have an active Internet connection, we can create blogs using a blog application and publish the blog whenever Internet connectivity is available.

Q 37. List any four offline blog editors.

- Ans.** Four offline blog editors are:
- (i) Qumana (ii) Windows Live Writer
 - (iii) Blogdesk (iv) MarsEdit

Q 38. Explain the purpose of online transactions.

Ans. Online transactions have made transactions very convenient and simplified the workflow in many forms in a business. Online transactions deals with transfer of money over the Internet.

Q 39. List any four websites that allow online transactions.

- Ans.** Four websites that allow online transactions are:
- (i) IRCTC (ii) Flipkart
 - (iii) EBay (iv) Amazon

Q 40. List any four payment tools to use online transactions.

- Ans.** Four payment tools to use online transactions are:
- (i) Credit card (ii) Debit Card
 - (iii) UPI (iv) Net Banking

Q 41. Give any two benefits of online transactions.

- Ans.** Two benefits of online transactions are:
- (i) Money can be transferred immediately.
 - (ii) It helps to reduce black marketing to some extent.

Q 42. Explain the need to clear data stored in browsers.

Ans. Browsers often prompt to save usernames and passwords when users attempt to logon to websites. Browsers can also store data such as cookies, visited websites or webpages data, browsing history, etc. However, it is not advisable to leave the web browser store this data particularly on public or shared computers. So it is advisable to clear data stored in browsers particularly on public or shared computers.

Q 43. Explain any four tips to manage strong passwords.

- Ans.** Following are general guidelines for managing strong passwords:
- (i) Keep the length of the password at least 12-14 characters if permitted.
 - (ii) Avoid keeping passwords based on repetition, dictionary words, letter or number sequences, usernames, relative or pet names, etc.
 - (iii) Including numbers, and symbols in passwords if allowed.
 - (iv) Use capital and lower-case letters.

Q 44. Explain any four best practices to secure data.

- Ans.** Four best practices to secure data are:
- (i) Keeping your username and password private.
 - (ii) Use updated antivirus and antispyware software.
 - (iii) Clear browser cookies frequently.
 - (iv) Do not click on link shared by unknown users.

Q 45. List any four advantages associated with networking. [CBSE SQP 2022, Term-2]

- Ans.** Four advantages are:
- (i) Data sharing.
 - (ii) Files transfer.

- (iii) Hardware sharing.
- (iv) Internet access sharing.
- (v) Usage of network based application. (Any four)

Q 46. Differentiate between wired and wireless access. Give one example for each type.

[CBSE SQP 2022, Term-2]

Ans. A wired set-up uses physical cables to transfer data between different devices and computer system.

Wireless network does not use wires for data or voice.

Example: Wired → Dial-up, DSL or cable Internet Access.

Wireless → 3G or WiMAX or WiFi.

Q 47. What do you understand by ISP with respect to web applications? Name any two connection types that home users use. [CBSE SQP 2022, Term-2]

Ans. An Internet Service Provider (ISP) is an organisation, which provides you with access to the internet via a dial-up (using modem) or direct (hard wired) or wireless connection. DSL, cable modem, dial-up, broadband wireless, WiMAX, etc.

Q 48. With any four rules which is to be followed for creating strong passwords. [CBSE SQP 2022, Term-2]

- Ans.**
- (i) Use combination of letter, symbols and digits.
 - (ii) Do not use birth day or any easily identifiable words.
 - (iii) Generate random password.
 - (iv) Avoid using something that the public or workmates know you strongly like or dislike.

Q 49. What is the special name given to the discussion style site used by non-technical (or technical) users for creating personal web pages? Give any two examples of websites that help to create such discussion style sites for free. [CBSE SQP 2022, Term-2]

Ans. Blog

Websites: www.wordpress.com, www.wix.com

Q 50. Differentiate between LAN and WAN with two points only.

Ans. LAN: It stands for Local Area Network. It connects computers and peripherals in limited geographical area. The connections are limited school, home, computer lab, office building, or closely positioned group of buildings. LAN offers high speed data transfer and uses Ethernet cables.

WAN: It stands for Wide Area Network. It covers broad area. It covers metropolitan area, regional or national boundaries. The Internet is the most popular example of WAN. It is used by large organisations, business, governments, NGOs, entertainers and many others.



Long Answer Type Questions

Q 1. Explain all types of computer network on the basis of geographical area covered by a network.

Ans. Computer networks can be classified on the basis of geographical area covered by a network, into the following categories:

(i) Personal Area Network (PAN): PAN is the smallest network which is very personal to a user. This may include Bluetooth-enabled handheld devices or infrared enabled devices. PAN's connectivity range is up to 10 metres.

PAN may include wireless computer keyboard and mouse, Bluetooth enabled headphones, wireless printers, TV remotes and much more.

(ii) Local Area Network (LAN): LAN covers a small area. It is a privately-owned small network that spreads across a small campus or a building or from one room to a campus of a few kilometres. Usually, Local Area Network can be utilised in offices, schools, colleges or universities. The network inside our school's computer lab or a network within a small office are some examples of LAN.

(iii) Metropolitan Area Network (MAN): MAN is an extension of Local Area Network that can connect computers in a big city. MANs are mainly owned by large organisations to interconnect all their branches, across a city.

(iv) Wide Area Network (WAN): WAN is the biggest type of network available for the computer systems. As the name suggests, this network covers a wide area which may spread across the cities or different countries.

A Wide Area Network contains many sophisticated and costly devices that are generally not used in other networks, such as Local and Metropolitan Area Networks. The examples of few of these devices are satellites, mobile phones, routers, bridges and gateways.

Q 2. Define the following terms:

- (i) Hub
- (ii) Switch
- (iii) Router
- (iv) Bridge

Ans. (i) Hub: A network hub is a networking device that is used to help us in connecting multiple network hosts. A network hub is also used for data transfer.

(ii) Switch: A switch is more intelligent than a hub. While a hub only forwards the data, a switch does filtering and forwarding which is a more prudent way of dealing with the data packets.

(iii) Router: A router is a network device which is responsible for routing data traffic from one jammed network to another free network.

- (iv) **Bridge:** A bridge connects two subnetworks, which are a part of same network. A bridge works as a router that connects two different types of networks.

Q 3. Discuss a few characteristics of Internet.

Ans. The characteristics of Internet are as follows:

- (i) A web browser is an application program that is used to access the websites and web pages on the Internet.
- (ii) The Internet utilises the TCP/IP protocol and is accessed using a computer modem, broadband, 3G, 4G, or network that is connected through an ISP.
- (iii) In the case of broadband, many computers and devices use WiFi to connect to router that is connected to the ISP.
- (iv) The search engines are used to find the information available on the Internet.

Q 4. Write the important features of a blog.

Ans. Some of the important features of a blog are as follows:

- (i) Blogs can be written on any topic, like Education, Law, Business, Advertising, Travel, Marketing, Health, Sports, Society, etc.
- (ii) Blogs can have more than one page and the front page of any post is the page posted last.
- (iii) An Internet connection is required to publish a blog. Although, a blog can also be written offline and uploaded on the Internet later.
- (iv) A blogging software is needed to write a blog. Some of the blogging websites that allow us to create the blogs are www.blogspot.com, www.blogger.com, www.tumblr.com, www.WordPress.com, etc.

Q 5. Define Blog and Blogging. Also write some points which you should remember while writing a blog.

Ans. Blog: A website in which articles are posted regularly and displayed on reverse sequential order is known as a blog.

Blogging: Authoring, maintaining or adding an article on the existing blog is known as blogging.

Some of the points which we should remember while writing a blog are as follows:

- (i) The blog should be written in a lucid language.
- (ii) Select an engaging and current topic and then select an interesting title. A prominent headline and entering opening statement is the key to attract the people.
- (iii) Understand the target audience. Have a clear understanding of their interest and what do they want to know about.
- (iv) Make sure the blog is very well-structured.
- (v) Before posting the blog, edit/proofread the post, and fix all the formatting issues.
- (vi) Use social media, like Facebook, LinkedIn, etc.,

to make the blogs popular. This method of marketing offers a huge potential.

Q 6. Define the term BlogDesk and also write the features of BlogDesk editor that make it a useful offline editor for blog writing.

Ans. BlogDesk is a free offline blog editor that can easily be downloaded free from the Internet and installed on a computer system.

The following are the different features of BlogDesk editor that make it a useful offline editor for blog writing.

- (i) It is an offline blog editor, so we can work in it even if we are not connected to the Internet.
- (ii) It supports WYSIWYG editor, so there is no need to learn and use HTML as in the case of few other offline blog editors.
- (iii) It has options to insert images and to edit the images in a blog. It also has options to create and insert images as Thumbnails.
- (iv) It has spacious blog creation area to design and write the blogs. We can see and edit what we have written in our blogs, before publishing them.
- (v) Links to other files such as audio, video files can easily be added.
- (vi) Posts already published can be edited afterwards and deleted directly from the server.

Q 7. Discuss the general guidelines for managing password security.

Ans. The general guidelines for managing password security are as follows:

- (i) Always create a unique password every time.
- (ii) Keep the length of the password at least 8 to 24 characters, if permitted.
- (iii) Avoid keeping passwords based on repetition, dictionary words, letter or number sequences, usernames, relative or pet names, etc.
- (iv) Include numbers and symbols in passwords, if allowed.
- (v) Use upper-case and lower-case letters.
- (vi) Never write down the passwords.
- (vii) Do not share the password with anyone.
- (viii) Avoid using the same password for multiple sites or purposes.

Q 8. What precautions must be taken to improve online security?

Ans. The following precautions must be taken to improve online security:

- (i) Antivirus and Antispyware programs offer real-time protection monitoring the computer for any changes by malware software.
- (ii) Use strong passwords a combination of alphanumeric and special characters could be used for creating a password that is not so easy to crack or guessed by other users.

- (iii) Secure transactions because information such as credit card details or personal information is sent over the network.
- (iv) Use encryption software to protect the data from unauthorised users.

Q 9. Discuss a few symptoms of computer virus attack.

Ans. When a computer behaves differently than the normal behaviour, there are chances that it may have been attacked by a virus.

Some of the common symptoms that are exhibited by a computer in case of a virus attack are as follows:

- (i) Unusual messages start appearing on the screen while working.
- (ii) The computer tends to run slower than the normal.
- (iii) The space on the disk is reduced.
- (iv) Applications take a long time to load and may not work properly.
- (v) Files on the computer start missing and vanish.
- (vi) The hard disk has more files than it had earlier.
- (vii) Computer starts rebooting unexpectedly.
- (viii) The computer often freezes and stops responding.

Q 10. How can you protect your computer and other devices from virus attacks?

Ans. The following are some points that we should keep in mind to safeguard our computer system against virus attacks:

- (i) Do not install and run pirated software on our computer.
- (ii) Install an antivirus software on to the computer and keep it updated.
- (iii) Avoid copying and using files coming from unreliable sources.
- (iv) Restrict the access to the computer system, both online and offline.
- (v) Regularly take the backup of the data and store the backup at a separate place so that the data can be recovered with clean virus free copies.
- (vi) Trustworthy users should be allowed to use the system.
- (vii) Contents from unrelable sources on Internet should not be downloaded. Viruses may piggyback on such contents.
- (viii) Install a free firewall program to block unwanted Internet traffic which can cause problems. Ensure that firewall is always on.

Q 11. What are the basic fire safety rules to be followed in an organisation?

Ans. The basic fire safety rules to be followed in an organisation are:

- (i) Maintain the appropriate type and number of fire extinguishers.

- (ii) Regularly take care of the maintenance of safety equipment.
- (iii) Designate a smoking area, and place smoke alarms at proper intervals.
- (iv) Keep electrical control panels accessible.
- (v) Maintain machinery to prevent overheating and friction sparks.
- (vi) Report all electrical hazards. Many fires start in faulty wiring and malfunctioning electrical equipment.
- (vii) Control the accumulation of flammable and combustible waste materials and residues so that they do not contribute to a fire emergency.
- (viii) Never block sprinklers, firefighting equipment or emergency exits. Test the functioning of sprinkler systems and smoke detectors at least annually.

Q 12. Explain the different types of hazards depending on the industry and the environment in which the employees work.

Ans. Depending on the Industry and the environment in which the employees work, hazards can be of the following types:

- (i) **Physical Hazards:** They are environmental factors that can harm an employee without necessarily touching them. They include radiation, high exposure of sunlight/ultraviolet rays, constant loud noise and extreme temperature.
- (ii) **Chemical Hazards:** They are present when a worker is exposed to any chemical preparation in the workplace, in any form (solid, liquid or gas). These hazards can result in both health and physical impacts, such as skin irritation, respiratory system irritation, blindness, corrosion and explosions.
- (iii) **Biological Hazards:** They include exposure to harm or disease from working with animals, people or infectious plant materials. Viruses, bacteria, insects, animals, etc., can cause adverse health impacts.
- (iv) **Safety Hazards:** These are hazards that create unsafe working conditions which can cause injury, death or illness. For example, exposed wires or a damaged carpet might result in a tripping hazard. These are sometimes included under the category of physical hazards.

Q 13. Define the following accessibility features.

- | | |
|--------------------------|----------------------------|
| (i) Sticky Keys | (ii) Filter Keys |
| (iii) Toggle Keys | (iv) Sound Sentry |
| (v) High Contrast | (vi) Cursor Options |
| (vii) Serial Keys | (viii) Mouse Keys |

- Ans. (i) Sticky Keys:** Sticky Keys is an accessibility feature to help computer users with physical disabilities. It allows the user to press and release a modifier key, such as Shift, Ctrl, Alt and have it remain active until any other key is pressed.
- (ii) Filter Keys:** It is an accessibility function that tells the keyboard to ignore brief or repeated keystrokes, making typing easier for people with hand tremors.
- (iii) Toggle Keys:** It is an accessibility function which is designed for people who have vision impairment or cognitive disabilities.
- (iv) Sound Sentry:** It is designed to help users with auditory impairments. It generates visual warnings, such as a blinking title bar or a flashing border, whenever the computer generates a sound.
- (v) High Contrast:** It is an accessibility feature to assist people with vision impairment. You can change the size and colour of fonts and the background for ease of viewing.
- (vi) Cursor Options:** Cursor Options is also an accessibility feature that assists people with vision impairment by changing the blink rate and width of the cursor.
- (vii) Serial Keys:** It is an accessibility feature that assists people that have difficulty using a keyboard or a mouse (or both). They can use special devices such as Sip, Puff and Breath Switches to provide input to the computer through Serial Ports.
- (viii) Mouse Keys:** It is an accessibility feature that assists people who have difficulty using a mouse. This option uses the keyboard (especially numeric keypad) as a pointing device instead of a mouse.

Q 14. How can we handle emergencies?

Ans. We can handle emergencies as follows:

- (i) Take a deep breath.
- (ii) Tell yourself you can handle the situation.
- (iii) Protect yourself and the injured person from fire, explosions or other hazards.
- (iv) Try to look at the situation as a whole:
 - (a) What is the most serious problem and what do you need to do first?
 - (b) Treat the most life-threatening problems like bleeding or shock first.
 - (c) If you think the person has a spinal injury, do not move him or her unless the danger is great.
 - (d) Check for broken bones and other injuries.

Q 15. How can we handle accidents?

Ans. We can handle accidents by following:

- (i) Take control of situation.
- (ii) Provide first aid.
- (iii) Call for emergency services (Ambulance, Fire Brigade, Police).
- (iv) Deny access to people who don't need to be on the scene.
- (v) Identify people and conditions at the scene. The people are witnesses to what happened. Tell someone to note down their names. If you're alone, try to notice who's there.
- (vi) Preserve physical evidence. Evidence should not be altered or removed.
- (vii) Evaluate how bad the loss is, how bad it could have been, and whether additional investigation resources are needed.
- (viii) Owners and upper management must be immediately notified.

Q 16. Explain General Evacuation Procedures.

Ans. General Evacuation Procedures are as follows:

- (i) Activate the fire alarm.
- (ii) Call 112 immediately.
- (iii) Exit the building using emergency maps.
- (iv) Take injured individuals to a secure area.
- (v) Ensure that everyone is out of the building.
- (vi) Do not use the elevator or lift.
- (vii) Use a fire extinguisher if it is safe to do so.
- (viii) Report hazardous conditions.
- (ix) Stay low if confronted with smoke. Check closed doors for heat before opening.
- (x) Stay away from the building until it is safe to return.

Q 17. What do you mean by healthy living?

- Ans.**
- (i) Eat healthy and nutritious food. Vegetarian food is considered better for healthy body. So your meal should have fruits, vegetables, whole grains and low-fat milk products in excess.
 - (ii) Avoid junk food and cold drinks.
 - (iii) Avoid Tobacco and Alcohol.
 - (iv) Do exercise. Yoga or play some outdoor game on regular basis.
 - (v) Get enough sleep.
 - (vi) Adopt a hobby.
 - (vii) Make good friends and spend some time with them.

Q 18. (i) Give two best practices for Internet safety.

(ii) Give any two falls and slips safety rules.

- Ans.**
- (i) Best practices for Internet safety are as follows:
 - (a) **Use Strong Passwords:** A combination of alphanumeric and special characters should be used for creating a password.

[CBSE 2023]

(b) Do Not Share Personal Information: Don't share your personal information, like name, age, address, school, etc., on unknown websites.

(c) Secure Transactions: If we are making online transactions we should be careful while entering credit card or debit card details.

(d) Install Antivirus: Computers must have antivirus to save the computer from virus and other threats data from the computer.

(Any two)

(ii) Basic safety rules for ensuring falls and slips safety are as follows:

(a) Keep the moving area clean and clutter free.

(b) Workplace must be proper ventilated receive light.

(c) Wear non-slippery footwear.

(d) Floors must be clean and dry. (Any two)

Q 19. Rahul and Amit are working on a school project assigned to them by their teacher. They have to send instant messages to each other and also do videoconferencing after school hours in order to complete the project on time.

(i) Suggest any four good instant messaging software that they can use.

(ii) Apart from computers, list four hardwares that Rahul and Amit need for videoconferencing.

[CBSE SQP 2022, Term-2]

Ans. (i) Google Talk, Yahoo! Messenger, Skype, Windows Live Messenger, Rediff Bol, MS-Teams, ZOOM, etc.

(ii) Headphone, Speaker, Microphone and Web Camera.

Q 20. Rahul has purchased some stationary items from an online site. He has to make online payment for the items to complete the transaction. Help by answering his following queries.

(i) Suggest any two options that he can use to make payment of his bill on the online shopping website.

(ii) Name any two situations where online shopping could be useful.

(iii) Name any two popular online transaction websites.

(iv) Write full form of COD in reference to online shopping.

[CBSE SQP 2022, Term-2]

Ans. (i) Credit, Debit Card or by Internet banking, etc.

(ii) (a) A customer does not have sufficient time to visit stores.

(b) Visiting a store is more expensive than purchasing a product online.

(c) A product or service that is not available in the local market is available online

(iii) Flipkart, Amazon, Myntra, etc.

(iv) Cash on Delivery.

Q 21. Aryan is too much worried when he came to know that someone has withdrawn all money from his uncle's bank account. He was not able to understand how this could happen when he has not given his ATM card to anyone.

(i) Suggest to him a way by which he can be assured that he is doing secured online transactions.

(ii) Which type of software he needs to install in his computer to protect his computer from malware?

(iii) Help him to understand about phishing.

(iv) He also thinks cookies are harmless. Explain to him how cookies can also cause harm to him.

[CBSE SQP 2022, Term-2]

Ans. (i) He need to ensure that website URL must have lock icon at the beginning and starts with https.

(ii) He can use a good antivirus software.

(iii) Phishing refers to the Internet represents an Insecure channel for exchanging Information leading to a high risk of intrusion or fraud.

(iv) Cookies are programs that are created on your local computer when you visit websites. Cookies are meant for storing data based on activity performed during, earlier visits. Cookies stores login details, details of a shopping cart, visited pages in a websites, etc. They could be also tracked by unauthorised users and possibly gain access to personal information.

Q 22. Due to the pandemic everyone was bound to stay at home. But, due Internet the whole world was connected.

(i) What is meant by World Wide Web? Also write any two web browsers names that you know.

(ii) Explain how data is transferred over Internet.

[CBSE SQP 2022, Term-2]

Ans. (i) World Wide Web (abbreviated as WWW or W3, commonly known as the Web), is a system of interlinked hypertext documents accessed via the Internet. Two popular web browsers are: Google Chrome and Mozilla Firefox

(ii) The data transfer on the Internet is done through the following steps:

(a) Information on Internet is divided into small packets. Each packet is sent from computer to complete until its find its destination. Each computer on the way decides where

the next packet to be sent. All packets may have either different routes.

- (b) Once the packet reaches to its destination, packet will be examined. If any packets are missing or damaged, a message for sending

it again will be sent. This process continues till all packets have been received.

- (c) Finally all the packets reassembled into the original form.



Chapter Test

Multiple Choice Questions

- Q 1. In Windows XP we can access accessibility options in
- a. control panel b. windows
c. network d. mycomputer
- Q 2. Which of the following tab is not available in Accessibility options window (in Windows XP)?
- a. Keyboard b. Display
c. General d. Volume
- Q 3. keys are used to reduce repetitive strain.
- a. Filter b. Toggle
c. Sticky d. Mouse
- Q 4. Which of the following is/are a modifier key?
- a. Alt
b. Ctrl
c. Windows
d. All of the above
- Q 5. Which of the following options allow us to press Ctrl key and 'A' key separately.
- a. Filter Keys b. Sticky Keys
c. Toggle Keys d. Mouse Keys
- Q 6. A web page may contain:
- a. images b. videos
c. text d. All of these

Fill in the Blank Type Questions

- Q 7. The is the biggest type of network available on the earth.
- Q 8. connections require users to link their phone line to a computer, in order to access the Internet.
- Q 9. Hotspot is based on the technology.

Assertion and Reason Type Questions

Directions (Q. Nos. 10-12): In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not correct explanation of Assertion (A).
c. Assertion (A) is true, but Reason (R) is false.
d. Assertion (A) is false, but Reason (R) is true.
- Q 10. **Assertion (A):** A network switch is a networking device that is used to help us in connecting

multiple network hosts. A network switch is also used for data transfer. The data is transferred in the form of packets on a computer network.

Reason (R): When a host computer sends a data packet to a network hub, the hub copies the data packet to all of its ports to which it is connected. Similarly, all the ports that know about the data and the port for whom the packet is intended, claim the packet.

- Q 11. **Assertion (A):** A hub is a network device which is responsible for routing data traffic from one jammed network to another free network.
Reason (R): PAN may include wireless computer keyboard and mouse, Bluetooth enabled headphones, wireless printers, TV remotes and much more.
- Q 12. **Assertion (A):** A repeater is an electronic device that amplifies the received signal. It receives a signal and retransmits it with a higher level or a higher power so that the signal can travel longer distances before fading out.
Reason (R): A bridge in a computer network is a key point for data on its way to or from other networks.

Case Study Based Questions

- Q 13. **IP Address:** IP addresses are in aaa.aaa.aaa.aaa format, where each aaa is a number from 0 to 255. The length of IP address is 4 bytes. IP addresses identify the host computers, so that packets of information reached to the correct computer. For example: 162.187.23.87
The IP address has the following characteristics:
- IP addresses are unique.
 - No two machine can have the same IP address.
 - IP addresses are also global and standardised.
 - All machines connected to the Internet agree to use the same scheme for establishing an address.
- (i) **IP addresses are converted into:**
- a. A binary string
b. Alphanumeric string
c. A hierarchy of domain names
d. A hexadecimal string

(ii) Which of the following translates domain names into IP addresses?

- a. Domain name system
- b. Domain abbreviation
- c. Web address
- d. URL

(iii) Identify the IP address from the following URL:
http://www.microsoft.com/athome/default.aspx

- a. microsoft.com
- b. http
- c. athome
- d. default.aspx

(iv) Each computer connected to the Internet must:

- a. Have a unique IP address
- b. Have a modem connection
- c. Have a web browser
- d. Be a Pentium machine

Q 14. Network devices are the components that help us to connect computers or other electronic devices together so that they can share data or resources, like printers or scanners. Hubs, switches, routers, bridges, repeaters and gateways are examples of networking devices that let you connect one or more computers to other computers, or even other networks.

(i) In what form the data is transferred on a computer network?

(ii) Define Router.

(iii) What is the use of repeater?

(iv) Define IP Address.

Very Short Answer Type Questions

Q 15. Give any two electrical safety rules in any organisation.

Q 16. Explain any two first aid rules.

Q 17. What do you mean by occupational hazards?

Q 18. List any three types of occupational hazards.

Short Answer Type Questions

Q 19. Explain use of Antivirus and Antispyware.

Q 20. Give any four basic safety rules for ensuring falls and slips safety.

Long Answer Type Questions

Q 21. What are some health concerns related to the excessive use of technology?

Q 22. Define the following internet security issues:

- (i) Spamming
- (ii) Phishing
- (iii) Spyware
- (iv) Viruses