

Case Based MCQs

1. If there is one technology to name that has revolutionized the way people are contacting or communicating with each other in the last 20 years, it must be 'Mobile Cellular Technology'. The communication through mobile cellular began during 1980. Since then mobile technology has undergone considerable changes and has resulted into portable mobile communication and smartphones that have become very popular in last few years. (5 x 1)

a) MMS which is a way to send and receive messages that include images, audio and video clips in addition to text, is a service of generation. –

- i. First ii. Second iii. Third iv. Fourth

b) Which was the first country to adopt 5G?–

- i. Germany ii. Japan iii. South Korea iv. USA

c) First Generation was used for voice services and was based on which technology? –

- i. SMS ii. MMS iii. XR iv. AMPS

d) In which generation pagers were introduced for text messaging?–

- i. First ii. Second iii. Third iv. Fifth

e) 5G is based on OFDM. It stands for Orthogonal frequency-division –

- i. Multiplexing ii. Multimedia iii. Mailings iv. Messaging

Answer: a) iii b) iii c) iv d) ii e) i

2. Geetika has recently created her social accounts. She is very excited as she waited so long to go online. She has recently also got admission in a prestigious high school and does not know many students. When she logs into her social media a few days later, she finds that someone is posting negative, demeaning comments on her social media profile. She is also getting repeated mails from unknown people. Whenever she goes online, she is trolled by multiple unknown people. (5 x 1)

a) Geetika is a victim of –

- i. Eavesdropping ii. Plagiarism iii. Phishing iv. Cyber stalking

b) Which of the following is the most appropriate action she should take?–

- i. She should stop going online and delete her social media accounts.
ii. She should NOT share this with anyone as she might face more of such kind of behaviour.
iii. She should file a complaint at the nearest police station.
iv. She should inform her parents and bring to the notice of school authorities.

c) After hearing her ordeal, the school decides to publish a set of moral principles that determines the appropriate behaviour of students while using the internet. The school is referring to –

- i. Intellectual Property rights iii. Computer Ethics
ii. Internet Privacy iv. Cyber Ethics

d) Geetika is advised by her best friend, Seerat to protect her personal information from intentional or unintentional attacks by others. This is also known as –

- i. Digital right iii. Data Privacy
ii. Copyright iv. Intellectual property

e) The computer teacher of Geetika's class decides to take an online session on the topic Netiquettes, which generally includes –

- i. safeguarding one's passwords and sensitive online information
ii. logging out of social media accounts after the session
iii. not bullying or trolling anyone by disrespecting them or passing inappropriate remarks
iv. All of the above

Answer: a) iv b) iv c) iv d) iii e) iv

Short answer type questions.

3. In abc@xyz.com, what is the part after the '@' symbol called? (1)

Answer: Domain name

4. What is transferring a file from a remote to the host computer called? (1)

Answer: Downloading

5. What are the small pieces of information which are transferred over the network and are reassembled at the host address before getting delivered called? (1)

Answer: Packets

6. Name the information retrieval tool that helps to find content on Internet/WWW. (1)

Answer: Search Engine

7. What is the keyword to enter in the search bar to find about all the cars except Hatchback cars? (1)

Answer: Cars-Hatchback

8. Which protocol ensures secure data transmission between the browser and the website? (1)

Answer: https

9. When did the ARPANET lose its existence? (1)

Answer: 1990

10. Name the networking protocol that provides a command line interface for communication with a remote device or server. (1)

Answer: Telnet

11. What is the principal computer or server that stores the contents of different websites known as? (1)

Answer: Web Server

12. Name the protocol which refers to operating an application or software or database of a network or server from a remote location. (1)

Answer: Remote Login Protocol

13. Name the programming language that was developed to create electronic pages that could be displayed on the Internet. (1)

Answer: Hyper Text Markup Language/HTML

14. What is sending nasty messages to people in the group known as? (1)

Answer: Flaming

15. Write the full forms of the following: (9 x 1)

Answer:

- a) Hyper Text transfer Protocol
- b) Hyper Text Transfer Protocol Secure
- c) Internet Information Services
- d) Advanced Research Projects Agency Network
- e) Domain Name System
- f) Top Level Domain
- g) File Transfer Protocol
- h) Transmission Control Protocol/Internet Protocol
- i) National Science Foundation Network

- a) HTTP
- b) HTTPS
- c) IIS
- d) ARPANET
- e) DNS
- f) TLD
- g) FTP
- h) TCP/IP
- i) NSFNET

16. Guess who am I? (5 x 1)

- a) I refer to the transfer of file from a remote computer to the host computer.
- b) I refer to the transfer of a file from the host computer to a remote computer/server.
- c) I am a standard Internet communications protocol that allows computers to communicate over long distances.
- d) I am a set of rules for transferring files between two computers on Internet.
- e) I refer to a forum on Internet where people share ideas about topics of mutual interest.

Answer: a) Downloading
b) Uploading
c) Internet Protocol
d) File Transfer Protocol
e) Blog

17. Guess who am I? (5 x 1)

- a) I am a type of blog that is used for the sole purpose of spamming.
- b) I am the name for identifying a website on the Internet.
- c) I am a mailing service provided by the Internet through which one can send messages to any person around the world through computer.
- d) I am helpful in transferring of files from a remote computer to the host computer.
- e) I am a series of articles on the same subject on a newsgroup.

Answer: a) Spam blog or Splog b) Web address c) E-mail d) Internet e) Blog

18. What is a Remote Login? (1)

Answer: It refers to operating an application or software or database of a network or server from a remote location.

19. List names of few Web Browsers. (1)

Answer: Internet Explorer, Mozilla Firefox, Opera, Apple Safari, Google chrome, Microsoft Edge, Lynx

20. Explain e-Reservation. (1)

Answer: Reservation means to purchase rights for the usage of a facility or some service for a specified and limited period of time i.e., to reserve a right temporarily. When one purchases such rights for any location or for occupancy of a seat for traveling to any corner of the world through Internet, it is called online reservation or 'e-Reservation' or 'e-Booking'.

21. What is Lurking? (1)

Answer: It means hanging around a newsgroup (especially if there is a new member of the group) to see what is being discussed.

22. What is HTML? (1)

Answer: HTML is a standardized system to describe the structure of text-based information in a document by denoting certain text as heading, paragraphs, lists and so on and by supplementing the text with interactive forms, embedded images and other objects. Technically HTML is not a programming language.

23. What is SSH protocol? (1)

Answer: The SSH (Secure Shell) protocol establishes secured remote login and secured transfer of data. It provides strong authentication and protects the communication with strong encryption.

24. List names of few Search Engines. (1)

Answer: Google, Bing, Yahoo!, Ask, DuckDuckGo

25. What is e-Learning? (1)

Answer: It refers to the application of Internet media in the field of education and learning. Giving tutorials, multimedia demonstrations, imparting lectures, clarification of doubts, providing solution to problems, sharing knowledge through video conferencing, etc. helps the users to learn about things with a wide spectrum.

26. What is Social Networking? (1)

Answer: It is the network of different people who form communities among themselves to share sentiments, relationships, topics, ideas or topics of common interest. These people may be linked to each other because of some type of association among them.

27. Why Internet is referred to as “Network of Networks”? (1)

Answer: Internet is also referred to as “Network of Networks”. It establishes a high level of connectivity which has resulted into an unparalleled degree of fastest, easiest and the cheapest ways to transfer or share data and information around the globe. It provides access to communication services and information resources to millions of users around the globe, round the clock.

28. Explain the use of Web Browser. (1)

Answer: A web browser is an application software that helps a user to navigate through different websites on the Internet and display web pages.

29. Explain SMTP. (1)

Answer: SMTP stands for Simple Mail Transfer Protocol. It is a TCP/IP protocol that is used in sending and receiving e-mail. Simple Mail Transfer Protocol is also known as RFC 821 and RFC 2821.

30. Explain the benefits of HTTPS over HTTP. (1)

Answer: Hypertext Transfer Protocol Secure (HTTPS) is the secure version of HTTP, the protocol over which data is sent between the host browser and the connected website. The ‘S’ at the end of HTTPS stands for ‘Secure’. It means all communications between your browser and the website are encrypted and secured. HTTPS is often used to protect highly confidential online transactions like online banking, online shopping, etc.

31. Explain the elements (Hardware/Software) required for video conferencing. (1)

Answer: The following five elements are required for video conferencing:

Video Input: Video Camera, Web Cam, Mobile Camera.

Video Output: Computer Monitor, Television or Projector Screen.

Audio Input: Microphone, Mic. < /br> Audio Output: Speakers or Earphone associated with the display devices or telephone line.

Network: (Data Transfer) Analog or Digital Telephone Network, LAN or Internet.

32. What is e-Banking? Explain the advantages of e-Banking. (1)

Answer: e-Banking refers to the online banking transactions that can be done through a computer on the Internet from anywhere irrespective of the location of the user.

Advantages of e-Banking:

- The account holder can check the account balance at anytime from anywhere and can take immediate action for any variation or error in the balance of his account.

- e-Banking is eco-friendly as it reduces the paper work.

- e-Banking saves time, energy, natural resources and reduces traffic problem to some extent.

33. Explain e-Governance and its benefits. (1)

Answer: e-Governance (Electronic Governance) refers to the application of Information and Communication Technology (ICT) tools for delivering the services of government. < /br> Benefits of e-Governance:< /br> • Fast execution of process < /br> • Reduced corruption < /br> • High transparency < /br> • Increased convenience < /br> • Reduction in overall cost.

34. Which protocol is used to receive email from a remote server to a local email client? (1)

Answer: Post Office Protocol Version 3 or POP 3

35. Which TCP/IP protocol is used in sending and receiving e-mail? (1)

Answer: Simple Mail Transfer Protocol/SMTP

36. Which mail protocol allows to access e-mail messages without downloading them? (1)

Answer: Internet Message Access Protocol (IMAP)

37. Which secure file transfer protocol runs over the SSH protocol? (1)

Answer: SSH File Transfer Protocol (SFTP)

38. Which networking protocol provides a command line interface for communication with a remote device or server? (1)

Answer: Telnet

39. Write short notes on: (4 x 1)

- a) Internet
- b) TCP/IP
- c) Web Server
- d) Newsgroup

Answer: a) Internet: Internet is an interconnected Wide Area Network (WAN) of millions of computers that are linked together around the world. With Internet we can share information in the form of data, graphics, sound, software, text, etc. instantly as and when required with a minimum overhead cost.

b) TCP/IP: TCP/IP stands for Transmission Control Protocol/Internet Protocol. It is a standard Internet communication protocol that allows computers to communicate over long distances. Transmission Control Protocol/Internet Protocol, is the suite of two protocols i.e., TCP and IP, used to interconnect network devices on the Internet.

c) Web Server: A web server is the principal computer or server that stores the contents of different websites. It provides data and information to computers on request which are connected to it through the network via Internet. It is a computer that stores data and runs software that is designed to send web pages in file format when requested by web browsers.

d) Newsgroup: A newsgroup refers to a forum on the Internet where people share ideas about topics of mutual interest. The topics of interest may be from areas like politics, technology, sports, etc. Newsgroups, which are also referred to as 'Usenet', are international discussion groups that focus on some topics and help in gathering information from the Internet.

40. Write short notes on: (3 x 1)

- a) e-Mail
- b) SCP
- c) Telnet

Answer: a) e-Mail: Electronic mail is a mailing service provided by the Internet by which one can send messages to any person around the world through computer. It has become the fastest, easiest and cheapest means of communication for business, governance, administration, education, tourism, etc.

b) SCP: Secure Copy (SCP) is a file transfer protocol, which helps in transferring computer files securely from a local host to a remote host. It works on the Secure Shell (SSH) protocol technique. The term 'Secure Copy' refers to either the SCP protocol or the SCP program. The SCP protocol has been mostly superseded by the more comprehensive SFTP protocol.

c) Telnet: Telnet stands for Teletype Network. It is a networking protocol that provides a command line interface for communication with a remote device or server, sometimes employed for remote management but also for initial device setup like network hardware. Telnet was conceptualized in 1969 and standardized as one of the first Internet standards by the Internet Engineering Task Force (IETF). Telnet does not employ any form of encryption as it was developed before the mainstream adaptation of the Internet.

41. What is WWW? How is caching helpful while browsing the websites? (1)

Answer: The 'World Wide Web' is a framework for accessing linked documents spread over millions of computing devices over the internet. The World Wide Web (WWW) is a service of information in a combination of text, photographs, graphics, audio, video, etc. that are presented on the internet. Caching enables to store data in memory. It allows to revisit or re-browse the same website while operating on the same computer before switching it off.

42. Explain the concept of a Webserver and a client. (1)

Answer: Web server is responsible for accepting requests from the client. It accepts connections from client (web browsers on any computer) all over the internet and whenever an HTML document is requested, it is sent using HTTP protocol. Client is designed to accept requests from remote computers and respond or send on the information as requested.

43. Differentiate between POP3 and IMAP on the basis of mail downloading and organization. (1)

Answer: In POP3, to read the mail it has to be downloaded first but in IMAP the mail content can be checked before downloading. In POP3, the user cannot organize mails in the mailbox of the mail server but in IMAP the user can organize the mails on the server.

44. What makes e-Shopping more fruitful than traditional shopping? Give two points. (1)

Answer: In e-Shopping the customer need not go to a shop, so one can save time and energy. In e-Shopping the buyer can choose amongst hundreds of variety of the same product, but in a traditional shop, buyer can view only a limited variety of product.

Long answer type questions.

45. Explain the working of a Search Engine in detail. (1)

Answer: • A search engine must have a very strong database for which the search engines use powerful programs called 'Spider' or 'Web Crawler' that keeps on crawling on the web to catch any newly published web page or document and finds their web address.

• The documents and their web addresses are sent to the indexing tool which stores it in a database. It also prepares an Index so that the information can be retrieved quickly from the database.

• When the user enters the keywords or a query, the search engine weeds through millions of web pages and the search software searches its database with the help of an index and displays the matching documents or links.

46. What is an e-mail? Explain the parts of an e-mail address. (1)

Answer: Electronic mail is a mailing service provided by the Internet by which one can send messages to any person around the world through computer. An individual who avails the services of internet, must have a unique e-mail address, i.e., (e-mail id). by which and to which messages are sent and received and that can be accessed from anywhere at any point of time, with internet connectivity. There are two parts of an e-mail address: i.e., the login identity and identity of the e-mail server, both of which are separated by @ (at the rate. symbol).

• User Name: An e-mail address has a user identification (name). that contains some characters, here 'info'.
• @ (At): The '@' i.e., 'at the rate' sign connects the user name with the domain name i.e., second part.

• Domain: The 'domain' or 'domain name' is the last name and it shows the host web site or the location of the e-mail account on the net. Host website is the site in which e-mail ID is created.

47. What is a Blog? Explain the different types of blogs. (1)

Answer: Blog refers to the personal content on the net which is uploaded by a user. It refers to the online publication or uploading of personal or general information for restricted viewing. Different type of blogs are:

• Personal blogs allows bloggers to share their thoughts and feelings instantaneously with friends or others. An example of a personal blog is Twitter (www.twitter.com).

• Corporate blog is published and used by an organization to reach its organizational goals. Corporate blogs can be broadly classified into: Internal blogs, External blogs and CEO blogs. • Genre blogs are meant for publication of articles on specific topics or a particular subject, such as Political blogs, Travel blogs, House blogs, Fashion blogs, Educational blogs, etc. • Spam blogs are usually a type of scrapper site in which the contents are either unauthentic text or merely stolen or copied from other websites. Spam blogs are used for the sole purpose of spamming.

48. Explain in detail the measures that can be undertaken to maintain the safety and security of the e-banking accounts. (1)

Answer: To maintain the safety and security of the accounts, security provisions are also provided in e-banking. Basically there are two types of security measures:

- User Identification: A user can login to the account with his account number only.
- The PIN system: PIN stands for Personal Identification Number. It is the secret password that should remain with the account holder only. It is used to login to the account.
- Signature based e-Banking: In this system, the authentication of the account holder is checked digitally. In such system the signature or authentication is encrypted in a media like smart cards or storage media. While doing the banking transaction, the account holder has to insert the media in the host workstation which can authenticate the users to open the account.

49. Give two examples of each of the following: (4 x 1)

- a) Web browser
- b) Web servers
- c) Blogging Sites
- d) Newsgroup Categories

Answer: a) Opera, Google Chrome
Sci, Biz

b) Apache, IBM Lotus

c) Bloglines, Blogscope

d)

50. Explain the different generations of the mobile technology era. (1)

Answer: We can classify the era of mobile technology in different generations as:

- First Generation (1G): 1G refers to the first generation of cellular service, which was introduced in 1980s. It was used for voice services and was based on technology called Advanced Mobile Phone System (AMPS). It has of great contribution as it gave birth to mobile technology. It lacked security, and did not provide consistent communication during voice transmission.
- Second Generation (2G): 2G refers to the second generation cellular service and was introduced in late 1990s. It was based on digital technology and supported text messaging (SMS). It is used digital signals for voice transmission. It enabled text messaging also, 'Pagers' were introduced for text messaging.
- Third Generation (3G): 3G refers to the third generation of cellular service. It has enabled higher rate of data transmission and has provided multimedia support. In this generation, wireless technology is more enhanced over previous wireless technologies, thus it has helped in high-speed transmission, advanced multimedia access, video streaming, video chatting on wireless signal, etc.
- Fourth Generation (4G): 4G refers to the fourth generation of cellular service. It has integrated features of 3G with Internet compatibility to support wireless mobile Internet, as the data transmission speed in Standard 4G (or 4G LTE) is around five to seven times faster than 3G. 4G provides same feature as 3G but with high data transfer speed.
- Fifth Generation (5G): 5G refers to the fifth generation of cellular service launched in 2016. It is based on OFDM (Orthogonal frequency-division multiplexing). 5G technology is meant to deliver high speeds, superior reliability, negligible latency, and improved efficiency.

51. What do you understand by social networking? (1)

Answer: Society is a community of people who are linked to each other by some common platform. Being social, literally means being attached to people in society and adhering to its rules. Being social with hundreds of people over the Internet is social networking. In computer, social networking refers to a link of hundreds of people around the world on Internet. It is the network of different people who form communities among themselves to share sentiments, relationships, topics, ideas or topics of common interest. These people may be linked to each other because of some type of association among them. This association like that of profession, school or college, conference, training group, etc. might have been in past, present or may be in future.

52. Explain the five elements required for video conferencing. (1)

Answer: The following five elements are required for video conferencing:

- Video Input: Video Camera, Web Cam, Mobile Camera.
- Video Output: Computer Monitor, Television or Projector Screen.
- Audio Input: Microphone, Mic.
- Audio Output: Speakers or Earphone associated with the display devices or telephone line.
- Network: (Data Transfer) Analog or Digital Telephone Network, LAN or Internet.

53. Differentiate between the following: (5 x 1)

- a) Webpage and Website
- b) SMTP and FTP
- c) HTTP and HTTPS
- d) FTP and SFTP
- e) SMS and MMS

Answer: a) Webpage and Website: Website is a collection of webpages displayed on the web with a client-like browser. It contains more than one web webpages that contain information. It is a combination of webpages created using HTML and CSS. It is a place used to display content. Webpage is a part of website that includes information and content and is displayed on the browser to user or visitor. It is a single document display on the browser. It is content displayed on the website.

b) SMTP and FTP: SMTP stands for Simple Mail Transfer protocol which is used to send mails. FTP stands for File Transfer Protocol which is used to send a file from source to destination in small packets.

c) HTTP and HTTPS: HTTP stands for Hypertext Transfer Protocol. HTTP offers set of rules and standards which govern how any information can be transmitted on the World Wide Web. HTTP provides standard rules for web browsers and servers to communicate. HTTPS stands for Hyper Text Transfer Protocol Secure. It is highly advanced and secure version of HTTP. It allows the secure transactions by encrypting the entire communication with Secure Sockets Layer.

d) FTP and SFTP: FTP stands for File Transfer Protocol. It is an internet service which is designed to establish a connection to the specific server or computer. The FTP protocol also includes commands which are used to execute operations on any remote computer. SFTP stands for SSH File Transfer Protocol. It provides secure file transfers over SSH (Secure Shell) to provide access to all the shell accounts on a remote SFTP server.

e) SMS and MMS: SMS stands for Short Messaging Service. It is the oldest and most widely used form of text messaging on mobile devices. This form of messaging is fully operational and is supported by all the mobile devices. The user does not need to have a smartphone to use it. MMS stands for Multimedia Messaging Service. It is just an extension of the features of the SMS. It allows users to send multimedia like images, GIF, videos with text which was not supported in the SMS. The MMS is advanced in comparison to SMS because of the images and videos that the users can send through it. It is more suitable for smartphones and not for analog mobile phones.

54. Explain the features of WWW. (1)

Answer: Following are some of the features of WWW:

- User Friendly: WWW resources are user friendly and can be used easily with the help of web browsers.
- Hypertext and Hyperlinks: Hypertext coordinates communication and establishes link among web pages that incorporates text, images, audio, visuals and dynamic links.
- While browsing, some parts of the document are often highlighted with underline or displayed in a special colour. Such highlighted words that provide links are termed hyperlinks. WWW supports such hypertext and hyperlink files and thus enables Internet surfing easier for the users.
- Multimedia documents: Multimedia documents contain information in the form of audio, video, graphics, animations and text which are viewed on web pages. WWW allows and supports the Internet users to create, link or display multimedia web pages.
- Interactive: WWW provides a graphical interface. It supports and enables easy and convenient interaction among the users and the servers through hyperlinks and input boxes like radio buttons, check boxes, text boxes, etc.

- **Accessibility:** WWW is accessible by anyone irrespective of location, caste, community, nationality, profession, physical disability, etc. A user just needs a computer, modem and Internet connection.
- **Caching:** If a user revisits same web page after a short interval, it may not be needed to recall that data from the source web server. Caching enables to store data in memory. It allows to revisit or re-browse the same website while operating on the same computer before switching it off.

55. What are the suggested tips for using a Search Engine? (1)

Answer: Suggested Tips for Using a Search Engine: To make an effective search on the Internet for a specified information:

- Be specific, use synonyms and use lower case letters.
- Avoid using common words, like 'Internet', 'Computer', etc., as these words are too general, hence the search engine will display thousands of matching web pages.
- Many search engines can search information with combination of multiple words. By using the Boolean Operators (AND/OR/NOT) in queries, the result of searching can be better.
- To search information on the basis of words or a phrase or a title, enclose them within quotes. For example, to find a book named 'The ABC of the Internet', type "The ABC of the Internet" in the search box of the search engine.
- Use wild cards like asterisk (*) to search for related words without entering the full word. For example, if we type "*comput*", then the search will include computer, computers, computing and other related words starting with the letter 'comput'.
- Use '+' or '-' signs as they indicate that a web page must or must not include the keyword to be relevant. For example, + Texas + Universities - Technical (will find all web pages that include the word Texas and University but will not include the word Technical).