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Q) What are the different types of networks?

Ans. There are mainly five types of Computer Networks-

i) Personal Area Network (PAN)
ii) Local Area Network (LAN)
iii) Campus Area Network (CAN)
iv) Metropolitan Area Network (MAN)
v) Wide Area Network (WAN).

Other Computer Networks are -

a) Wireless Local Area Network (WLAN)
b) Storage Area Network (SAN)
c) Passive Optical Local Area Network (POLAN)
d) Enterprise Private Network (EPN)
e) Virtual Private Network (VPN)
f) System Area Network (SAN).

Q) Explain the Shielded twisted Pair (STP) and Unshielded twisted Pair (UTP).

Ans. UTP is the type of twisted Pair Cable. It stands for unshielded twisted pair. Both data and voice are transmitted through UTP because its frequency range is suitable. In UTP grounding cable is not necessary also in UTP much more maintenance is not needed therefore it is cost-effective, easy to install, unvnerable to interfearance, limited distance to transmit data.

STP is also the type of twisted pair which stands for shielded twisted pair. In STP grounding cable is required but in UTP grounding cable is not required. In shielded twisted Pair (STP) much more maintenance is needed therefore, it is costlier than Unshielded Twisted Pair (UTP) It enhanced protection, better performance, more complex to install and more expensive.

Q). What is difference between baseband and broadband transmission?

Ans. Baseband: A signaling technology that sends digital signals over a single frequency as discrete electrical pulses. The entire bandwidth of a baseband system carries only one data signal and is generally less than the amount of bandwidth available on a breadband transmission system.

Broadband: Broadband is used to describe a type of data transmission in which a single medium can carry several channels at once. Cable Tv. The basic difference between broad band and baseband is capacity.

Whereas baseband uses digital signaling, broadband use analog signals in the form of optical or electromagnetic waves over multiple transmission frequencies. For signals to be both sent and received, the transmission. For signals to be both sent and received, the transmission media must be split into two channels. The prior difference between baseband transmission and broadband transmission is that in the baseband transmission the whole bandwidth of the cable is utilized by a single signal, in the broadband transmission, multiple signals are sent on multiple frequencies simultaneously using a single channel.

Q) What is the difference between a hub, modem, router and a switch?

Ans. A hub in just a connector that connects that wires coming from different sides. There is no signal processing or regeneration. It is an electronic device that operates only on physical layers of the OSI model.

Routers are the multiport devices and more sophisticated as compared to repealers and bridges. It contains a routing table that enables it to make decision about the route i.e. to determine which of several possible paths between the source and destination is the best for a particular transmission.

Switch is a point to point communication device. It operates at the data link layer of OSI model. It uses switching table to find out the correct destination.

Modem is a box that connects your home network to our internet service Provider or ISP. Modem technology changes slowly and we can usually use a modem for years until it breaks. It can transmit over wires by modulating and demodulating electrical impulses sent through phone lines, coaxial cables or other types of wiring.

Q) When you move the NIC cards from one PC to another PC, does the MAC address gets transferred as well?

Ans. Yes, if we move the NIC cards from one PC to another PC, then the MAC address also gets transferred because the MAC address is hard wired into the NIC circuit, not the personal computer. This also means that a PC can have a different MAC address when another one replaces the NIC card.

Q) When troubleshooting computer network problems, what common hardware-related problems can occur?

Ans. There are nine of the most common network issues to troubleshoot -

i) Slow network. Users complain the network is too slow.

ii) Weak Wi-Fi signal.

iii) Physical connectivity issues.

iv) Excessive CPU usage.

v) Slow DNS lookups.

vi) Duplicate and static IP addresses.

vii) Exhausted IP addresses.

viii) Can't connect to printer.

ix) VLAN and VPN Problems.

Q.) In a network that contains two servers and twenty workstations, where is the best place to install an Anti-virus Program?

Ans. Antivirus should be on each computer if you implement server and node base antivirus that will be best for controlling. There are no special problems just because a network contains two servers and twenty workstations. Every general issue will come alone with critical. It will be same as any other compater setup issue.

Q.) Define static IP and Dynamic IP? Discuss the difference between IPV4 and IPV6.

Ans. IP addresses are classified into two types: static and dynamic. When a device is assigned a static IP address, the address does not change. Most devices use dynamic IP addresses, which are assigned by the network when they connect and change over time.

The most obvious difference is that IPV4 uses a 32 bit address, while IPV6 uses a 128-bit address. This means that IPV6 offers 1,028 times more addresses than IPV4, which essentially solves the "running out of addresses" problem (at least for the foreseeable future).

Q.) Discuss TCP/IP model in detail.

Ans. TCP/IP is a data link protocal used on the internet to let computers and other devices send and receive data. TCP/IP stands for Transmission control Protocal and makes it possible for devices connected to the internet to communicate with one another across networks.

Whenever we send something over the internet a message, a photo, a file - the TCP/IP model divides that data first goes throughthese lagers in one order, and then in reverse order as the data is reassembled on the receiving end. The TCP/IP model works because the whole process is standardize. Without standardization, communication would go haywire and slow things down - and fast internet service relies on efficiency. As the global standard, the TCP/IP model is one of the most efficient ways to transfer data over the internet.

Q.) What is a web Browser? Give some example of browsers.

Ans. A software application used to access information on the world wide web is called a web Browser. When a user requests some information, the web browser fetchers the data from a web server and then displays the webpage on the user's screen.

P.T.O

Examples of web Browsers - Google Chrome., Fire Fox, Opera, Safari, Microsoft Edge, Internet Explorer, mosaic, K-meleon, sea monkey, Netscape Navigator, Lynax etc.

Q.) What is a search engine? Give example.

Ans. A search engine is a web based tool that enable users to locate information on the world wide web. Popular examples of search engines are Google, Yahoo and MSN search. search engines utilize automated software application that travel along the web, every search engine uses different complex mathematical formulas to generate search results.

Q.) What is the internet & WWW? What are the uses of internet in our daily life?

Ans. The internet helps us with facts and figures, information and knowledge for personal, social and economic development. There are many uses of the internet, however, the use of the internet in use daily life depends an individual requirements and goals.

i) Uses of the internet in education.
ii) Internet use to speed up daily tasks.
iii) Use of the internet for shopping.

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iv) For Research and development.
v) Business promotion and Innovation.
vi) communication.
vii) Digital Transactions.
viii) money management.
ix) Tour & Travel.

Q.) What is an Internet service Provider? Give some examples of ISP in India.

Ans. An Internet service Provider (ISP) is a company such as AT&T, verizon, Comcast or spectrum that Provides Internet access to companies, families, and even mobile users, ISPs use fiber-optics, satellite, copper wire and other forms to Provide Internet access to its customers.

ISPs connect to one another by forming backbones, which is another way of saying a main high-way of communications. Backbones usually consist of satellite copper wire, or even fibre optic media. Media is a term that means cables or lines, and it's the physical means of connecting your home to the internet.

The examples of some internet service Providers are hathway, BSNL, Tata, teleservices, verizon, Reliance, Jio, ACI Fibernet and many more working in India as well as worldwide.

Q.) Discuss the difference between MAC address, IP address and Port address.

Ans. i) MAC address is an unique address for an interface, such as Wi-Fi Interface have their own MAC address for each or IAN interfaces have their own MAC address.

IP address tells us where we are and where our network located.

Port address identifies a Process or service you want to do.

ii) A MAC (media Access Control) address, sometimes referred to as a hardware or physical address, is a unique, 12 character alphanumeric attribute that is used to identify individual electronic devices on a network. An example of a MAC address is: 00-B0-D0-63-C2-26.

IP address is 00-B0-D0- stands for Internet Protocal address, it is an identifying number that is associated with a specific computer or Computer network. IP address is: 192.168.45.2.

IP address determines the destination of a data Racket, while Port numbers identify Particular applications. or services on a system. Port number is like: 192.168.45.2:57961 (The underlined number is Port number.)

2.) How do we view my Internet browser's history?

Ans. If we are using windows, linux or macos a quick keyboard shortcut lets us view our history.

Windows and linux users: Ctrl + H

Apple users: Command + Shift + H

When one of these keyboard shortcut is Pressed a history section similar to the example below should appear. In the following steps are showing to view internet browser's history.

In android phone or tablet running google-Chrome - steps are -

i) Open the google chrome Internet browser.

ii) In the upper right corner of the screen, top the (⋮) icon.

iii) In the drop-down menu, select history and shown in the image.

(iv) The Page that opens contains our ~~service~~ device history.

In iphone or ipad -

i) Open the safari Internet browser.

ii) In the lower-left corner of the browser window, tap and hold the back arrow.

iii) The page that opens contains our browser's history.

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Q.1) Elaborate the process & elements of communication in detail through suitable examples.

Ans. The communication process consists of several components. Basically communication is the process of conveying information between two or more people. The communication process is the steps we take in order to active a sucessful communication.

There are seven essential steps to complete the communication process, which are sender or source, encoding, message, medium or channel, decoding, receiver, feedback and noiss.

Sender:- In the communication process, the sender is the first person. The sender is a source of information the sender is the person who delivers messages, it may be a institution or organization.

Encoding:- The second step of the communication process is encoding the message. Encoding is the process of giving form and meaning to the message. It means selecting the means through which to deliver the intended message.

message:- The output of the encoding process is the message. The message is the subject material that the sender wants to communicate to the receiver. The message in also known as the heard of communication because without a message there is nothing to exchange.

Medium or Channel :- It refers to the selection of channels of communication through which a sender conveys his encoded message to the receiver. It bridges the gap between the sender and the receiver in communicate message different mediums can be used on the basis of their effectiveness.

Receiver :- The receiver is the second person in the communication process. He is the person, who receiver messages, understands the same, and takes the necessary steps for a response, form a fechical point of view communication becoms complete only when the messages is received and understood by the receiver.

Decoding :- Decoding refers to the process by which the receiver translates the message into terms meaningful to them. It is the means of understanding messages by the receiver. In other words, decoding is termed the transmission of understanding between the sender and receiver. It is essential to get knowledge or meaning of the message as per the intention of the sender.

Feed back :- Feed back is the last step in the communication process. It decides whether the message is surely understood and whether the necessary effort is practiced by the

receiver as meant by the sender. When the receiver is able to decode messages received from the sender, the provides the response.
