ASSIGNMENT

Course: Certificate in Computer Application

Course Code: CCA-102

Topic: Data Communications

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CCA-102: Data Communications.

ASSIGNMENT.

1. What are the different types of Network?

Ans → The different types of network are:

Local Area Network (LAN)

A local area network (LAN) is usually privately owned and link the devices in a single office, building, or campus as shown in figure given below.

WLAN.

IEEE has defined the specification for a wireless LAN, called IEEE 802.11, which covers the physical and data link layer.

ESS: Extended Service Set

BSS: Basic Service Set

AP: Access Point.

WAN

The switch WAN connect the end systems, which usually compromise a router (internet-working connecting devices) that connect to another LAN or WAN.

The Point-to-Point WAN is normally a line leased from a telephone or cable TV Provider that connect a home computer or a small LAN to an internet service provider (ISP). This type of WAN is often used to provide internet access.

2 Explain the shielded twisted pair (STP) and unshielded twisted Pair.

Ans **Shielded Twisted Pair (STP)**

Shielded Twisted pair or STP are also a twisted pair cables but are required to be grounded, wants more maintenance, have high data transmission capacity and are more costly then UTP.

Unshielded Twisted Pair (UTP).

Unshielded Twisted pair or UTP are twisted pair cables and are used to transmit both data and voice as their frequency range is suitable for transmission UTP are more cost effective and are not needed to be grounded.

3. what is the difference between baseband and bread band transmission?

Ans These are the following differences between Broad band and Baseband transmission

	Baseband
1)	Digital Signalling
2)	frequency division multiplexing is not possible
3)	Base band is bi-directional transmission
4)	Short distance signal travelling
5)	Entire bandwidth is for single signal transmission
6)	Example: Ethernet is using Baseband for LAN

Broadband transmission

1) Analog signalling
2) Transmission of data is unidirectional
3) Signal travelling distance is long
4) Frequency division multiplexing possible
5) Simultaneous transmission of multiple signal over different frequ
6) Example: used to transmit cable TV to premises.

Q4 what is the difference between a hub, modem, router and a switch?

Ans Hubs: Unlikes switches, hub broadcast data to all ports, which is inefficient, so hub are basically a multiport repeat.

Modem: Modem are hardware devices that allow a computer or another, such as a router or switch, to connect Internet. They convert or "modulate" an analog signal from a telephone or cable wire to digital data (1s and 0s) a computer can recognize

Router: work at layer 3 (Network) of the OSI model, which deal with IP addresses.

Typically, router today will perform the functionally of both a router and a switch - that is, the router will has a multiple ethernet port that devices can plug into.

Switches: They use the MAC address of a device to send data only to the port the destination device is plugged into work at layer 2 (Data link) of the OSI model which deals with MAC addresses.

5) When you move the NIC card from one Pc to another Pc, does the MAC address gets transferred as well.

Ans Every NIC has a hardware address that's known as a MAC, for Media Access Control. Where IP addresses are associated with TCP/IP, MAC addresses are linked to the hardware of network adapters.

A MAC address is given to a network adapter when it is manufactured. It is handwired or hard-coded onto yours computer's network interface card (NIC) and is unique to it. Something called the ARP (Address Resolution Protocol) translates and IP address into a MAC address. The ARP is like a passport that takes data from an IP address through an actual pieces of computer hardware. Therefore it remain static and doesn't changed.

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6) When trouble shooting computer network problem, what common hardware - related problem can occur?

Ans • Computer freezing. The major for the hardware problem in a Pc is overheating

• System Error Blue Screen. The user often finds a blue screen when they start the computer.

• RAM faults and Error

• Liquid Spilled on Pc

• Noisy computer.

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7) In a network that contain two servers and twenty work station, where is the best place to install an Anti-Virus program.

Ans Each location has its pros and cons.

Desktop: Almost every antivirus vendor offer a software solution designed to run on a Pc desktop. Desktop protection, the first virus protection model is still the most popular. for strong protection, you must implement desktop solution, then keep them up-to-date, which can be challenging for several reason. First keeping many desktop updated and current is difficult even with automated tool. Missing or by passing a work station is easy, and one weak link can harm the rest of the network. Second, when you place antivirus product on desktops end user can disable the protection. Third, virus can scanner loaded on desktop can severely affect local performance.

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8) Define Static IP and Dynamic IP? Discuss the differences between IPV4 and IPV6

Ans Static IP (Internet Protocol) addresses.

A Static IP address is an IP address that doesn't change. our static IP address usually stay the same unless our network architecture change or our devices are out of commission. Static IP addresses are typically used for serves of or other important networking equipment. They're popular within business setting because they ensure that the devices connected to them keep a consistent address. They also work well for remote access solutions.

A Static IP address is assigned to a device by an ISP. Typically, static IP address add to the cost of your internet service.

Dynamic IP addresses

A dynamic IP address is an IP address that can regularly change. An ISP (Internet Services Provider) will buy a large number of dynamic IP addresses and assign them to their customer's devices. Dynamic IP addresses are often reassigened. Reassigning IP addresses help internet provider save money and ensure a high level of security. It also mean that they don't need to take the time to reestablish any network connection if we go on a Vacation or move to a new location.

Dynamic IP addresses are more common equipment and personal use. A dynamic IP address is assigned to a device by ISP's (Internet Services Provider) Dynamic Host configuration protocol (DHCP) servers. The DHCP server typically uses network routers addresses to device.

The major differences between IPV4 and IPV6 are.

IPV4 (Internet protocol version 4)	IPV6 (Internet Protocol Version 6)
Encryption and authentication is not provided in IPV4 (Internet protocol Version)	Encryption and authentication is provided in IPV6 (Internet Protocol Version)
Header of IPV4 is 20 - 60 bytes	Header of IPV6 is fixed at 40 bytes.
checksum field is available in IPV4	checksum field is not available in IPV6.
Packet flow identification is not available in IPV4 (Internet Protocol Version 4)	Packet flow identification is available in IPV6. Flow label field is available in the header.

9) Discuss TCP/IP model in detail

Ans TCP/IP model helps you to determine how specific computer should be connected to the internet and how data should be transmitted between them. It help you to create a Virtual network when multiple computer networks are connected together. The purpose of TCP/IP model is to allow communication over a large distances.

TCP/IP stand for Transmission control protocol/Internet protocal. TCP/IP stack is specifically designed as a model to offer highly reliable and end-to-end by stream over an unreliable internetwork.

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10) what is 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 request some information, the web browser fetches the data from a web server and then displays the webpage on the user's screen.

common web browsers include Microsoft Internet Explorer, Google Chrome, Mozilla firefox, and Apple safari, ...

for example, Ajax enables a browser to dynamically update information on a webpage without the need to reload the page.

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11) what is a search engine? Give Example

Ans A Search engine is software accessed on the Internet that searches a database of information according to the user's query. The Engine provides a list of results that best match what the user is trying to find. Today there are many different search Engine available on the Internet, each with its own abilities and feature

The first search engine ever developed is considered Archie, which was used to search for FTP files, and the first text-based search engine is considered Veronica. Currently, the most popular and well knowns search engine is Google. other popular search engines include AOL, Ask.com, Baidu, Bing, Duck Duck Go, and Yahoo.

12) What is the Internet and W.WW? what are the uses of internet in our daily life.

Ans The Internet is a ~~glad~~ global network of billion of computer and other electronic devices. With the Internet, it's possible to access almost any information communicates with any else in the world, and do much more.

you can do all of this by connecting a computer to the Internet, which is also called going online. When some one says a computer is online. its just another way of saying it's connected to the Internet.

The world wide web usually called the web for short - is a collection of different website you can access through the internet. A website is made up of related text, images, and other resources. websites can resemble other forms of media - like newspaper articles or television program - or they can be interactive in a way that's unique to computer.

The uses of the internet in our daily life are.

1) Activities in our daily life are decided after the use of the internet. Internet innovated our daily life. we spend lots of time on the web.

2) The internet provides us useful data, information and knowledge for personal, social, and economic development. and it is up to us to utilize our time on the world wide web in

a productive manner. The internet is a revolution in information Technology.

3) you can do online courses and improve your writing, communication, business, and online marketing. Online shopping, social media, Email, chatting are common thing that we do daily.

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13) What is an Internet service provider? Give some example of ISP in India?

Ans ISP is an acronym that stand for Internet service provider. An Internet provider is a company that provides internet access to organization and home users.

An ISP provides you with Internet access, usually for a fee. With out ISP you wouldn't be able to shop online, access facebook, or read this page. Connecting to the Internet requires specific telecommunications, networking, and routing equipment. ISPs allow users access to networks that contain the required equipment, enabling user to establish internet connectivity. IPs are responsible for making sure you can access the Internet.

Internet service provides in India are follow.

BSNL
MTNL
Bharti Airtel
Hathway cable.

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14) Discuss the differences between MAC address, IP address and Port address.

Ans Internet protocol address (IP address) used to identify a host in network	Port number is used to identify an processes/ service on your system	MAC Address stands for Media Access control address

IPv4 is of 32 bits (4 bytes) Size and for IPv6 128 bits (16 bytes)	The port number is 16 bits number	MAC address is a six byte hexadecimal address.
IP address in the address of the layer-3 IP Protocol.	Port number is the 16 address the layer-4 protocol	A device attached with MAC Address can retriene by ARP Protocol
IP address is provided by admin of system or network administrator	Port number for application is provided by kernel of operating system	NIC card's manufacturer provides the MAC Address
ipconfig command can be used to find IP address.	netstat command can be used to find network statistic including Available TCP ports.	MAC Address is used to ensure the physical address of a computer
Internet Protocols address (IP address) used to identify a host in network	Port number is used to identify an processes services on your system.	MAC Address stands for media Access control Address.

15 How do we delete my internet browser's history?

Ans To View your browsing history in chrome.
In any chrome window, use the keyboard shortcut Ctrl+H, or navigate to the URL Chrome://history, or, click the menu button, which is located near the top right side of the browser window, and choose History, then History again.