DATA COMMUNICATION

① Type of Network
* LAN
* WLAN
* WAN

LAN (Local area Network)
* A Local Area network is usually privately owned and laks the device in a single office, bulding or campus
* Currently, LAN size is limited to a few kays
* LANs are designed to allow resources to be shared between personal computer or workstation
* The resource to be shared can include hardware setware or data
* Software can be stored on this central Server and used as needed by the Wole gap
* The most common LAN typologies are ring and star
* Ethernet (IEEE 802-3) is one example of LAN

WLAN (wireless LAN)
* IEEE has defined the specification for a wireless LAN called IEEE 802-11 which cover the physical and data link layers
* A BSS without any Ap is called an ad hoc net work a BSS with an Ap is called an infrastructure network

WAN (wide Area Network)
* A wide Area network provides long distance transmission of data, image, Audio and video information over large geographic areas that may comprise a country a continent or even the whole world
* A WAN can be as complex as the backbones that connected the Internet or as simple as a dial up lines that connects a home computer to the internet
* The Switched Wan connects the and System, which usually comprises a router that connects to another LAN or WAN

② SHIELDED TWISTED DAIR (STP)
* Shielded twisted pair (STP) is a special kind of copper telephone and Local area network (Lnn) writing used is some business installations
* Twisted pair is the odinaary copper wire that connects may computer network
* to reduce cross talk or electromagnetic induction between pairs at wires two insulated upper wires are twisted around each other

UNSHIELD TWISTED PAIR (UTP):-

* UTP cables are mostly used for LAN Networks
* They can be used for voice, low-speed data. high-speed data, audio and paging statement system and building automation and control system
* UTP cable can be used in both the horizontal and backbone cabling subsystem
* UTP is a Ubiquitous type of copper cabling used in telephone writing and LANS

3) Base band and Broad band Transmission

BASEBAND Transmission	Broadband Transmission
* Baseband technology uses digital signals in data transmission	* ~~broadband technolos~~ broadband technology used analog signals in data transmission
* It sends binary values directly as pulsed at different voltage levels	* It is uses a special alog wares known as the carrier ware
* baseband supports. bidirectional communication	* board band supports only unidirectional communication
* baseband technology is mainly used in ethernet networks to exchange data between modes	* broadband is typically used in an environment that transmits audio, video and data simultaneously
* uses coaxial, twisted pair and fiber optic cables	* use radio waves, coaxial cables and fiber optic cables

HUB	MODERN	ROUTER	SWITCH
The passive hub commands the wires coming from different branches	A Modem modulates and demodulates digital signal sent throught phone lines coaxial cables	Router are conceptually similarly to bridge except that they are found in the net work layer	When we the term switch we must be careful because a switch can mean two different thing
Active hubs or a multiport repeaters operate only at the physical layer	A modem modulates one or more carrier wave signals to encode digital information	A router is a layer-3 devices that routes packets based on their logical addresses	A L2 switch is a bridge and persorms up to data link layer
passive funds redirects the traffic on the connected machines	modem can be used with almost any means of trans analog signals	The routing tables are normally dynamic and are updated using routing protocol	A L3 switch and router is synonymous and more sophisticated

5) Make The Nic cards from ONE PC To another pc - does the MPC address get transfered
   * yes: that's because MAC addresses are hard wired into the Nic circuty not the PC
   * This also means that a pc can have a different MAC address when another one replaced the NIC card
   * NIC is short for Network interface card
   * MAC stands for Media Access control

6) When Troubleshooting computer network problem what common hard ware related problems can occur?
   * A large percentage of a Network is made up of hardware
   * Problems is there areas can range from manfaitoning hard driver broken Nics and even hardware staxtups
   * Incorrect hardware configuration is also one of these w/prits to look into

7) Where is the best place to install an ANTI-virus program?
   * An Anti-virus program must be installed on all server and workstation to ensure production
   * That's because individual usess can access any, workstation and introduce a computer virus

* you can play in this removable hard drivers or flash drivers
* An anti-virus program is installed in the best place

Static IP
* A static IP is can IP address that always stays the same
* A static IP address is usually more expensive than a dynamic IP address and some ISPC do not supply static IP address

Dynamic IP
* A dynamic IP is an IP address that an ISP lets you use temporarily
* Dynamic IP address are aisigned using either DHCP or PPPoE

Difference between IPVA & IPV6

IPVA	IPV6
IDVA is 32 bit binary number	IPV6 is 128 bit binary number
IPVA address are seperated by periods	IPV6 address Sepelated by cottons
Unicast, brodcast and multicast is type of address	Unicast, multicast and any cast is type of address

9) Tcp/Ip Model:
* The Internet protocol suite, commonly known as Toplip, is the set of communications, protocols used in the Internet and computer networks
* The corrent foundational protocal in the suite are the transmission control pannel (TCP) and the internet protocal (IP

Layers:
* Application Layer
* Network Interface Layer
* Transport Layer
* Internet Layer

Application Layer:-
* The transport layer establish basic data channels the application users of task specific data -change

Internet Layer

* The Internet Layer provides an unreliable datagram transmission facility

Network Interface Layer

A network layer is a combination of the data line and defind in the astide of osi reference model

10.) Web Browser

* A Web browser is computer software application that functions at the application layers of an open system Interconnection model and allow users to access the internet.
* A web browser is application software for accessing the world wide wed

Examples:

* Google chrome
* Mozilla firefox
* Apple safari
* Microsoft edge
* opera
* Internet Explorer

11.) Search engine

* A search engine is a software program that helps people find the information they are looking for online using keybuaks or phases
* Search engine are able to return resellers quickly -even with millions of webs, tes online - by Scanning the Internet continously and Indexing every page they find

Examples:- Google, bing, yahool, Baidu, Aol, Duck ducker and MSN Search

12.) Internet.

* The Internet is a global networks of connecting millions of users world wide via many computers networks using a simple standard common addressing system and basic communication protocal called TCP/IP
* Its evolution depends on rough consenses abont technical proposals and no running code

WWW

* WWW stands for world wide web
* The World wide web is the universe of networks access iable information
* WWW can be defined as "All resources and users on the Internet that are using the HTTP

uses of Internet in DAILY life

* Education
* Shopping
* Research and development
* Digital Transaction
* Money management

13) Internet service provider :-

* An Internet service provider (IPP) is an organization that provides services for accessing using, or participating in the Internet.

Internet service typically provided by ISPs include Internet acces, Internet transit, Domain name registration, web hosting and usenet services

Example :- BSNL, Airtel, JIO and Vodofone

MAC Address	IP Address	Port Address
MAC Stands for Media access control	Ip Stands for Internet protocal	ports are ranging from 0 to 65535
It consists a 4F bit address	It consits of a 32-bit address	It consits of a 16-bit address
It is reffered to as a physical address	It reffered to as a cogical address	port is address of System
It works at the link layers of the OSI model	The works at the network layer of OSI model	port address of the particullar service on the particular System
dosser are not used in MAC address	In IP, IDVA users ABCD and E classes	Port address used for remote access

15) VIEW My Internet browesers history :-

1.) open google chrome
2.) Click : This option is in the top-right corner
3.) Select history
4.) click history :- It's at the top of the pop-out menu
5.) Review your browing history

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