Assignment 2

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Q1. What are the different types of network?

Ans- **Network**

A network consists of two or more computers that are linked in order to share resources (such as printers and CDs), exchange files, or allow electronic communications. The computers on a network may be linked through cables, telephone lines, radio waves, satelites, or infrared light beams.

Seven types of networks and their use cases

- **Personal area network**

A Personal area network (PAN) is smallest and simplest type of Network. This type of network is designed to enable devices in a small office or home office (SOHO) environment to communicate and share resources, data, and applications eaither wired or wirelessly.

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2. Local Area Network (LAN)

A local area network (LAN) consists of a series of computers linked together to form a network in a circumscribed location. The computers in a LAN connect to each other via TCP/IP ethernet or Wi-fi. A LAN is normally exclusive to an organizatio such as a school, office, association or church.

3. Wide Area Network (WAN)

A wide-area network (WAN) is the technology that connects, your offices, data centers, cloud applicatio and cloud storage together. It is calle a wide-area network because it spans beyond a single building or large compus in include multiple locations spread acros a specific geographic area, or even the world.

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4 Wireless Local Area Network (WLAN)

A wireless LAN is a wireless computer network that links two or more devices using wireless communication to form a local area network (LAN) within a limited area such as a home, school, computer laboratory, campus, or office building.

5- Campus Area Network

A campus network, campus area network, corporate area network or CAN is a computer network made up of an interconnection of local area networks within a limited geographical area. Wikipedia

6- Storage Area Network

A storage area network (SAN) is a dedicated network tailored to a specific environment — combining servers, storage systems, networking switches, software and services.

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Q2. Explain the shielded twisted pair (STP) and unshielded twisted pair (UTP)?

Ans- **Shielded twisted pair (STP)**

Shielded twisted pair (STP) is a special kind of copper telephone and local area network (LAN) wiring used in some business installations. It adds an outer covering or shield that functions as a ground to ordinary twisted pair wiring.

Unshielded twisted Pair (UTP)

UTP is a ubiquitous types of copper cabling used in telephone wiring an local area networks (LANs). There are five types of UTP cables - identified with the prefix CAT, as in category each support a different amount of bandwith.

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Q3- What is difference between baseband and broadband transmission.

Ans- **Baseband** Baseband is a digital signal. transmitted on the medium using one of the signal codes like NRZ, RZ manchester biphase - M code, etc. called baseband transmission.

Broadband Broadband systems use modution techniques to reduce the effect of noise in the environment. Broadband transmission employs multiple channel unidirectional transmission using a combination of phase and amplitude modulation.

These are the following differences between Broadband and Baseband transmission.

	Baseband	Bradband
1-	Digital signaling	Analog signaling.
2-	Frequency division	The transmission of data

	Baseband	Broadband
1-	In baseband transmission the type of signaling used is digital.	In broadband transmission the type of signaling us is analog.
2-	Baseband transmission is bidirectional in nature	Broadband transmission unidirectiona in nature.
3-	The Signals ca be sent in both directions.	~~Signals can be traveled over~~ Sending of signal in one direction only.
4-	It works well with bus topology	It is used with a bus as well as tree topology.

Q4- When you move the NIC Cards from one PC t another PC. does the MAC. address gets transferred as well ?

Ans- When you move the NIC cards from one PC t another PC, does the MAC address gets transferred as well ? Yes. That is beause

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MAC addresses are hard wired into the NIC circuitry, not the PC, this also means that a PC can have a different MAC address when another one replaced the NIC card.

Q5- When troubleshooting computer network problems, what common hardware-related problems can occur?

Ans- Most common hardware related problems are PoIBX, LAN card, WLAN card and WiFi AP if it wireless, Cables, Switches, Routers and Wireless Controllers. Most problems are hardware related, a faulty power cable or power supply unit, Sometimes RAM needs to be upgraded or VGA cable is not Properly connected.

Q6. In a network that contains two servers and twenty workstations, where is the best place to install an Anti-Virus program?

Ans- An anti-virus program must be installed.
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on all servers and workstations to ensure protection. That is because individual users can access any workstation and introduce a computer virus when plugging in their removable hard drives or flash drives.

Q4. Define static IP and Dynamic IP? Discuss the difference between IPV4 and IPV6.

Ans – **Static IP Address**

A static IP address is explicitly allocated to a device rather than one that a DHCP server has assigned. Because it does not change, it is called static.

Static IP addresses can be configured on routers, phones, tablets, desktops, laptops and any other device that can use an IP address.

Dynamic IP Address

An ISP gives you a dynamic IP address that you can use for a limited time. IF a dynamic Addre

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isn't in use, it can be allocated to another device automatically. DHCP or PPPoE are used to assign dynamic IP addresses.

Difference between Static and Dynamic IP Address -

	Static IP Address	Dynamic IP Address
1.	Internet Service Provider, ISP provides the static IP Address.	DHCP is used to generate dynamic IP Address.
2.	Static IP address does not get changed with time.	Dynamic IP address can be changed any time.
3.	Static IP Address is less secured.	Dynamic IP address being volatile in nature is less risky.
4.	Device using static IP address can be traced easily.	Device using dynamic IP address is difficult to trace.

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IPv4 is composed of 32-bit address length and is the fourth version of the Internet Protocol (IP). IPv6 is composed of 128-bit address lengh and is the latest updated version of the Internet Protocol (IP).

Differences between IPv4 and IPv6 Addres

Here is the main difference between IPv4 and IPv6:

	IPv4	IPv6
1-	IPv4 is a 32-Bit IP Address.	IPv6 is 128 Bit IP Address.
2.	IPv4 is a numeric address, and its binary bits are separated by a dot (.)	IPv6 is an alphanumeric address whose binary bits are separated by a colon (:). It also contains hexadecimal.
3.	Numer of header fields 12.	Numer of header fields 8.

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4.	Length of header filed 20.	Length of filed 40.
5-	Has checksum fields	Does not have checksum fields.
6.	Example 12.224.233.165	2001:0db8:0000:0000:0000:ff00:0042:7879
7-	Fragmentation is done by sending and forwarding routes.	Fragmentation is done by the Sender.

Q 8. Discuss TCP/IP model in detail.

Ans. TCP/IP stands for Transmission Control Protocol / Internet Protocol and is a suite of communication Protocols used to Interconnect network devices on the Internet. TCP/IP is also used as a communications Protocol in a private computer network (an Intranet or extranet).

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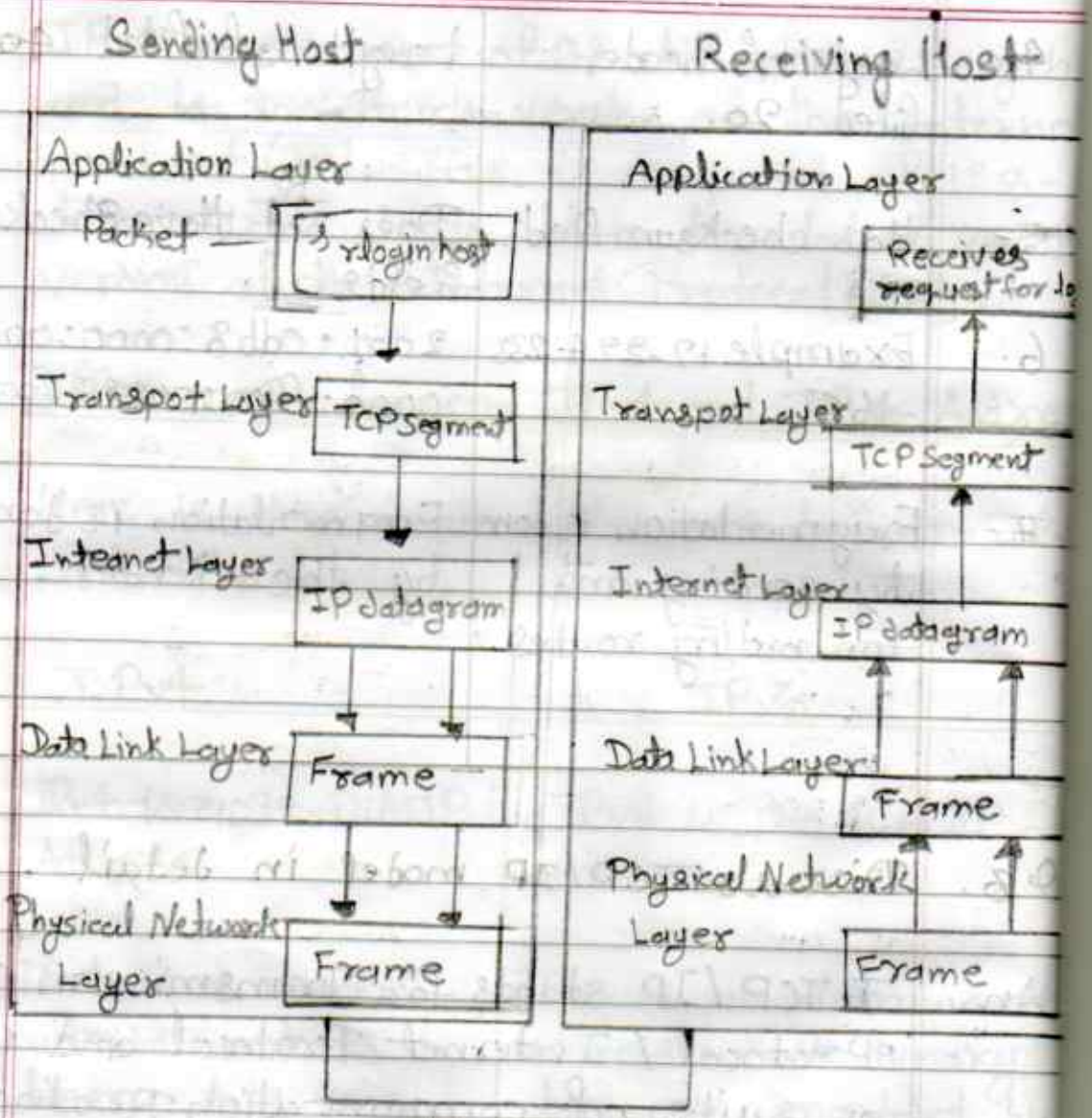
Sending Host
Receiving Host
Application Layer
Packet
3 rdlogin host
Transpot Layer
TCP Segment
Inteanet Layer
IP datagram
Data Link Layer
Frame
Physical Network Layer
Frame
Application Layer
Receives request for lo
Transpot Layer
TCP Segment
Internet Layer
IP datagram
Data Link Layer
Frame
Physical Network Layer
Frame
Network media

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Q9. What is a web Browser (Browsers) ? Give some examples of browsers.

Ans- **Web Browser -**

A web browser is a software application that is used to access the world wide web (www) or as know by everyone on the Internet. It is an interface between us and the information avita available on the web.

This information might be pictures, audio, videos, or some other files that are shown on our screens through a web page.

The web browser can be called a client program as it requests the webserver for the information demanded by the user. Some of the common by the browsers are Google, Mozilla Firefox, Safari, internet explorer, Netscape Navigator etc.

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There are 10 Examples of web Browsers which are given below.

1. Internet Expolorer.
2. Google Chrome.
3. Mozilla Firefox.
4. Safari.
5. Opera.
6. Konqueror.
7. Lynx.
8. Tor Browser.
9. UC Browser.
10. Brave Browser.

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Q.10. What is a search engine? Give example.

Ans- **Search Engine**

A search engine is a software program, which is designed to perform web searches on the Word Wide Web (WWW). You can call the search engine as an answering machine. Search engines discover, process and organize internet content and provide it to users when searching for any information. A search engine is a web based tool that is used by people to locate Information on the internet some of the most popular examples of search engines are Google, Bing, Yahoo! & MSN Search. Google is the most used search engine worldwide with a 92 percent market share in mid-2019, Google my be one of the most popular search engines but there are many more alternative search engines available for users.

Top Search Engines alternative to Google.

1. Bing
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telecommunication line access equipment and the telec. to have a point of presence on the internet for the geographic area served.

Example ISP in India.

1. Airtel India
2. Beam Fiber
3. Bharti Airtel
4. Bharti Enterprices
5. BSNL Broadband
6. DEN Networks
7. Idea Cellular
8. Jio
9. Mahanagar Telephone Nigam
10. MTS M - Blaze
11. Sancharnet
12. Siti Cable
13. spectranet
14. Spice Telecom
15. Tata Teleservices
16. Tikona Digital Networ
17. Uninor
18. Videocon
19. Vodafone India
20. You Broadband.

Q-13 Discuss the difference between MAC address, IP address and Port address.

Ans- An IP address is a 4 Byte identifier, that identifies your internet access in a world wide unique fashion. It is like the address of your house. It is used by the internet router to delivers a data

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packet to your house. In arabic numbers IP addresses (version 4 - there is also a new standard, version) are shown as a.b.c.d. where a.b.c and d are integers between 0 and 255.

A Mac address is an identifers of your computer's network access. It is impointed by your computer's manufaction on the network card, and is menufation specific Mac address used to be unique to a devices. but that is long gone. strictly speaking they are needed inside a local area network for diceed delivery of a packet from one machine to another one. directly connected. Insider a LAN they must be unique.

A Port address is an identifies (16 Bit, integer up to 65535) that identifies the application on your machine, to deliver the packet received by the network card to. In the analogy of the house address. this is your or another persons name living in that house, so that the delivery can be completed.

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Q14 How do we view my Internet browser's history ?

Ans- Andorid Phone or tablet running Google Chrome -

① Open the Google Chrome Internet browser.

② In the upper-right corner of the screem, tap the icon.

③ In the drop-down meny that appears, select history and shown in the image.

④ The page that opens Contains your device's history.

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