CSC ASSIGNMENT REPORT

CCA – 102: DATA COMMUNICATIONS ASSIGNMENT

2020- 2021

MANVI CSC ACADEMY SUNDER NAGAR (KHILRA)

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ROLL NO –

SUBJECT – DATA COMMUNICATIONS

COURCE – CERTIFICATING IN COMPUTER APPLICATION

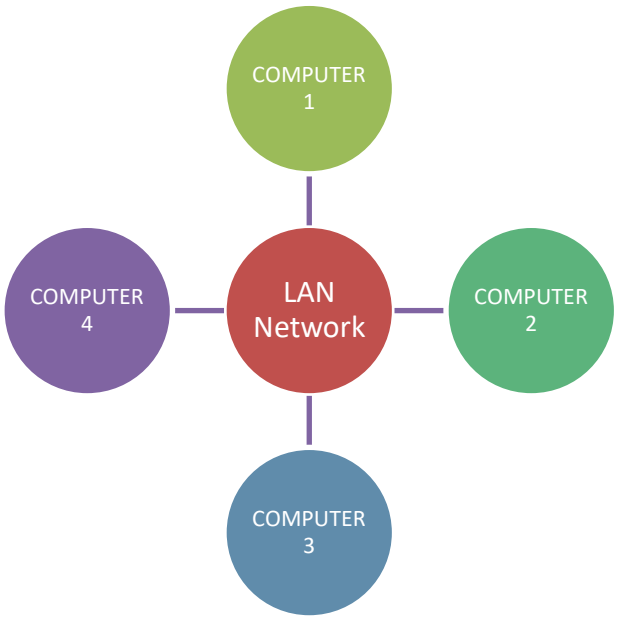
CCA – 102: DATA COMMUNICATIONS ASSIGNMENT

1. What are the different types of networks?

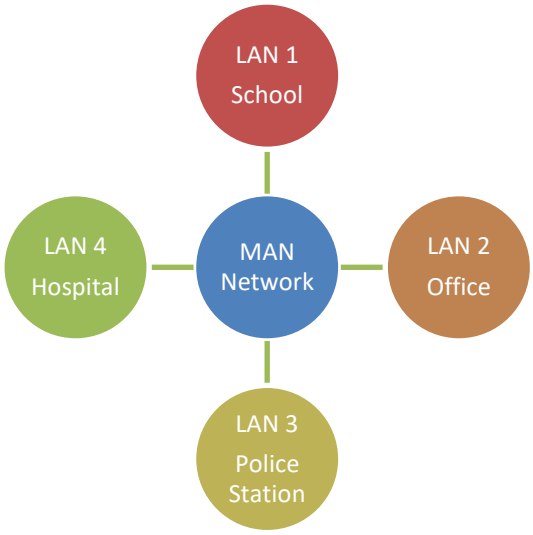
Ans :- There are three types of network :-

1. LAN (Local area network)
2. MAN (metropolitan area network)
3. WAN (wide area network)

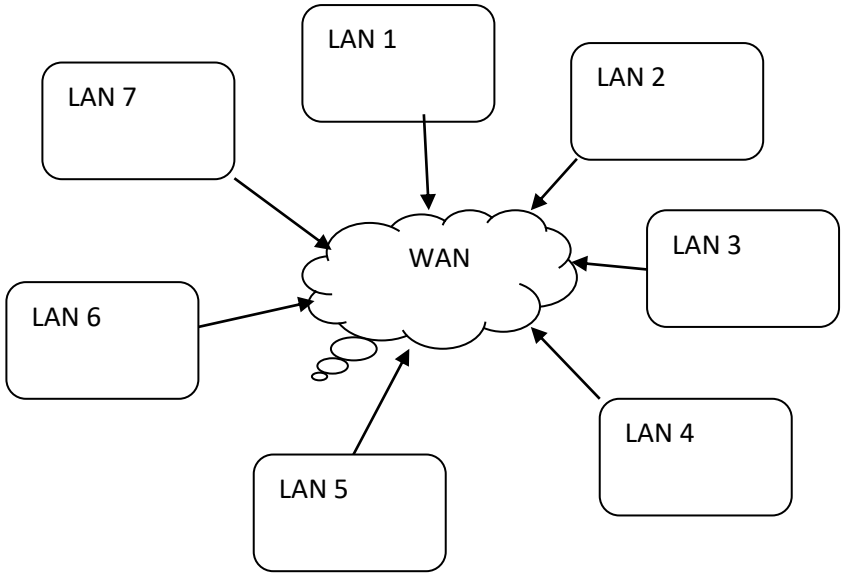
LAN(local area network) :- A local area network is a collection of devices connected together in one physical location, such as a building, office, or home. A LAN can be small or large, ranging from a home network with one user to an enterprise network with thousands of users and devices in an office or school.



MAN (metropolitan area network) :- A MAN is a network that spans a large area, such as a town or city. But smaller than a wide area network (WAN). An example of a MAN is a series of wireless routers distributed across a city.



WAN (Wide area network) :- A wide-area network is a collection of local-area networks (LANs) or other networks that communicate with one another. A WAN is essentially a network of networks, with the Internet the world's largest WAN.



2. Explain the Shielded twisted pair (STP) and Unshielded twisted pair(UTP).

Ans :- **Shielded Twisted Pair :-** STP Cabling is twisted-pair cabling with additional shielding to reduce crosstalk and other forms of electromagnetic interference (EMI). Shielded Twisted-pair Cable. The outer insulating jacket contains an inner braided copper mesh to shield the pairs of twisted cables, which themselves are wrapped in foil.

UTP Cable

STP Cable

Unshielded Twisted Pair (UTP) :- Unshielded twisted pair (UTP) is a ubiquitous type of copper cabling used in telephone wiring and local area networks (LANs).

3. What is difference between baseband and broadband transmission?

Ans :- Baseband Transmission: Baseband refers to the original frequency range of a transmission signal before it is converted, or modulated, to a different frequency range. Therefore, most telecommunication protocols require original baseband signals to be modulated to a higher frequency before they are transmitted.

Broadband Transmission: Broadband refers to various high-capacity transmission technologies that are used to transmit data, voice, and video across long distances and at high speeds. Common mediums of transmission include coaxial cable, fiber optic cable.

4. What is the difference between a hub, modem, router and a switch?

Ans :-

Hub	Modem	Router	Switch

1. It works with broadcast and share bandwidth.	1. A modem is most probably widely used in data communication roadway.	1. It provide connection between different network architecture.	1. It perform broadcast then the uncast and multicast as needed.
2. It work at physical layer in OSI model.	2. A limited number of a system can be connected.	2. It can choose best path across the internetwork using dynamic routing algorithms.	2. A switch operate on data link layer.
3. Its speed up to 10mbps.	3. Slow speed when it compared to the hub.	3. Router can be divided into three broadband.	3. Its speed up to 10/100mbps to 1/10gbps.
4. Transmission mode is half duplex.	4. More useful in connecting LAN with the internet.	4. It provides sophisticated routing flow control and traffic isolation.	4. Transmission mode is full duplex.

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

Ans : Yes, that's because 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.

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

Ans : A large percentage of a network is made up of hardware. Problems in these areas can range from malfunctioning hard drives, broken NICs and even hardware startups.

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

Ans : The best solution is to install anti-virus on all the computers in the network. This will protect each device from the other in case some malicious user tries to insert a virus into the servers or legitimate users.

8. Define Static IP and Dynamic IP? Discuss the difference between IPV4 and IPV6.

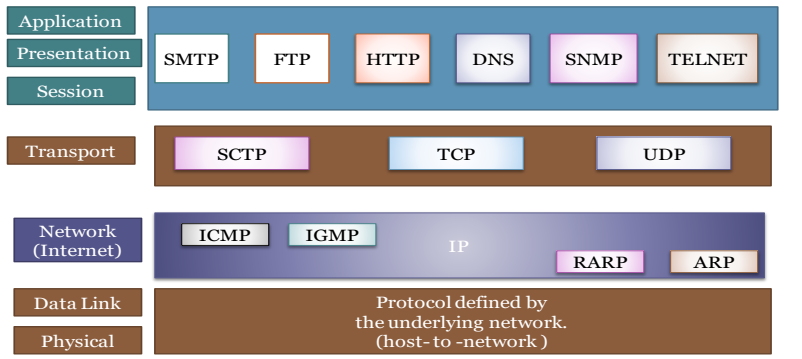
Ans : Static IP :- When a device is assigned a static IP address, the address does not change. Most devices use dynamic IP addresses, which are assigned by the network when they connect and change over time.

Dynamic IP :- A dynamic IP address is an IP address that an ISP lets you use temporarily. If a dynamic address is not in use, it can be automatically assigned to a different device. Dynamic IP addresses are assigned using either DHCP or PPPoE.

IPV4 (Internet Protocol version)	**IPV6 (Internet Protocol version)**
1. IPv4 is 32-Bit IP address.	1. Pv6 is a 128-Bit IP address.
2. IPv4 is a numeric addressing method.	2. IPv6 is an alphanumeric addressing method.
3. IPv4 binary bits are separated by a dot(.).	3. IPv6 binary bits are separated by a colon(:).
4. SNMP is a protocol used for system management.	4. SNMP does not support IPv6.

9. Discuss TCP/IP model in detail.

Ans : TCP/IP Models :



10. What is a Web Browser (Browser)? Give some example of browsers.

Ans : A web browser is a software application for accessing information on the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device.

Example of browser :-

1. Microsoft Internet Explorer
2. Mozilla Firefox
3. Google Chrome
4. Apple's Safari
5. Opera Mini

11. What is a search engine? Give example.

Ans : A search engine is a website through which users can search internet content. To do this, users enter the desired search term into the search field. The search engine then looks through its index for relevant websites and displays them in the form of a list.

Example of Search Engine :-

1. Google
2. Bing
3. Yahoo
4. Baidu

12. What is the Internet & WWW? What are the uses of internet in our daily life?

Ans : Internet :- With the Internet it's possible to access almost any information, communicate with anyone else in the world and do much more. You can do all of this by connecting a computer to the Internet.

WWW :- The World Wide Web is the universe of network-accessible information, the embodiment of human knowledge. The World Wide Web began as a networked information project at CERN where Tim Berners-Lee, now Director of the World Wide Web Consortium [W3C], developed a vision of the project.

Uses of internet in our daily life :- Internet is a virtual networking medium that can be connected and used on a variety of devices these days. It enables the users to send, receive, collect, store, update, delete, and many other operations of the data across the world.

13. What is an Internet Service Provider? Give some example of ISP in India.

Ans : An Internet service provider (ISP) is an organization that provides services for accessing, using, or participating in the Internet. An ISP typically serves as the access point or the gateway that provides a user, access to everything available on the Internet.

Some example of ISP in India :-

1. JIO
2. AIRTEL
3. IDEA
4. BSNL

14. Discuss the difference between MAC address, IP address and Port address.

Ans :

MAC Address	IP Address	Port Address
1. MAC address stand for Media Access Control	1. IP address stand for internet protocol address.(32bit)	1. Poet address is an ID of server.(16bit)

address.(48bit)		
2. MAC address operate in the data link layer.	2. IP operate in the network layer.	2. Port address operate in the transport layer.
3. MAC address help in simply to identifying the devise.	3. IP address identifies the connection of the devise on the network.	3. Port number is used to identify an application / server.
4. MAC address of computer can't be found easily by third party.	4. IP address can be found by third party.	4. Port address is informally called router, gateway in more appropriate.
5. MAC address is used to ensure the physical address of computer.	5. IP address is the logical address of the computer.	5. Port address is a feature of a network devise that translates communication made between host on a private network and hosts on a public network.

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

Ans : On your Android phone or tablet, open the Chrome app .

1. At the top right, tap More > History.
2. If your address bar is at the bottom, swipe up on the address bar.
3. Tap History .
4. History will appear on screen.