C C A

(CSC ACADEMY)

ASSIGNMENT - 2

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ASSIGNMENT - II

DATA COMMUNICATION

Ques.1- What are the different types of networks?

Ans. - There are eleven different types of network: -

- Personal Area Network
- Local Area Network
- Wireless Local Area Network
- Campus Area Network
- Metropolitan Area Network
- Wide Area Network
- Storage- Area Network
- System-Area Network
- Passive Optical Local Area Network
- Enterprise Area Network
- Virtual Private Network

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

Ans. – **SHIELDED TWISTED PAIR (STP): -**Shielded twisted pair is a special kind of copper telephone wiring used in some business installations. An outer covering or shield is added to the ordinary twisted pair telephone wires; the shield functions as a ground.

UNSHIELDED TWISTED PAIR (UTP): -Unshielded Twisted-pair Cabling, or UTP cabling, is Twisted-pair cabling with no internal shielding. The outer insulating jacket protects the cable from physical stress or damage but does not shield the cable from electromagnetic interference (EMI).

Oues.3-What is difference between baseband and broadband transmission?

Ans. -The key difference between baseband and broadband transmission is that in baseband transmission, one signal takes the entire bandwidth of the channel to send data while in broadband transmission, many signals with multiple frequencies send data through a signal channel simultaneously.

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

Ans.-

Template	Hub	Switch	Router
Layer	Physical layer	Data link layer	Network layer
Function	To connect a network of personal computers together, they can be joined through a central hub	Allow connections to multiple devices, manage ports, manage VLAN security settings	Direct data in a network
Data Transmission form	electrical signal or bits	frame & packet	packet
Port	4/12 ports	multi-port, usually between 4 and 48	2/4/5/8 ports
Transmission type	Frame flooding, unicast, multicast or broadcast	First broadcast, then unicast and/or multicast depends on the need	At Initial Level Broadcast then Uni-cast and multicast
Device type	Non-intelligent device	Intelligent device	Intelligent device
Used in(LAN, MAN, WAN)	LAN	LAN	LAN, MAN, WAN
Transmission mode	Half duplex	Half/Full duplex	Full duplex
Speed	10Mbps	10/100Mbps, 1Gbps	1-100Mbps(wireless); 100Mbps-1Gbps(wired)
Address used for data transmission	MAC address	MAC address	IP address

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

Ans. - The Media Access Control address (MAC address) for any network adapter is hard coded into the card itself. Each manufacturer of network adapters has a group of characters assigned that refer specifically to that company. I believe that is the first 1/2 of the MAC address which is 12 hexadecimal characters long. But the MAC address is part and parcel of the network adapter, just as your internal organs are part of you. When you move to a new house, you take your liver with you. In the same way, when you move a NIC to a different computer, it takes its MAC address with it.

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

Ans. - Most common hardware related problems are PaBX, LAN Card, WLAN Card and Wi-Fi AP if it is wireless, Cables, Switches, Routers and Wireless Controllers.

Ques.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.

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

Ans. – **DYNAMIC IP**: - A dynamic IP address is one that changes from time to time and isn't always the same. If you have a residential cable or DSL service, you most likely have a dynamic IP address. Internet Service Providers (ISPs) provide customers with a dynamic IP addresses because they are more cost effective.

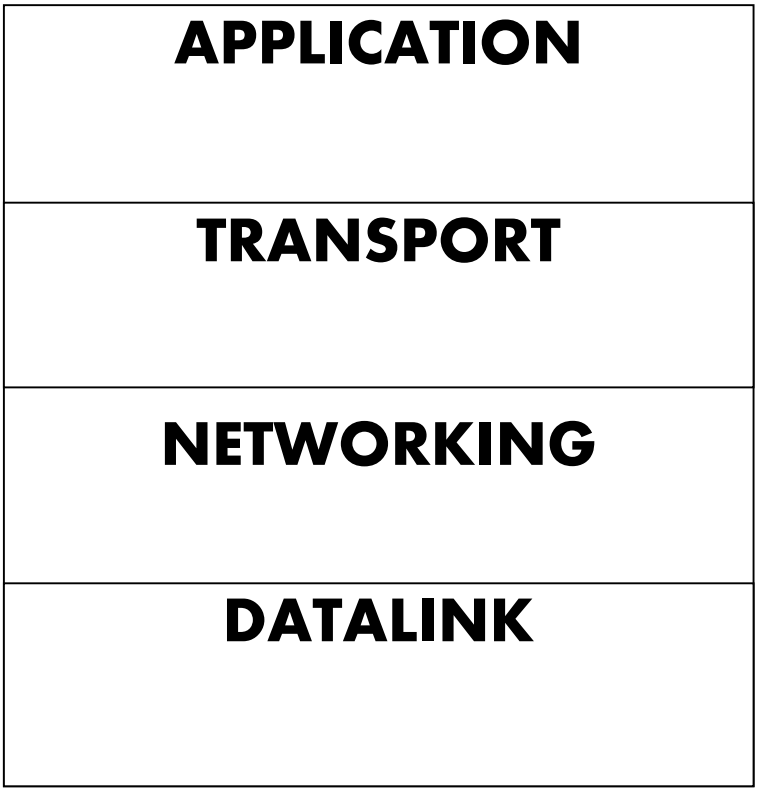
STATIC IP: - A static IP address is an IP Address associated with your account that never changes and can be assigned to a specific device. Every time that you connect to the AT&T network the static IP address routes traffic to the computer or device that can be assigned an IP (such as a router or firewall).

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.

Ques.9- Discuss TCP/IP model in detail.

Ans. - The OSI Model we just looked at is just a reference/logical model. It was designed to describe the functions of the communication system by dividing the communication procedure into smaller and simpler components. But when we talk about the TCP/IP model, it was designed and developed by Department of Defence (DoD) in 1960s and is based on standard protocols. It stands for Transmission Control Protocol/Internet Protocol. The TCP/IP model is a concise version of the OSI model. It contains four layers, unlike seven layers in the OSI model. The layers are:

1. Process/Application Layer
2. Host-to-Host/Transport Layer
3. Internet Layer
4. Network Access/Link Layer



TCP/IP Model

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

Ans. - A web browser takes you anywhere on the internet. It retrieves information from other parts of the web and displays it on your desktop or mobile device. The information is transferred using the Hypertext Transfer Protocol, which defines how text, images and video are transmitted on the web. For example- Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari.

Ques.11- What is a search engine? Give example.

Ans. - A search engine is a web-based tool that enables users to locate information on the World Wide Web. Popular examples of search engines are Google, Yahoo!, and MSN Search.

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

Ans. - WWW is just a common point of connectivity for information sharing that is facilitated by a global network of computers. The internet, on the other hand, is a connection between computers and countless other devices that form a huge network of systems.

Following are the uses of internet in our daily life -

1. Electronic mail
2. Research.
3. Downloading files.
4. Discussion groups
5. Interactive games
6. Education and self-improvement.

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

Ans. - The term internet service provider (ISP) refers to a company that provides access to the internet to both personal and business customers. ... ISPs may also provide other services including email services, domain registration, web hosting, and browser packages.

For example: - AT&T, Verizon, Comcast, or Bright House, etc.

Ques.14- Discuss the difference between MAC address and IP address.

Ans. - The main difference between MAC and IP address **is** that, MAC Address **is** used to ensure the physical address of computer. It uniquely identifies the devices on a network. While IP address are used to uniquely identify the connection of network with that device take part in a network.

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

Ans. - To **view the** web **history** in Google Chrome-

- Click to open **the** menu ⋮
- At **the** top-right of its window and select **History**,
- Then click **History** a second time.
  Or press Ctrl+H on your keyboard.

- This shows **the** web **history** as a list of pages, organised by time and date, in **the** current tab.

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