CCA-102: Data Communications

ASSSIGNMENT

1. What are the different types of networks?

Ans. A computer network is mainly of four types:

I. LAN (Local Area Network):

- Local Area Network is a group of computers connected to each other in a small area such as building, office, etc.
- LAN is used for connecting two or more personal computers through a communication medium such as twisted pair, coaxial cable, etc.

II. PAN (Personal Area Network):

- Personal Area Network is used for connecting the computer devices of personal used is known as PEN.
- Personal Area Network is a network arrange within a individual person, typically within a range of 10 meters.

III. MAN (Metropolitan Area Network)

- A metropolitan Area Network is a network that covers a large cover of geographical area by interconnecting a different LAN to form a large network.
- Government agencies use MAN to connect the citizen and private industries.

IV. WAN (Wide Area Network)

- A Wide Area Network is a network that extends over a large geographical area such as states or country.
- A Wide Area Network is quite bigger network than the LAN.

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

Ans. Shielded twisted pair is a type of wiring two conductors of a single circuit are twisted together for the purposes of improving electromagnetic capability.

Unshielded twisted pair are widely used in the computer and telecommunications industries and Ethernet cables and telephone wires. In the UTP cable, conductors which form a single circuit are twisted around each other in order to cancel our electromagnetic interference (EMI) from external sources.

Q.3. What is the difference between baseband and broadband transmission?

Ans. Baseband refer to a single-channel digital system and that single channel is used to communicate with devices on a network.

Broadband, is the is the wide bandwidth data transmission which generate an analog carries frequency, which carries multiple digital signals or multiple channels.

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

Ans. **Hub:** Hub is just a connector and connects the wires coming from different sides. There is no signal processing or regeneration.

Switch: Switch is a point-to-point communication device. It operates at the data link layer of OST model. IT uses switching table top to find out the correct destination.

Router: Router is a network that directs the data packets along networks. A router has minimum of two networks, usually LANs or WANs or a LANs or its ISP.

Modem: a modem is a short for modulator-demodulator. Code and its function is to facilitate the transmission of data, by converting an analogue signal to decoding digital information.

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

Ans. Yes, that is because MAC addresses are hardwires into the NIC circuitry, not the PC. This also means that a PC can have a different MIC address when another one replaces the NIC card.

Q.6. When trouble shooting computer network problems, what common hardware-related problems can occur?

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

Q.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.

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

Ans. **Static IP:** A computer on the internet can have a static IP address which means it stays the same overtime, or a dynamic IP address, which means the address can change overtime.

Dynamic IP: A Dynamic IP is a temporary address for devices connected to a network that continually changes overtime.

Difference between IPV4 and IPV6:

IPV4 and IPV6 are internet protocol version 4 and internet protocol version 6. IP version 6 is the new version of internet protocol, which is way better than IP version 4 in term of complexity and efficiency.

Q.9. Discuss TCP\IP model in detail.

Ans. TCP\IP reference model is a four-layered suite of communication protocols. It was developed by the DoD (Development of Defense) in the 1960s. It is name after the two main protocols that are used in the model namely, TCP and IP. TCP stands for Transmission Control Protocol and IP stands for Internet Protocols.

Q.10. What is Web Browser? Give some examples of browsers.

Ans. A Web browser is an application used top access and view websites.

Some examples of browser include Microsoft Edge, Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari.

Q.11. What is search engine< Give example.

Ans. A search engine is a web-based tool that enables users to locate information on the World Wide Web (WWW).

Example: Google, Yahoo and MSN Search

Q.12. What is internet and WWW? What are the uses of internet in our daily life?

Ans. Internet is a vast network that connects computers all over the world. Through the internet, people can share information and communicate from anywhere with an internet connection.

World Wide Web (WWW) is an interconnected system of public webpages accessible through the internet.

Uses of internet in our daily life:

The internet is very much useful in our daily routine task. Foe example, it helps us to see our notification and emails. A part from this, people use the internet for money transfer, shopping, order online food etc.

Q.13. What is Internet Service Provider? Give some examples of ISP in India.

Ans. An Internet Service Provider is an organization that provides service for accessing using or participating in the internet.

Examples of ISP in India are: Airtel, BSNL etc.

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

Ans. A MAC address is assigned to the network interface card by the manufacture and is used for communication within the local area network. It is globally unique address.

An IP address is a communication used within the local area network and for communication between internet. It is uniquely identifies the connection of the network with those devices take part in a network.

Port address of the device within the system. A port number uniquely identifies a network-based application on a computer.

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

Ans. In the lower-left corner of the browser window, tap and hold the back arrow. The page opens contains your browser history.