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8th Batch CSE - Evening

Subject : Computer Networks

C. Code : CSE - 323

Ans : to : the : Q : No : 01 - (a)

(a)

Network : A network is a collection of computers, servers, mainframes, network device, peripheral's, or other devices connected to allow data sharing.

In information technology, a network is defined as the connection of at least two computer system's, either by a cable or wireless connection.

An example of a network is the Internet, which connects millions of people all over the world.

The list of network devices :

* Desktop computers, laptops, mainframes and Servers.

* consoles and their clients.

* firewalls.

* Bridges.

* Repeaters.

* Network Interface cards.

* switches, hubs, modems, and routers.
* smartphones and tablets.
* webcams.

(b) Peer to peer (P2P) network;

A peer to peer network is group of computer, each of which acts as a node for sharing files within the groups. Instead of having a central server to act as a shared drive, each computer acts as the server for the files stored upon it.

When a P2P network is established over the internet, a central server can be used to index files, or a distributed network can be established where the sharing of files is split between all the users in the network that are storing a given file.

Peer to peer network are usually associated with internet piracy and illegal file sharing.

(a) Basic Difference between coaxial cable and Fiber Optic given bellow :-

Coaxial cable

*. Coaxial cable is used to transmit the Signal / data is in electrical form.

* Coaxial cable are made of plastic, copper wires etc.

* The cost of coaxial cable is less.

* While coaxial cable is low efficient.

* Loss of power in coaxial cables is due to conduction only.

* Uses -

⇒ Cable TV.

⇒ Signals.

⇒ Internet.

⇒ Telephone connections.

Fiber optic

* Optical fiber is used to transmit the signal / data is in light from.

* Optical fiber is made of plastics and glasses.

* The cost of fiber optic is high.

* Optical fiber is high efficient.

* power loss happens in optical fiber is caused by the absorption, scattering dispersion and bending.

* Uses -

⇒ HDTV'S.

⇒ Aircraft.

⇒ medical field.

⇒ Telephone connections.

(b) TCP/IP Protocol:

TCP/IP (Transmission Control Protocol/Internet Protocol) also refferred to as the internet Protocol suite, is the world wide web's core communication system that enables every internet-connected device to communicate with every other such device simultaneously. It is in essence, a computerized syntax that is installed on every computer both of public and private networks. The development of the Protocol has enable the internet —and as a result, online commerce — to grow quickly.

How it works:

TCP/IP is a two layered program: the higher layer (TCP) disassembles massage content into small "data packets" that are then transmitted over the internet to be re-assembled by the receiving computer's TCP back into the

the message's original form.

The lower layer (IP) plays the role of "address manager" and gets each data.

TCP/IP also relies on point to point communication. Meaning that communication move from one host computer to another within a pre-defined network boundary.

Finally TCP/IP is said to be stateless, because each request is new and un-related.

TCP/IP related protocols used in the exchange of router data include:

* ICMP (Internet control message Protocol)
* IGP (Interior Gateway Protocol)
* EGP (Exterior Gateway Protocol)
* BGP (Border Gateway protocol).

(a) Networking is useally involves meeting new people who share a profession, industry or interests.t

Networking involves exchanging ideas and information between these individuals.

There are some networking statistics that prove the value of networking:-

* Networking is responsible for filling in 86% of job vacancies.

* 7 out of 10 job opening aren't publicly advertised.

* 85% of people discover career opportunities throught their friends.

* 70% of people report that networking helped them to find their current job.

* One of the main reasons why networking

is important is because it helps you build a reputation.

※ Network opens up avenues of new opportunities.

(b) (i) Network Security:

Network security protects your network and data from breaches, intrusions and other threats. This a vast and overarching term that describes hardware and software solutions as well as processes or rules and configurations relating to network use, accessibility and overall threat protection.

Network security involves access control, viruses and antivirus software, application security, network analytics, types of network related security, firewalls, VPN encryption and more.

(ii) Domain: A domain is a network of computers and devices that are controlled by one set authority and have specific guidlines, More specically, a domain is controlled by one particular company that has its own internet presence and IP Address.

The domain is labeled by its domain name, such as network word or networkworld.com or danaz.com .

Domain name system servers translate a domain name request from an internet user into an IP address the computer can read.

The DNS Server than connects the user to the website for the IP Address if finds within server records.

(iii) IP:

IP stands for "Internet protocol", which is the set of rules governing the format of data sent via the internet or locy network.

An Internet protocol address is a numerical label such as 129.0.2.1 that is connected to a computer network that uses the internet protocol for communication.

An Ip Address servers two main function netwont interface indentification and location addressing.