11.8 Logical classification of networks

11.8.1 Peer to peer : In this configuration all the computers have equal priority. That means each computer can function as both a client and a server. There is no dedicated server.

11.8.2 Client-Server : In this configuration a computer is powerful which acts as a dedicated server and all others are clients (work stations). A Server fulfils the needs of the clients.

a) File Server : A computer that stores and manages files for other devices on a network

b) Web Server : A computer that handles the requests for web pages.

c) Print Server : A computer that handles the print jobs from other computers on a network.

d) Database Server : A computer that manages the database.

11.9 Network protocols

A protocol is a collection of rules and regulations to transfer data from one location to another.

Transmission Control Protocol (TCP), which uses a set of rules to exchange messages with other Internet points at the information packet level.

Internet Protocol (IP), which uses a set of rules to send and receive messages at the Internet address level

FTP - File Transfer Protocol which is used for transferring files between computers connected to local network or internet.

HTTP - is a protocol used for WWW for enabling the web browse to access web server and request HTML documents.

DNS (Domain Name System): When we type web sites address in the address bar , the browser determines the URL and asks the DNS for URLS corresponding IP address (Numeric address). The DNS returns the address to the browser.

11.10 Identification of computers over a network : A

computer gets a data packet on a network, it can identify the sender's address easily. It is similar to our snails mail, each letter is stamped in sender's post office as well as receiver's post office.

11.10.1 Media Access Control(MAC) address. It is a unique 12 digit hexadecimal number(IMEI for mobile phones, it is a 15 digit decimal number) assigned to each NIC by its manufacturer. This address is known as MAC address and its permanent.

It is of the form. MM:MM:MM:SS:SS:SS.

The first MM:MM:MM contains the ID number of the adapter company and the second SS:SS:SS represents the serial number assigned to the adapter by the company.

11.10.2 Internet Protocol (IP) address :

An IP address has 4 parts numeric address. Each parts contains 8 bits. By using 8 bits we can represent a decimal number between 0 to 255(2^8=256 numbers). Each part is separated by dot. A total of 4*8=32 bits used. But nowadays 128 bits are used for IP address.

11.11 Uniform Resource Locator(URL):

Every resource on the internet has a unique URL. Mainly it has three parts

Eg: *http://www.hscap.kerala.gov.in /index.html.*

http:- http means hyper text transfer protocol. It is a protocol used to transfer hyper text.

www :- World Wide Web. With an email address. we can open our mail box from anywhere in the world.

hscap.kerala :- It is a unique name. It is the official website name of Single Window System

gov :- It is the top level domain. It means that it is a government organization's website.

in :- It is the geographical top level domain. It represents the country. in is used for India.

index.html :- It represents the file name.

Top Level Domain Names

.com	The site register for commercial purpose
.edu	The site register for educational purpose
.gov	The site register by Government agencies
.mil	The site register for military services
.net	The site register for network purpose
.org	The site register by organizations

Country Specific Domain Names

.in	India
.au	Australia
.ca	Canada
.ch	China
.jp	Japan
.us	United States of America