NAME : KRUNAL RANK

ROLL NO: U18CO081

CLASS: B TECH 3RD YEAR,
COMPUTER ENGINEERING

Scanned with CamScanner

Date / /

Computer Networks
Tutorial 10

Ans 1:-

Domain Name System is a Host name to IP address translation service. DNS is a distributed database implemented in a hierarchy of name servers. It is an application layer protocol for message exchange between clients and servers.

Requirement:-
Every host is identified by an IP address but remembering numbers is very difficult to the people.
Also, IP addresses are not static therefore a mapping is required to change the domain name to IP addresses.
So DNS is used to convert the domain name of the websites to their numerical IP address.

Types of Domain:-
- Generic domain:- .com, .edu, .org are some generic domains.
- & Country domain:- .uk, .in, .us
- Inverse domain (IP to domain mapping)

Ans 2:- HTTP stands for Hyper Text Transfer Protocol. It is invented by Tim Berner. Hyper Text is a type of text coded by some specially coded language called Hyper Text Markup Language (HTML).

HTTP provides a standard way for communication between web browser and a web server. It is a set of rules for transferring data from one computer to another.

Scanned with CamScanner

Data such as text, images and other multimedia files are shared on the World Wide Web.

Whenever a web user opens their web browser, user will indirectly use HTTP. It is an application protocol which is used for distributed, collaborative, hypermedia information systems.

HTTP is an IP based communication protocol which is used to deliver data from server to client or vice-versa.

Memory usage and CPU usage are low due to less simultaneous connections.
Since there are few TCP connections hence network congestion is less.
Since handshaking is done at initial connection stage, the latency is reduced because there is no further need of handshaking for further requests.
HTTP allows HTTP pipelining of requests.

Ans 3: The World Wide Web abbreviated as WWW and commonly known as the Web, was initiated by CERN in 1989.

The WWW is based on the working of ~~seven~~ several different technologies namely, Web browsers, HTML, HTTP.

Scanned with CamScanner

Features of WWW :-

- HyperText Information System.
- Cross Platform
- Distributed
- Open standards and Open Source
- Uses web browsers to provide a single interface for many services.
- Dynamic, Interactive and Evolving
- 'Web 2.0'

Components of Web :-

- Uniform Resource Locator :- Serves as system for resources on Web.
- HTTP :- Specifies protocols for communication between browsers and servers.
- HTML :- Describes structure, organisation and content of web servers.

Ans 4:- TELNET stands for Terminal Network.
It is a type of protocol that enables one computer to connect to a local computer.
It is used as a standard TCP/IP protocol for virtual terminal service which is given by ISO.

Computer which starts the connection is called a local computer.
Computer which is being connected to the local computer is called a remote computer.

Scanned with CamScanner

Modes of Operation:-

- Default Mode :- If there is no mode invoked, then, this mode is used.
  Echoing is performed by client.

- Character Mode :- Each character typed in this mode is sent by client to server.

- Line Mode :- Client will send whole line to the server.

Ans 5:- File Transfer Protocol is an application layer protocol which moves files between local and remote systems.
It runs on top of TCP, like HTTP.
To transfer a file, 2 TCP connections are needed and used in parallel, the control and data connection.

For sending information like user identification, password commands to change the remote directory, commands to retrieve and store files, etc..., FTP makes use of control connection on port 21.

For sending actual file, FTP makes use of data connection on port 20.

FTP Session:-
When an FTP session is started between a client and server, the client initiates a control TCP connection with the server side.
The client sends control information over this.

Scanned with CamScanner

When the server receives this, it ~~initates~~ initiates a data connection to the client side.
Only one file can be sent over one data connection.
But control connection remains active throughout the user session.

Ans 6: The Bootstrap Protocol (BOOTP) is computer networking protocol used in Internet Protocol networks to automatically assign an IP address to network devices from a configuration server.
The Bootstrap was defined in RFC 951.
When a computer that is connected to the network is powered up and boots its operating system, the system software broadcasts BOOTP messages onto the network to request an IP address assignment.

A BOOTP configuration server assigns an IP address based on the request of the pool of addresses configured by an administrator.

BOOTP is implemented using the User Datagram Protocol as transport protocol, port number 67 is used by DHCP server to receive client requests and port number 68 is used by client to receive DHCP server responses.

BOOTP operates only on IPV4 addresses.