NPS

Home Assignment - 3

1) Define datagram and discuss its significance

A) * A datagram refers to a self-contained, independent unit of data that is transmitted over a network. Datagrams are used to send data b/w different nodes on a network, such as computers or servers.
* A datagram typically consists of a header and a pay load.
* The header contains information such as the source and destination addresses, Protocol type and packet length.
* The playload contains information the actual data being transmitted.

2) Differentiate SMTP AND SNMP.

Feature	SMTP	SNMP
Purpose	sending & receiving email messages	Managing and monitoring network devices.
Fuctionality	Email message transmissio and delivery	Exchange of management information b/w devices and console management.
communication	Between mail servers for email transfor	B/w network devices & a management System for monitoring.

Port Number	port 25, port 587	UDP ports 161, 162
common usage	Email communication	Network monitoring and management

3) Illustrate the architecture of www.

1. User's Browser:

where users interact with the web. It sends requests for web.

2. web server:

Hosts websites and responds to requests from user browsers.

3. Internet:

The network that connects browsers & web servers, facilitating data exchange.

4. Database:

Stores and retrives data from websites, providing dynamic content.

→ A User's browser sends a request to a web server for a webpage, and the server responds by delivering the webpage, creating a seamless internet experience.

4) List out all the protocols in Application layer.

A) 1. HTTP : loads web pages in your browser.
2. HTTPS : Secures web page communication.
3. FTP : Moves files blw devices.
4. SMTP : Sends emails.
5. POP3 : Gets emails to your device.
6. IMAP : Manages email on the website address.
7. DNS : converts names to the server.
8. Telnet : Remote control for computers.
9. SNMP : Manages network devices.
10. DHcp : Assigns IP address.
11. SSH : Secure remote access.

5) Analyze the terms TELENT, FTP & POP_3

A) TELNET :

* Funkon : Remote terminal access.
* Strengths : STmple, widely compatible.
* weakness : can be slow, security concerns without Secure versions like SFTP.

POP_3 :

* Function : Retriering emails from a server to a client.
* Streugth : simple, widely used.

* weakness : Downloads entire mailbox, doesn't keep emails on server.

FTP:

* function : file transfer blw computers.
* strength : reliable efficient for large files.
* weakness : can be slow for individual files.