

Mid Assessment, Fall - 2022

Md. Shafayet Hossain

CSE - 21st Batch

Computer Networks

Course Code: CSE-323

ID - 2121210071

Ans. to the Q. no-1

1(a)

→ Network :-

A Network is a collection of computers, servers, mainframes, network devices, peripherals or other devices connected to allow data sharing. An example of a network is the "Internet," which connects millions of people all over the world.

→ List of network devices -

- ① Hub
- ② Switch
- ③ Router
- ④ Bridge
- ⑤ Gateway
- ⑥ Modem
- ⑦ Repeater
- ⑧ Firewall
- ⑨ Access point etc

1(b)

→ peer to peer network :-

In peer to peer networking, a group of computers are linked together with equal permissions and responsibility for processing data. Unlike traditional client-server networking, no devices in a p2p network are designated solely to serve or to receive data. Each connected machine has the same rights as its 'peers' and can be used for the same purposes.

①

Ans to the Q. no-3

3(a)

⇒ Differences between fiber optic cable and Coaxial Cable:-

✶ Fiber optic cable:-

- ① Used to transmit signal/data in light form.
- ② Made of plastic and glasses.
- ③ Optical fiber is high efficient
- ④ Cost is high.
- ⑤ lighter in weights.
- ⑥ Diameter is small.
- ⑦ Used in - HDTVs, Aircraft, Medical field, Telephone

✶ Coaxial cable:-

- ① Used to transmit signal/data in electric form.
- ② Made of plastic, copper wires etc.
- ③ Low efficient
- ④ Cost is less
- ⑤ Coaxial is heavier than optical fiber weight.
- ⑥ The diameter is larger than optical fiber.
- ⑦ Used in - Cable TV signals, Internet, Telephone

3 (b)

⇒ TCP/IP :-

TCP/IP stands for Transmission control protocol/Internet protocol and is a suite of communication protocols used to interconnect network devices on the internet. TCP/IP is also used as a communications protocol in a private computer network.

Common TCP/IP protocols are - HTTP, HTTPS, FTP

⇒ The 4 Layers of the TCP/IP model :-

The TCP/IP model functionally divided into 4 layers, each of which includes specific protocols -

① Application layer :- This protocol includes - HTTP, HTTPS, FTP, simple mail server protocol and simple network management protocol.

② Transport layer :- This layer is responsible for maintaining end-to-end communications across the network.

③ The network layer :- This internet layer deals with packets and connects independent networks to transport packets. This layer protocols are 'IP' and 'ICMP' which is used for error reporting.

④ The physical layer :- It's also known as network interface or data link layer. Consists of protocols that operate only on a link - the network component that interconnects nodes or hosts in a network.

(b)

Ans to the Q. no - 4

4(a)

⇒ Why networking is important?

The purpose of networking is to make new friends, industries acquaintances, and even business partners. Through this new relationships, we can make progress on our career path quickly. When you look at it that way, it's clear why networking is such a powerful tool.

Here are 4 reasons why networking is important for career development =

- ① Networking contributes to social well-being.
- ② Networking leads to share of ideas.
- ③ Networking helps you meet people at all professions.
- ④ Networking boost professional confidence.

⇒ Basic Components of a network :-

A Network has 5 basic components -

- ① Servers = Host Computers.
- ② Clients = users of computers.
- ③ Channels = Transmission medium.
- ④ Interface devices = Modems/NIC and e.t.c.
- ⑤ Operating system = Network software.

Ans. to the Q. no. 4

4(b)

(ii) Domain:-

When referring to an internet address or name, a domain or domain name is the location of a website. For example - The domain name "google.com" points to the "IP address = 216.58.216.164". Generally it is easier to remember a name rather than a long string of a numbers.

(iii) IP Address:-

An IP network is a group of computers connected via their unique internet protocol (IP) addresses. The network allows one computer to use the internet to talk to another computer by gathering information and sending it directly to the other. Each computer connected to the network has its own IP address, which allows employees to send information directly to the person they want.

(iv) HTTP :-

Hyper-text transfer protocol is an application layer protocol for transmitting hyper-media documents, such as HTML. It was designed for communication between web browsers and web servers but it can also be used for other purposes. HTTP is a stateless protocol, meaning that the server does not keep any data between two requests.

(5)