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Q1. (a) Discuss the importance of system software and how it helps users?

Answer(A) system software : A set of programs that operate and control the computer system is known as system software.

Important of system software:

- The economies of all development nations are dependent on software .
- More and more systems are software controlled
- Software engineering is concerned with cost – effective software development.
- They control basic functions of computer systems or networks.

How does it help users: :

- System software runs the computer system without system software, the computer system is useless.
- It makes the user able to be in contact with the computer through system hardware.

b) Write a few benefits of open source software ?

Answer: Benefits of open source software are :

- The license of open source software allows the user to study the software.
- It allows the user to change or edit its function
- It allows the user to improve its function
- It allows the user to distribute the software at the same time.

Q2 : (a) Explain different categories of transmission speed?

Answer : Transmission can be done by two media .

Guided media : The physical links in which signals are confined along a narrow path. It is further divided into three types:

I: **Twisted Pair Cable:** Twisted pair cable is formed of two insulated copper wires twisted together to minimize interference from other twisted pairs cable. Its main two types are:

- **Unshielded twisted pair.**
- **Shielded twisted pair .**

II: **Coaxial Cable:** A coaxial cable has a central core conductor of solid or standard wire enclosed in an insulating sheet. They have low error rates.

III: **Fiber Optic Cable:** An optical fiber consists of a very narrow fiber of glass called the core. Fiber optic cable has bandwidth more than 2 Gbps (Gigabytes per second).

2: **Unguided Media:** Unguided media also called wireless media. It does not use any physical path it transmits data through the signals, broadcasted through the air. It is further divided into three types:

I: **Radio Waves:** Radio waves distributes radio signals through the air over long distance such as between cities, regions and countries and short distances such as within an office or home. It has frequency between 10 KHz to 1 GHz.

II . **Micro Waves:** Micro wave is a wireless transmission technology that travels at high frequency than radio waves. Electronic waves with frequencies between 1 GHz to 300 GHz are normally called microwaves.

III: **Infrared:** Infrared is a short-distance wireless transmission medium that sends signals using infrared light waves. Infrared frequencies are just below visible light. .

(b) Differentiate between optical and magnetic storage?

<u>Optical Storage</u>	<u>Magnetic storage</u>
(1) It has less storage capacity.	(1) it has high storage capacity.
(2) It uses a laser to read and write.	(2) It does not use laser to read and write.
3) optical Storage store data as pits by	(3) Magnetic storage stores data in magnetic form.
Using a laser	
(4) Easy to modify data .	(4) Difficult to modify data .
(5) Data is affected by magnetic field.	(5) Data is not affected by magnetic field.

(Q3) . Based on the discussion related to internet and its services, explain telnet and FTP service and write a short review of any software designed on telnet and FTP ?(10)

Answer : 3) Telnet: Telnet service provide the opportunity to an internet user to log in to another computer through the internet from his/her local computer. This action is called “remote login”.

To start a remote login session, a user types telnet command and address of the remote computer on his/her local computer. The remote computer then authenticates the user by asking him/her to enter a login name and password. If the user specifies a correct login name and password, the remote computer logs in the user and telnet command then enters input mode. From now onwards, anything that the user types on the local computer is sent to the remote computer for processing.

Common uses of Telnet:

- For using computing power of a remote computer.
- For using some software on a remote computer, which is not available on user’s local computer.

1. For logging in to one’s own computer from another computer.

Software Designed on telnet : The term telnet also used to the software that Implement the client part of the protocol..

File transfer protocol FTP : It provide the opportunity to the internet user to cut a file from one computer to another computer through internet. A file may contain any type of digital information, text document, image, artwork, movie, sound, software etc. FTP has two basic services:

1. Downloading: The process of moving a file from remote computer to one’s personal computer.

2. Uploading: The process of moving file from one’s own computer to a remote computer.

Software designed on FTP: It is a standard internet protocol used as the name suggest to transfer file between computers. FTP software uses a client server model so it requires two parts, an FTP client and ftp server.

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