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**Paper Computer Applications**

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

System software provides general programming development in which programmers can create specific applications, and lets the applications efficiently use the system hardware.

#### **Importance of system software**

- Supports the development of other application software.
- Supports execution of other application software.
- Monitors actual use of numerous hardware resources such as CPU, memory, peripherals, etc.
- Communicates with and controls the operation of peripheral devices such as a printer, disk, tape

Hence, system software makes the operation of a computing system simpler and efficient.

It helps hardware components work together. Some commonly known types of system software are: Operating system are (Microsoft Windows, Apple Macintosh, Linux), utility programs (help users in system maintenance), Communication Software.

#### **How it helps user**

It allows users to try to user-oriented tasks like create text documents, play games, hear music, or browse the online are collectively mentioned as application software.

**(b) Write a few benefits of open source software?**

Open-source software (OSS) is software that the ASCII text file is viewable and changeable by the general public, or otherwise open. When the ASCII text file isn't viewable and changeable by the general public, it's considered closed or proprietary.

**Benefit of OSS**

OSS allows programmers to collaborate on improving the software by finding and fixing errors within the code (bug fixes), updating the software to figure with new technology, and creating new features. The group association approach of open source projects profits users of the software because mistakes are fixed faster, new features are added and released more often, the software is more constant with more programmers to seem for errors within the code, and security updates are executed faster than many registered software programs.

Most OSS uses some version or variation of the GNU General Public License (GNU GPL or GPL). The only thanks to consider a GPL almost like a photograph that's within the property right. GPL and property rights both allow anyone to switch, update, and reuse something however they have to. The GPL gives programmers and users the permission to access and alter the ASCII text file, whereas property right gives users the permission to use and adapt the photo. The GNU a part of GNU GPL refers to the license created for the GNU OS, a free/open OS that was and continues to be a big project in open source technology.

Another bonus for users is that OSS is usually free, however, there could also be a price for extras, like technical support, for a few software programs.

## **Q2. (a) Explain different categories of transmission speed?**

Data Transmission mode defines the direction of the flow of data between two communication devices. It's also called digital communication or Directional Mode. It specifies the direction of the flow of data from one place to a different during a network.

Data transmission speed category

### **Narrowband:**

Narrowband discusses digital communication and broadcastings tools, technologies and services that utilize a narrower set or band of frequencies within the channel. These utilize the channel frequency that's considered flat or which can use a lesser number of frequency sets. Sub voice-grade channels within the range from 45 to 300 baud. Mainly used for telegraph lines and low-speed terminals

### **Voice band:**

The waveband or range, specified for voice communications within the public switched telephone network (PSTN). Voice grade networks with speed up to 9600 baud. Mostly used for everyday telephone speech and slow I/O devices.

### **Broadband:**

High-speed channels with speed up to 1 million baud or more. Mainly used for high-speed computer to computer communication or for simultaneous transmission of knowledge. Broadband usually states to Internet access via a range of high-speed wired and wireless networks, including cable, DSL, Wi-Fi, 4G, 5G and satellite, all of which are faster than earlier analog dial-up by a vast magnitude.

**(b) Differentiate between optical and magnetic storage?**

**Optical storage:**

- It Stores data as dents by using a laser
- Data is not affected by magnetic field.
- It has a less storage capacity
- It uses a laser to deliver and transcribe.
- It is Difficult to modify data

**Magnetic storage:**

- It Stores data magnetic form
- Data is affected by magnetic field
- It has a High storage capacity
- It does not use laser to read and write
- Easy to modify data

**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 ?**

TELNET is an abbreviation for the terminal network. It is a typical TCP/IP protocol for virtual terminal service. It is a general-purpose client/server application program. It enables the establishment of a connection to a foreign system in such a way that the local terminal appears to be a terminal at the remote system. In other words, it allows the user to go online to a foreign computer. After logging on, the user can use the services available on the remote computer and transfer the results back to the local computer. Telnet (Terminal Network) may be a network protocol used on the web or local area networks to supply a bidirectional interactive text-oriented communications facility via a virtual terminal connection. Most network equipment and operating systems with a TCP/IP stack support a Telnet service for remote configuration (including systems supported Windows NT).

For example, a standard directive might be: to vary your password, telnet to the server, login and run the password command.

**Telnet Software (Bitwise SSH Client)**

Bitwise SSH Client is an SSH and SFTP client for Windows. It is developed and supported professionally by Bitwise. The SSH Client is strong, easy to put in, easy to use, and supports all features supported by PuTTY, also because of the following:

Graphical SFTP file transfer;

Single-click Remote Desktop tunneling;

Auto-reconnecting capability;

Dynamic port forwarding through an integrated proxy;

An FTP-to-SFTP protocol bridge.

**FTP:**

FTP (File Transfer Protocol) is that the simplest and most secure thanks to exchange files over the web. Transferring files from a client computer to a server computer is named uploading and transferring from a server to a client is downloading. To access an FTP server, users must be ready to hook up with the web or an intranet (via a modem or local area network) with an FTP client program. FTP doesn't really move, it copies files from one computer to a different.

It is the file transfer protocol in the Internet's TCP/IP protocol suite's Application Layer. FTP Client is software that's designed to maneuver files back-and-forth between two computers over the web. It must be installed on your computer and may only be used with a live connection to the web.

### **FTP Software (Filezilla)**

FileZilla may be a popular free FTP client for Windows, macOS, and Linux. The program is easy to use and understand, and it uses tabbed browsing for simultaneous server connections.

FileZilla Client supports bookmarking FTP servers for straightforward access later. You can resume and transfer big files 4 GB and larger, and it supports simple drag-and-drop functionality. It also allows you to search for the FTP server.

Some features in Filezilla

Bandwidth control and concurrent transfer limits

Passive and active mode

FTP proxy

Public key authentication

Custom editor for editing particular file types

Allocate space before transfers

Compare directories

Custom log file location and size limit

Quick deletion of private connection data