Course: Computer applications	**Program:** BS (MLT)
Semester: 4th	**Major Assignment**
Total Marks: 30	**Instructor:** Zakir Rahim
Due Date: 19th April,2020	

Instructions:

- Students are required to solve the provided assignment and upload it on SIC before 20th April 2020.
- The solutions can be type-written or hand-written.
- In case of handwritten solutions, you are required to copy pictures of the solved assignment in Ms-Word and upload it.
- The solutions must be uploaded either in Ms-Word format or pdf format.
- Students are required to save the file with their name and student id. For example ahmad_12345.

STUDENT NAME; Muhammad Sayyam Niaz

STUDENT ID ; 16918

Q1. (a) Discuss the importance of system software and how it helps users? (5)

SYSTEM SOFTWARE;

System software is a set of one more programs, which controls the operation and/or extends the processing capability of a computer system. In general, a computer's system software performs one or more of the following functions.

- Supports development of other application software.

- Supports execution of other application software.

- Monitors effective use of various hardware resources such as CPU, memory, peripherals etc.

- Communicates with and controls operation of peripheral devices such as printer, disk, tape

HOW ITS HELPS USERS;

System software makes the operation of a computer system more effective and efficient.

It helps hardware components work together. Some commonly known types of system software are:

Operating system (Microsoft windows, Apple Macintosh, Linux), utility programs (help users in system maintenance), Communication Software

Q1(b) Write a few benefits of Public Domain Software?   (5)

BANEFITS OF PUBLIC SOFTWARE;

1) Public-Domain software is software available free or for a nominal charge from the bulletin boards or user-group libraries on the internet

2) Users are encouraged to copy such software and try them out

3) Another type of public-domain software's becoming popular is those that come with their source code. These software's are referred to as Open Source Software

Q2. (a) Explain different categories of transmission speed?   (5)

CATEGORIES OF TRANSMISSION SPEED;

Following are the categories of transmission soeed.

1) NARROWBAND;

Sub-voice grade channels in range from 45 to 300 baud. Mainly used for telegraph lines and low-speed terminal

2) VOICEBAND;

Voice grade channels with speed up to 9600 baud. Mainly used for ordinary telephone voice communication and slow I/O devices

3) 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 data

Q2(b) Differentiate between optical and magnetic storage? (5)

MAGNETIC STORAGE:

Magnetic disks are the most popular direct-access secondary storage device. They are also the most popular online secondary storage device.

A magnetic disk is a thin circular plate of metal or plastic. Its surfaces on both sides have a coating of iron oxide and data is recorded on the plate surface by magnetization. Data is recorded as magnetized and non-magnetized spots (representing 1's and 0's).

OPTICAL STORAGE:

An optical-disk storage system consists of a metallic or plastic disk coated with a highly reflective material. It uses laser beam technology for reading/ writing of data from/to disk surface. Modern computer systems use optical disks extensively as a random access medium.

Unlike magnetic disks having several concentric tracks an optical disk has one long track starting at the outer edge and spiralling inward to the centre. Spiral track is ideal for reading large blocks of sequential data such as audio or video. The drive slows down the disk's rotation speed towards the edges of disk whereas it speeds up the disk rotation towards the center of the disk.

Q3. Based on the discussion related to internet and its services, which service you think has been most useful in current situation? Explain that service and why have you chosen it? (10)

1) <u>Electronic Mail:</u>

Electronic mail service (Email) enables an internet user to send a mail (message) to another internet user in any part of the world in a near-real-time manner. An e-mail message takes a few seconds to several minutes to reach its destination because it travels from one network to another, until it reaches its destination.

E-mail service has many similarities with postal-mail service. All internet users have an e-mail address, just as all of us have a postal address. Each internet user has a logical mailbox, just as each one of us has a mail box in our house. When sending a mail to another user, a sender specifies the e-mail address of the receiver, just as we write postal address of the receiver of a post in postal mail system. Email service delivers an already sent mail into its receiver's mailbox. The receiver extracts the mail from his/her mailbox and reads it at his/her own convenient time, just as in a postal-mail system. After reading the message, the receiver can save it, delete it, forward it to someone else or respond to it by sending another message back.

Messages in e-mail service can contain not only text documents but also image, audio and video data. Only restriction is that the data must be in computer-readable format.

With e-mail service, the internet has proved to be a rapid and productive communication tool for millions of users as compared to paper mail, telephone and fax many prefer e-mail because of its following advantages:

1. Its faster than paper mail
2. Unlike telephone, the persons communicating need not be available at the same time.
3. Unlike fax documents, the receiver of an e-mail document can store it in a computer and can edit it easily using editing options.