

Dear Parents / Students

Due to the unprecedented situation, Knowledgeplus Training center is mobilized and will keep accompanying and supporting our students through this difficult time.

Our Staff will be continuously, **sending notes and exercises on a weekly basis** through **what's app and emails**. Students are requested to **copy the notes and do the exercises** on their copybooks.

The answers to the questions below will be made available on our website on knowledgeplus.mu/support.php.

Please note that these are extra work and notes that we are providing our students and **all classes will be replaced during the winter vacation**.

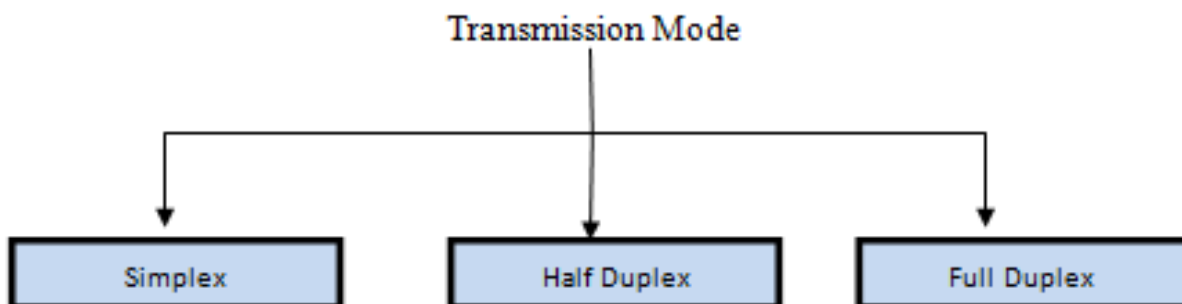
We thank you for your trust and are convinced that, together, we will overcome these troubled times

Advanced Computing – Week 2

Transmission Modes in Computer Networks

Transmission mode means transferring of data between two devices. It is also called communication mode. These modes direct the direction of flow of information. There are three types of transmission mode. They are:

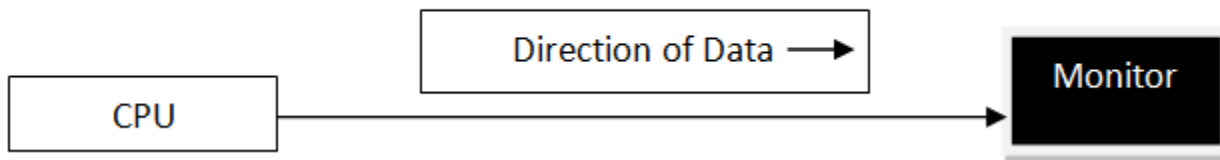
- Simplex Mode
- Half duplex Mode
- Full duplex Mode



SIMPLEX Mode

In this type of transmission mode data can be sent only through one direction i.e. communication is unidirectional. We cannot send a message back to the sender. Unidirectional communication is done in Simplex Systems.

Examples of simplex Mode is loudspeaker, television broadcasting, television and remote, keyboard and monitor etc.



HALF DUPLEX Mode

Half-duplex data transmission means that data can be transmitted in both directions on a signal carrier, but not at the same time. For example, on a local area network using a technology that has half-duplex transmission, one workstation can send data on the line and then immediately receive data on the line from the same direction in which data was just transmitted. Hence half-duplex transmission implies a bidirectional line (one that can carry data in both directions) but data can be sent in only one direction at a time.

Example of half duplex is a walkie- talkie in which message is sent one at a time and messages are sent in both the directions.

FULL DUPLEX Mode

In full duplex system we can send data in both directions as it is bidirectional. Data can be sent in both directions simultaneously. We can send as well as we receive the data.

Example of Full Duplex is a Telephone Network in which there is communication between two persons by a telephone line, through which both can talk and listen at the same time.

In full duplex system there can be two lines one for sending the data and the other for receiving data.

Theory questions

1. Write True or False

- a) It is easier to update the information of patients when we make use of a computerized hospital management system.
- b) We can only withdraw money from an ATM .
- c) Computers are only used in offices.
- d) A supermarket can make use of an automatic stock control system to detect the price of products.
- e) Complex surgeries cannot be monitored by computers
- f) CT stands for computer Terminal.
- g) Electronic Funds Transfer is a term that refers to the transfer of electronic money to take place.
- h) Architects often make use of CAD software to design the model of a house or building .
- i) Expert Systems can be used to track boo loans in a library.

2. Match the following

Social networking website	<ul style="list-style-type: none"> • It is used to examine inside the human body
Electronic learning	<ul style="list-style-type: none"> • It is used to communicate with other people
Payroll system	<ul style="list-style-type: none"> • It should be reliable by preventing the same seat from being booked more than once
MRI scanner	<ul style="list-style-type: none"> • It is used to calculate the salary of employees
Booking System	<ul style="list-style-type: none"> • It allows students to study at home

3. What do the following acronyms stand for:

- a) CAD
- b) EFT
- c) CAM
- d) EFTPOS
- e) CT
- f) ATM
- g) RFID
- h) AI
- i) MRI
- j) MICR

4. a) A list of file extensions for common files standards used on the internet is shown below.

JPG , PDF, MP3, MPEG, ZIP

The rock band allows some files to be downloaded by fans.

Complete the table below to show which file format from the list given below may be used for each of the following files

File	File Format
A high resolution image of band to use as a desktop background	
Sheet music of their songs ready to be printed in the correct format for guitar players	
A short video extract from their latest concert tour	
A compressed collection of 200 plain text files containing the lyrics of all their songs	
An audio recording of a song from their album	

- b) Some of the file formats use compression
- i. Explain the importance of compressing files when transmitting via the internet.
 - ii. Describe the difference between lossy and lossless compression.

5.

- a) What does a UPS stand for?
- b) What is the function of a UPS?

6. State which form of backing storage medium is suitable for:

- a) Backing up small files for personal use.
- b) Storing the operating system on a personal computer.
- c) Performing a network backup.
- d) Archiving account details which are no longer regularly used.

7. A company stores details of all it's stock on a computer system.Explain why the data is held on a hard disk instead of a CD-ROM.

8.

- a) Explain what is a bar code?
- b) What device is used to read a bar code?