PENANG SANGAM HIGH SCHOOL
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LESSON NOTES 9

Year/Level: 12 Subjects: Computer Studies

Strand:	Computer and Applications
Sub-strand:	CE 12.1.5 Communications and Networks
Content Learning Outcome:	❖ Methods and modes of data transmission ❖ Communication channel

Lesson Notes

Methods and modes of data transmission

- Asynchronous and synchronous communication refers to methods by which signals are transferred.
- These signals allow computers to transfer data between components within the computer or between the computer and an external network.

Asynchronous transmission

- The method frequently used with microcomputers, data is sent and received one byte at a time.
- Asynchronous transmission is often used for terminals with slow speeds.

Advantage
Is that the data can be transmitted whenever convenient for the sender.

Disadvantage
Is relatively slow rate of data transfer

Synchronous transmission

- Is used to transfer great quantities of information by sending several bytes or a block at a time.
- For the data transmission to occur, the sending and receiving of the blocks of bytes must occur at carefully timed intervals.
- Thus, the system requires a synchronized clock

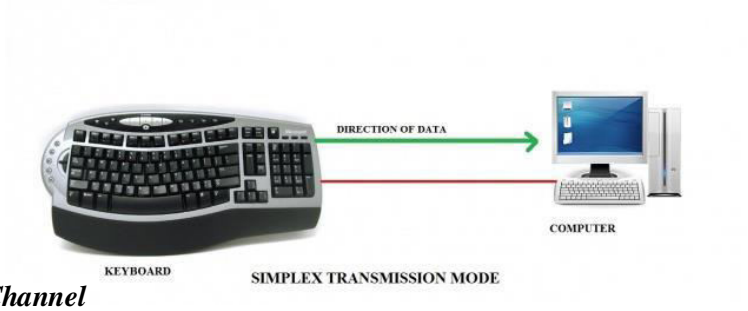
Advantage
Is that data can be sent very quickly

Disadvantage
Is the cost of the required equipment

Communications channel

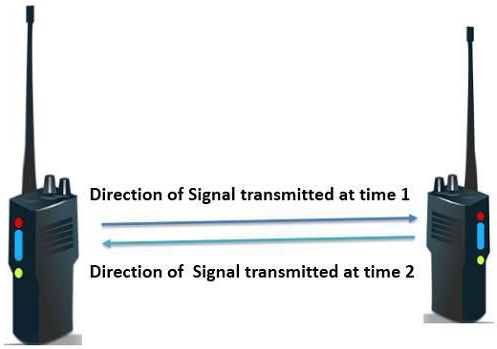
Simplex Channel

- In simplex, data flows only in one direction
- In simplex transmission if two devices are connected then one device will only send data the other device will only receive data.
  e.g. radio station, typing



Half-Duplex Channel

- Is a single physical channel in which the direction may be reversed
- Messages may flow in two directions, but never at the same time, in a half-duplex system.
  e.g. Walkie-talkie call, one party speaks while the other listen



Full-Duplex Channel

- Allows simultaneous message exchange in both directions.
  e.g. calling on mobile phone

Questions

1) Name one communication channel that is best for an organisation and why?
2) Differentiate between **Asynchronous** and **Synchronous transmission?**