

**2.6 TRANSMITTING AND RECEIVING – PAGE 78: QUESTIONS 1 TO 4, 11 TO 13, 16, 18**1. Why is parallel transfer much quicker than serial transfer?

Serial transfer transmits data one bit at a time through a single line. Parallel transfer transmits more than one bit of data simultaneously using separate lines.

2. Where is serial transfer used?

Serial transfer is used to connect peripheral devices such as modems and printers, and is used over longer distances through telephone lines, coaxial cables, fibre optic cables or microwave devices.

3. Explain the difference between asynchronous and synchronous transmission.

In asynchronous transmission, each byte is identified with special start and stop bits. Synchronous transmission requires all the data to be sent at the same rate.

4. Describe the three modes of transmission.

The direction of data flow is simplex, half duplex or full duplex. Simplex mode allows transmission in one direction only, from the sender to the receiver. It is limited and is not widely used in telecommunications. Half duplex mode allows transmission in both directions but not at the same time. This means the sender and the receiver take turns. Full duplex mode allows transmission in both directions at the same time

11. What is a network?

When a number of computers (or terminals) and their peripheral devices are connected, it is called a network.

12. List the advantages of a LAN.

There are three advantages in using a LAN: They allow limited hardware resources such as printers, hard disks and modems to be shared. They allow application software (word processing, databases, spreadsheets and graphics programs) to be shared. They improve communication among users on the network by allowing messages to be sent and received.

13. What is a WAN?

Wide area networks (WANs) connect computers (or terminals) over hundreds or thousands of kilometres.

16. List five non-computer tools for transmitting and receiving.

The mail system makes it possible to send a letter or package to the address of any person around the world. The telephone system transmits sounds or speech between distant places along telephone lines. Fax machines transmit and reproduce documents by means of signals sent over telephone lines. Radio is the transmission and detection of sound using electromagnetic waves that travel through the air.

18. What is a cookie?

~~Television is the transmission and detection of images and sound using electromagnetic waves that travel through the air.~~ Web sites use cookies to record information about visitors to their site. A cookie is a file that is put on the user's hard disk when they visit a Web site. The cookie stores information such as the date, the Web pages visited and the transactions completed.

**2.7 DISPLAYING – PAGE 86: QUESTIONS 1 TO 4, 8 TO 10**

1. What is a screen?

A screen is a display surface that provides immediate feedback about what a computer is doing.

2. List two factors that affect the clarity of the image.

The clarity of the image is affected by the total number of pixels on the screen and the space between the pixels (dot pitch).

3. How are images produced on a monitor?

Images are produced by firing a beam of electrons onto the inside of the screen, which contains a coating of phosphor.

4. Explain the difference between interlaced and non-interlaced monitors.

Interlaced monitors speed up refreshing by first scanning the odd lines from top to bottom and then the even lines. However, this can cause the monitor to flicker. Noninterlaced monitors refresh the screen by scanning every line up to 72 times per second.

8. How does an inkjet printer produce an image?

Inkjet printers produce characters by spraying very fine drops of ink onto the paper.

9. Why advantages do laser printers have over inkjet printers?

Even though the initial cost of a laser printer is higher than an inkjet printer, the difference in cost per copy quickly makes up the difference for a high-volume user.

10. Describe two ways of achieving voice output.

A person talks into a voice input device such as a microphone. Voice synthesis is the artificial production of human speech.