1 Describe 3 difference between serial and parallel data transmission

2 a explain the following transmission type

Simplex transmission – _____

Duplex transmission – _____

Half-duplex transmission – _____

b Connect each term on the left to its correct transmission type on the right

Modern network	Simplex transmission
Walkie-talkie	Duplex transmission
mouse	Half-duplex transmission

3 a Data transmission depends on data direction and how many bits of data can be sent at a time. Complete the table below to show what type of data transmission is being described in each case. Tick (✓) two boxes for each description.

Description of transmission taking place	Simplex (✓)	Half-duplex (✓)	Full-duplex (✓)	Serial (✓)	Parallel (✓)
Data sent one bit at a time down a single wire in one direction only					
Data sent 16 bits at a time down 16 wires in both directions, but not at the same time					
Data sent 16 bits at a time down 16 wires in both directions simultaneously					
Data sent 8 bits at a time down 8 wires in one direction only					
Data sent one bit at a time down a single wire in both directions simultaneously					
Data sent one bit at a time down a single wire in both directions, but not at the same time					

b Five statements about serial and parallel data transmission are made in the table below. By placing a tick (✓) in the appropriate column, select which statements refer to serial transmission and which statements refer to parallel transmission.

Statements	Serial (✓)	Parallel (✓)
Transmission method used by the memory bus inside a computer		
Data can be skewed (out of synch) when travelling over long distances		
Least expensive of the two types due to fewer hardware requirements		
Most appropriate if data is time-sensitive; for example, when live streaming where faster transmission rate is essential		
Suffers from less risk of external interference		

4 Complete the following sentences using the most appropriate network term.

A communication method that wirelessly connects a mobile phone to a car, to allow hands-free use of the mobile phone is _____

A network device that allows a stand-alone computer, using a dial-up analogue connection, to connect to an ISP is a _____

A network device that allows a LAN to connect to the internet is a _____

A wireless communication method used in WLAN is _____

5 Tick (✓) which of the following statements apply to LANs, which apply to WANs and which apply to WLANs.

Statements	LAN (✓)	WAN (✓)	WLAN(✓)
The internet is an example of this type of network			
This type of network is found in a building but is connected without cables			
This type of network is used to transmit data between Europe and North America			
This type of network is found in a building but is connected with cables			

6 Customers will use a web browser to access Victoria' s website.

Victoria writes a paragraph of text to explain how the website will be displayed on a customer's computer.

Use the list given to complete Victoria's paragraph by inserting the correct six missing terms. Not all terms will be used.

- browser
- domain name
- firewall
- hexadecimal
- HTML
- https
- MAC address
- search engine
- Uniform Resource Locator (URL)
- web server

The user enters the website _____ into the address bar. The protocol that is used is _____ The URL contains the _____ _____ for the website. This is used to look up the IP address of the company. A DNS server stores an index of IP addresses.

The browser sends a request to the _____ as this is where the files for the website are stored. The files are sent back to the _____ as _____ files. This is interpreted by the browser and the web page is displayed.

7 Lola is concerned about the risks to her computer when using the Internet.

She wants to use some security methods to help protect her computer from the risks. Identify a security method she could use for each of the following risks. Each security method must be different.
Describe how each security method will help protect Lola's computer.

a Computer Virus

Security method _____
Description _____
_____
_____
_____

b Hacking

Security method _____
Description _____
_____
_____
_____

c Spyware

Security method _____
Description _____
_____
_____
_____

(b) Lola is also concerned that the data she stores could be subject to accidental damage or accidental loss.
State three ways that the data Lola stores could be accidentally damaged or accidentally lost.

1 _____
_____
2 _____
_____
3 _____
_____

[3] Give two methods that Lola could use to help keep her data safe from accidental damage or accidental loss.

1 _____

_____

2 _____

_____

(190511)

8 The table shows four definitions.

Complete the table giving the missing Term for each definition.

Term	Definition
	A data transmission method that sends data one bit at a time, down a single wire
	An address given to a device on a network. The address is assigned by the network
	The software used to render HTML and display a web page
	An address given to a device at the manufacturing stage that can be used to identify the device on a network

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