

8 One ethical consideration for a student connecting their personal computer to the school network is the risk of spreading malware on the network.

(a) Viruses and pharming are examples of malware.

Explain what is meant by a virus and pharming.

Virus
.....
.....

Pharming
.....
.....

[2]

(b) Give **three** other ethical considerations for a student using their personal computer to connect to the school network.

1
.....

2
.....

3
.....

[3]

(c) Describe **two** social impacts of students using Artificial Intelligence (AI) to complete their homework.

1
.....
.....

2
.....
.....

1 Draw **one** line from each verification method to indicate whether it is used during data transfer or data entry.

Verification Method	Use
Parity byte check	
Checksum	Data transfer
Visual check	
Parity block check	Data entry

[2]

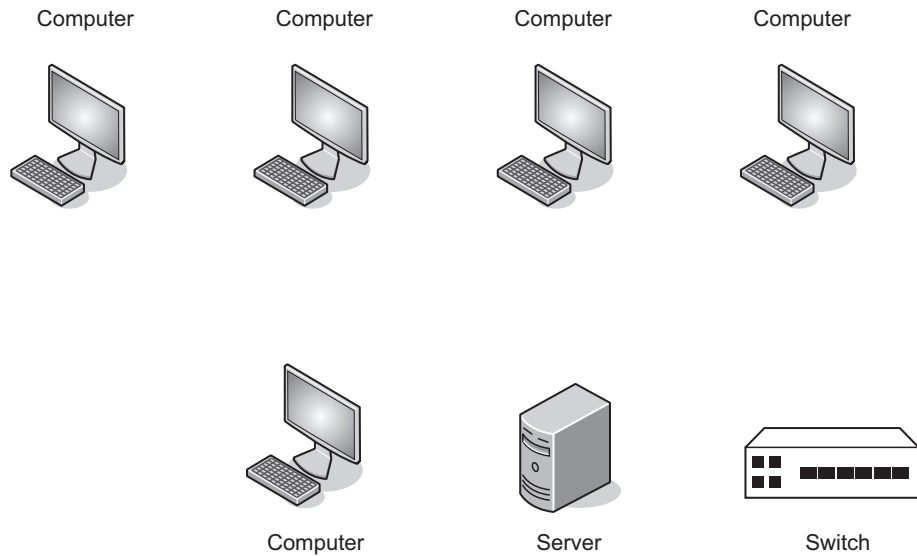
5 A local area network (LAN) has five computers, one switch and one server.

(a) Describe the characteristics of a LAN.

..... [2]

[2]

(b) Complete the following diagram to show how these devices are connected in a star topology.



[2]

(c) Describe how packets are transmitted between two hosts using a star topology.

..... [3]

[3]

(d) Another type of network is a bus network.

Ethernet is used to transmit and receive data between the devices on the bus network.

Describe how collisions are detected and managed on this network.

[3]

[3]

(e) Complete the table by identifying **one** threat to computer and data security posed by networks and the internet.

Describe the threat and give a method of prevention.

[illegible]

[3]

