

01.1 ASCII is a character encoding system that uses seven bits to represent each character.

Complete the table stating the binary representation of the character g.

[1 mark]

Character	Binary representation
f	110 0110
g	110 0111

01.2 Unicode is an alternative way of representing characters. Explain the advantages of using Unicode over ASCII.

[3 marks]

more characters / accents etc... / different languages / more flexibility / wider acceptance – accept developed points

02 Explain how data is read from optical media such as a CD or DVD.

[4 marks]

- The tracking mechanism moves the laser into the correct position over the CD;
- The CD is spun to ensure all data can be read;
- The CD spins slower when the laser/read-head is above the outer tracks;
- The laser is shone on to the disk;
- The laser is reflected;
- Lands/pits are raised parts of the disk;
- Lands/pits reflect light differently
- Lands/pits form a spiral from the centre to the outside of the disk;
- A (opto-electric) sensor detects changes in reflectivity;
- Lands/pits and lands represent the two possible bit values

03.1 State **one** advantage of using a wired computer network rather than a wireless network.

[1 mark]

better security / faster connection speeds / higher bandwidth

03.2 Name the network protocol which defines how to address and route each packet to make sure it reaches the right destination.

[1 mark]

Internet protocol / IP