

6-A-Day – Computer Science GCSE (45)

Q1

A bank uses a local area network to connect all the computers in its head office.
Computers in the network can be identified using both IP addresses and MAC addresses.
Describe **two** differences between IP addresses and MAC addresses.

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Q2

The bank network uses failover.
Describe what is meant by failover and justify the need for failover in the network.

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Q3

The character é is part of a computer's character set.
(a) Describe what is meant by a character set.

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Q4

When sending text messages using a mobile phone, people can choose from hundreds of characters, called emoji, to insert in their message. An example of an emoji is 🍌.

The Unicode character code for the emoji 🍌 in hexadecimal is 1F64A.

- (b) (i) Convert the hexadecimal number 1F64A to binary.
The first three hexadecimal digits have been done for you.

Hexadecimal:	1	F	6	4	A
Binary:	0001	1111	0110

[2]

Q5

Explain why mobile phones that can send emoji would use Unicode instead of ASCII as their character set.

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Q6

*Produce a bullet point plan
for your essay answer*

Lauren is a Computing teacher. She is building a website for her Computing class where they can share ideas, send each other programs and discuss computing concepts. The students will have individual accounts that they can log into.

Discuss the ethical and legal issues Lauren will have to consider when setting up the website.

The quality of your written communication will be assessed in your answer.

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