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A company employs a team of programmers to develop software to control a fleet of driverless cars, providing a taxi service for clients in a large city.

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Discuss a range of moral, ethical, legal and cultural issues that the programmers may need to consider whilst developing the service and that may arise during the use of the service by the public.

In your answer you will be assessed on your ability to follow a line of reasoning to produce a coherent, relevant and structured response.

[9 marks]

[illegible]

[illegible]

There have been some cases where law enforcement officers have requested a phone manufacturer to bypass access restrictions on a phone that they believe contains evidence of criminal activity. The manufacturers frequently refuse to do so.

In your answer you will be assessed on your ability to follow a line of reasoning to produce a coherent, relevant and structured response.

[illegible]

[illegible]

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The managers of a care home expect all of their residents to wear a Personal Emergency Response System (PERS) device. This is a device which residents wear around their neck and has a button that can be used to summon help should they feel unwell or require assistance.

A company has developed a life-blogging device. Like the PERS device it is worn around the neck. The life-blogging device monitors bodily signs such as blood pressure and heart rate as well as recording audio and video. The data collected are sent to a server and all of the data collected on the server can be accessed via a website.

The care home managers are considering using the life-blogging system instead of PERS so that the staff can monitor the residents' data. The life-blogging system will allow the care home to respond more quickly to an emergency situation and deal with situations where the resident is not capable of pushing a button. The managers are considering not telling the residents about the new device as they think it may confuse them.

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Discuss any moral, ethical, legal and cultural issues that the care home managers should consider before introducing the new life-blogging devices.

[9 marks]

[illegible]

An international technology company produces a smart speaker for use in homes. The smart speaker can be controlled by a user providing voice commands, which means the device must always be listening for audio input. The company stores audio recordings of each user to analyse when improving its voice recognition algorithms. The audio recordings are compressed using lossy compression and then sent over the Internet to be stored at the company's headquarters.

You will be assessed on your ability to follow a line of reasoning to produce a coherent, relevant and structured response.

[illegible]

[illegible]

A clothing company has developed an application that allows a user to take a photograph of themselves on their mobile phone and upload it to their account on the company servers. The application will then use artificial intelligence to recommend new clothes that it computes will suit the user based on their preferences and the application's own interpretation of the way they look. It will then generate images of the user wearing the recommended clothes.

Describe how a digital camera would work when capturing a photograph of the user for the application **and** discuss the moral, ethical, legal and cultural issues that developers of the application may have had to consider while developing it.

[9 marks]

[illegible]

[illegible]