

1. March/2023/Paper\_0417/12/No.5

The number of people using online shopping has increased. This has led to an increase in the number of journeys for the delivery drivers.

Describe how an expert system can be used to produce the best route for the delivery of items.

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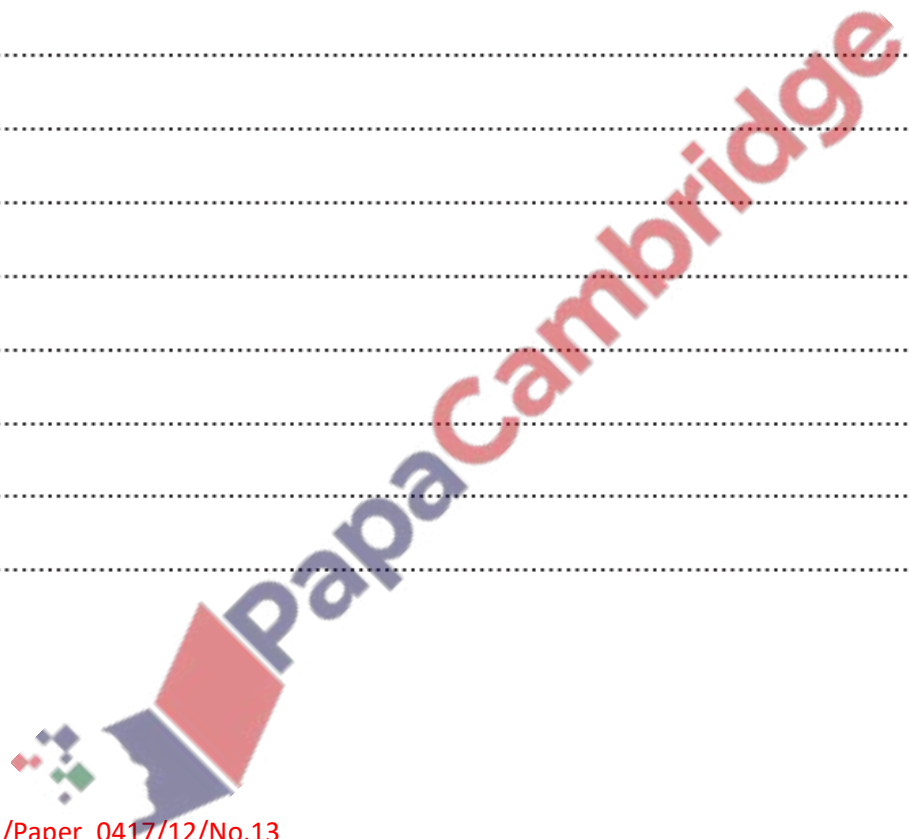
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2. March/2023/Paper\_0417/12/No.13

People can watch a movie either by streaming or from a Blu-ray disc.

Give **two** advantages of watching the movie by streaming rather than from a Blu-ray disc.

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3. March/2023/Paper\_0417/12/No.16(b)

A school car park is controlled by a barrier. When teachers enter the car park their number plate is read and the barrier is raised automatically.

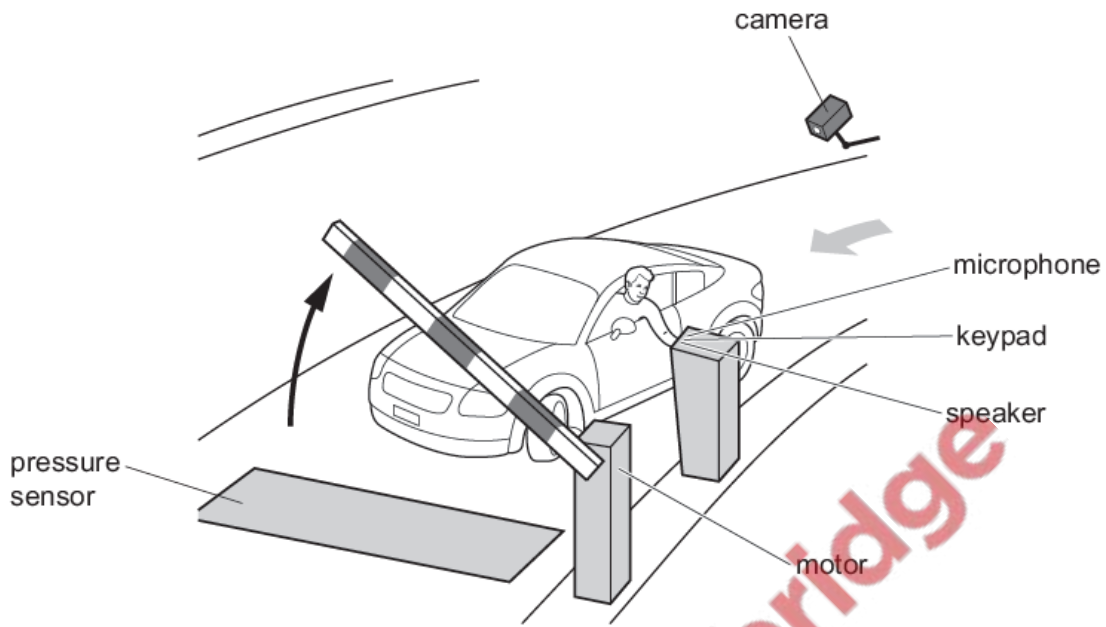


Fig. 16.1

(b) Automated Number Plate Recognition (ANPR) is used to read and check the number plate of the vehicle.

Discuss the benefits and drawbacks of using an ANPR system.

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Many media companies now provide media streaming for users to watch their television programmes.

(a) Explain what is meant by the term media streaming.

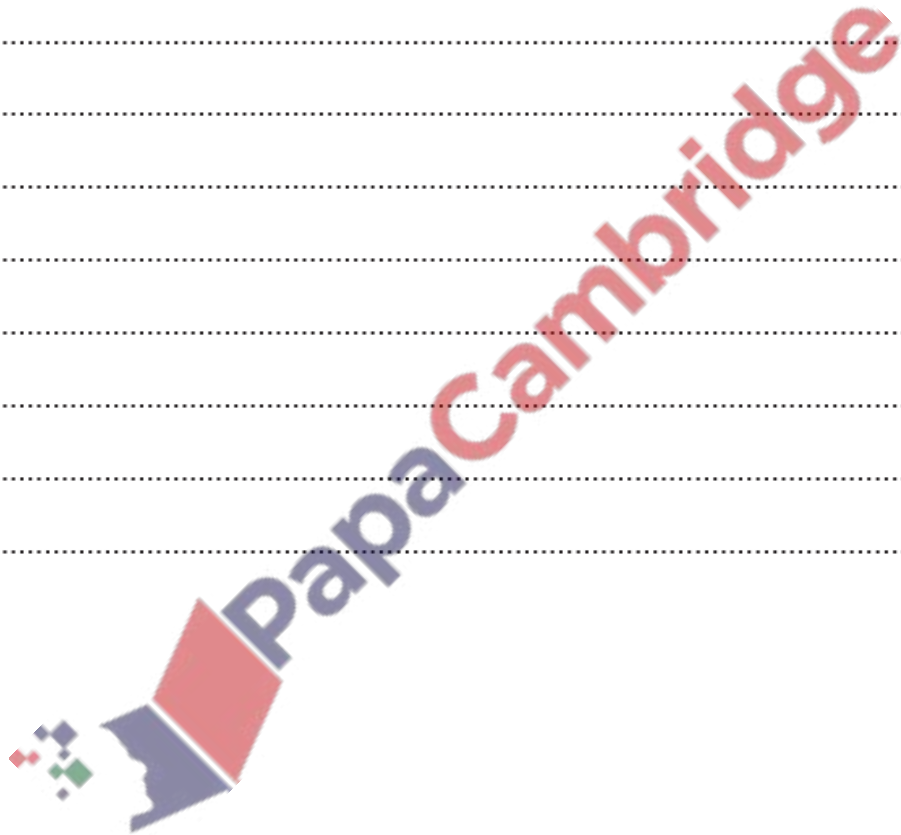
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(b) Describe the benefits and drawbacks of media streaming.

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5. June/2023/Paper\_0417/12/No.13(a)  
Weather forecasters use computer modelling.

(a) Explain why computer modelling is used to forecast the weather.

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6. June/2023/Paper\_0417/12/No.14(a)  
ePublishing software is used to create an ePublication to display a school's yearly magazine.

(a) Describe the characteristics of an ePublication.

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7. June/2023/Paper\_0417/13/No.7

The retail industry uses point of sale (POS) systems.

(a) Discuss the benefits of using POS in the retail industry.

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8. Nov/2023/Paper\_0417/11/No.6

A cricket club secretary saves a list of players as a PDF file.

(a) Describe two disadvantages of saving the list of players as a PDF file.

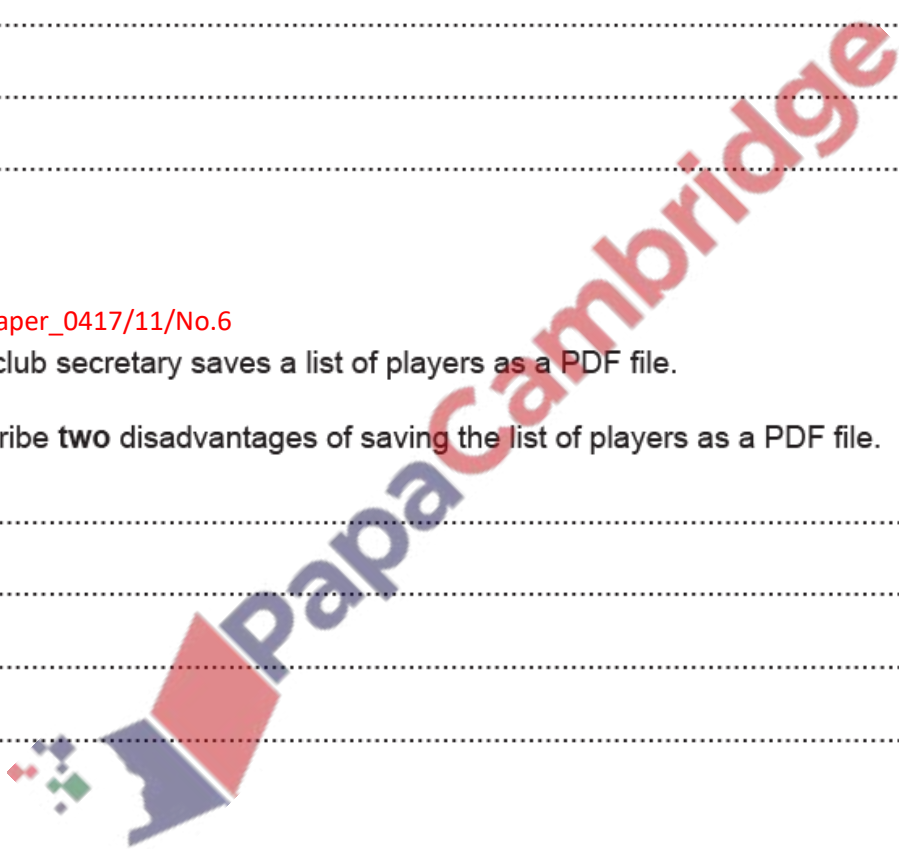
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The cricket club has a junior team for 6–8-year-old players. The secretary has produced an ePublication to attract new members to the junior team.

**(b)** State **two** features of an ePublication that could **not** appear on a paper poster.

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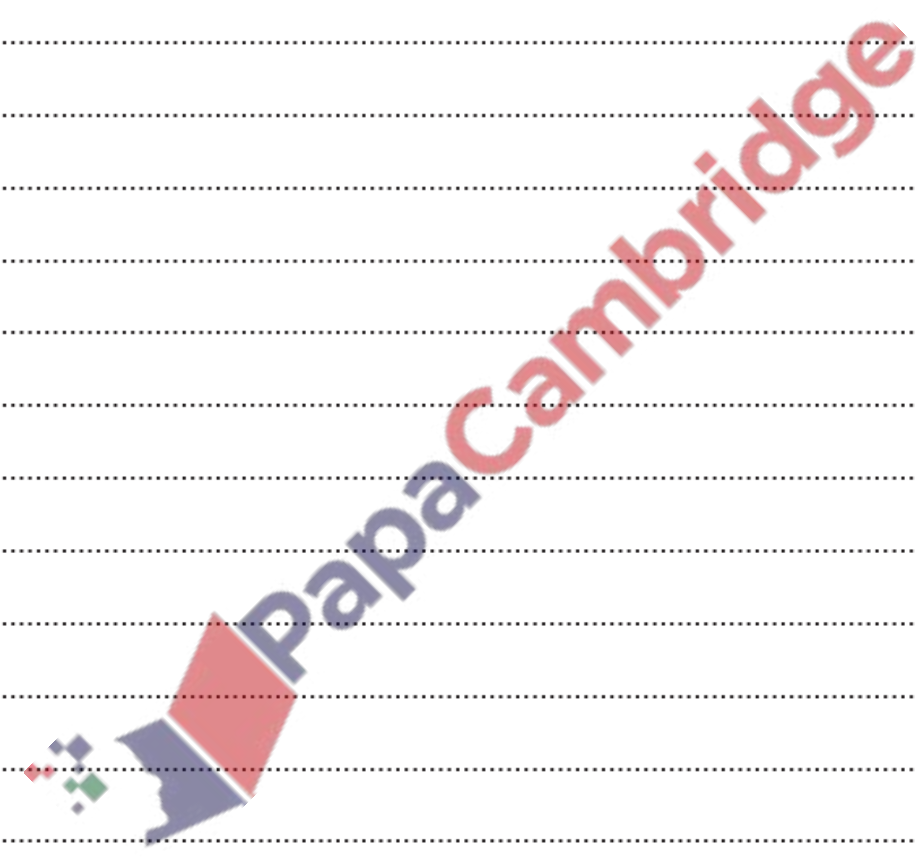
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**(c)** Describe the features that could be used to make the ePublication attractive to a younger audience.

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9. Nov/2023/Paper\_0417/11/No.11

Many Automatic Teller Machines (ATM) allow customers to print out mini statements of their bank accounts.

Describe the inputs and processing involved in printing out a mini statement.

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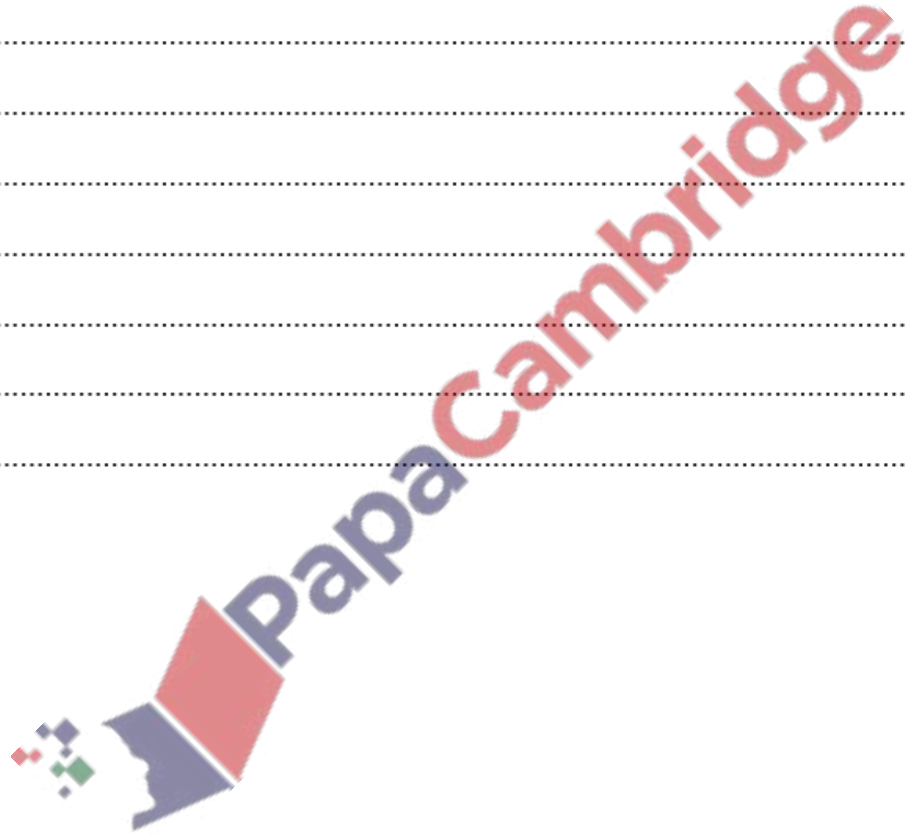
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10. Nov/2023/Paper\_0417/12/No.7

A video of a race can be recorded using a camera either on an autonomous flying vehicle (drone) or in a helicopter. A person would be needed in the helicopter to operate the camera.

Describe **two** advantages and **two** disadvantages of using an autonomous flying vehicle (drone) to record the video of the race.

Advantage 1 .....

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Advantage 2 .....

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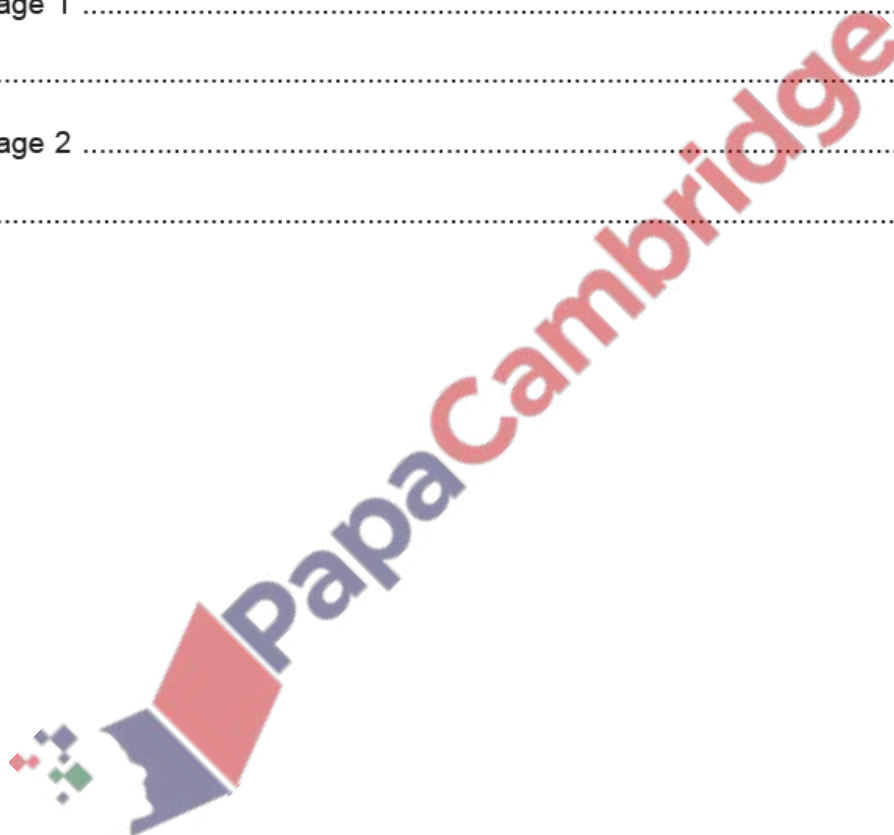
Disadvantage 1 .....

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Disadvantage 2 .....

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A clothing retailer only sells its clothes on the internet.

(a) Discuss the benefits and drawbacks to the clothing retailer of using internet shopping.

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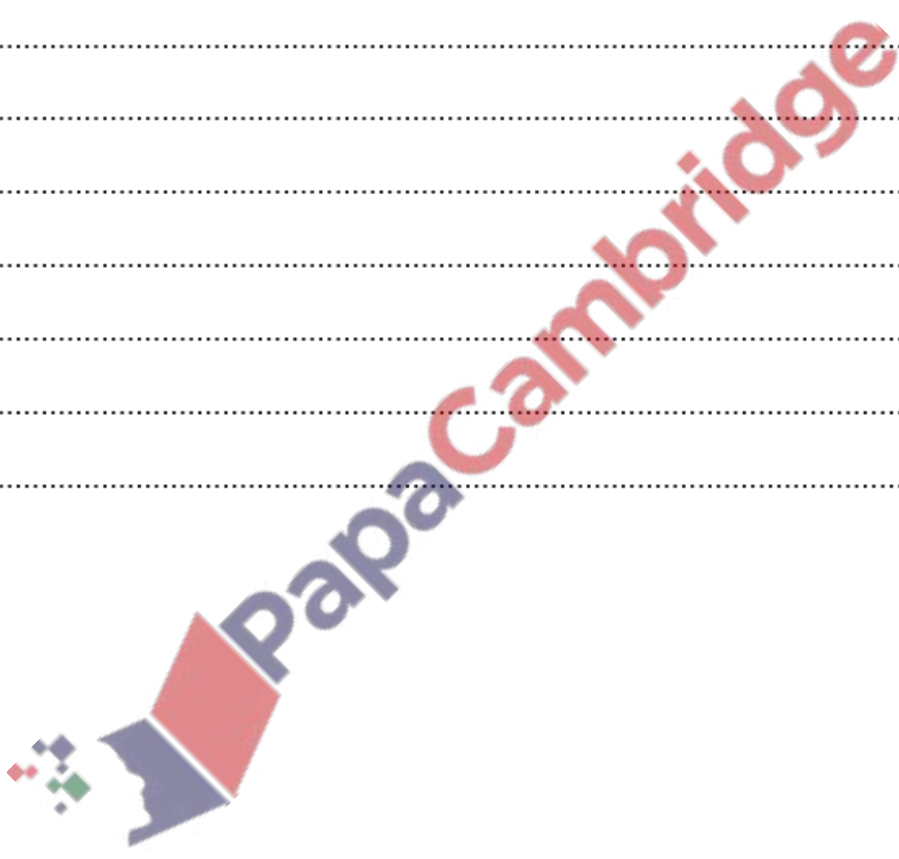
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A computer model can be used to design and test a bridge before it is built.

Discuss the benefits and drawbacks of using a computer model before building a bridge.

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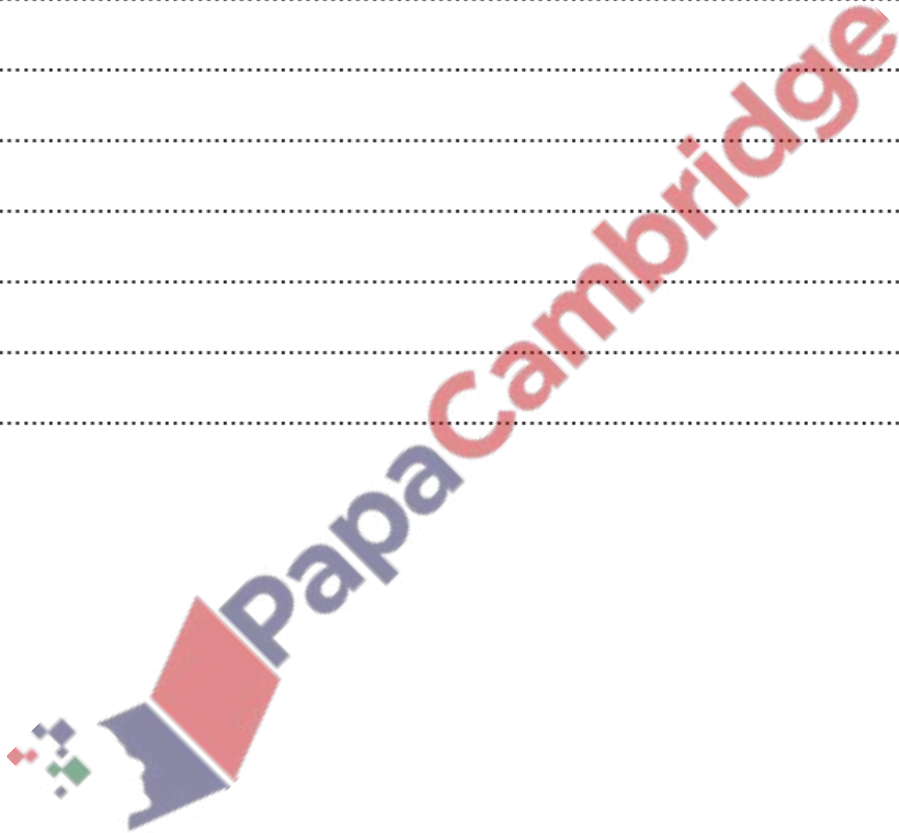
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Many devices in the home can be connected to the internet so they can be controlled remotely. These devices are called smart devices. A house contains a smart security system.

- (c) Part of the smart security system involves an automatic gate for vehicles approaching the house. There is a CCTV camera at the gate and the smart security system has software for recognising each vehicle's number plate.

Explain how automatic number plate recognition (ANPR) systems work.

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- (d) Describe **three** problems that could occur when the ANPR system reads a vehicle number plate.

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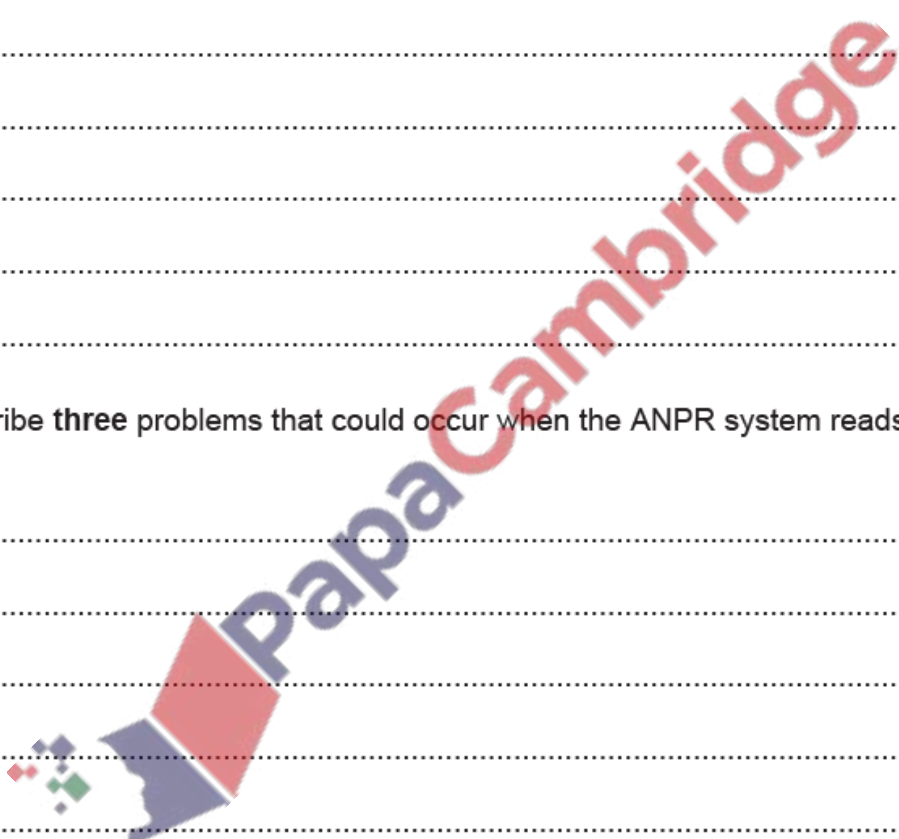
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An expert system is used to help to locate an underground water source.

(a) Describe the following components of an expert system.

(i) User interface

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(ii) Knowledge base

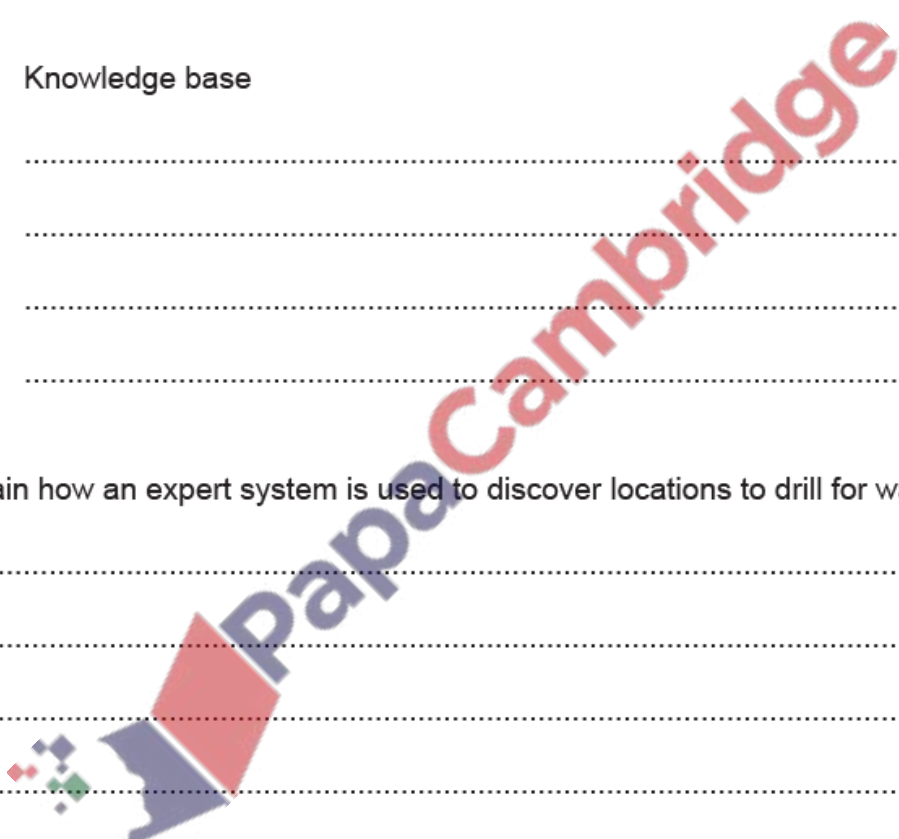
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(b) Explain how an expert system is used to discover locations to drill for water.

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15. March/2024/Paper\_0417/12/No.13

Smart devices and microprocessors can monitor and control devices in the home.

Describe, giving examples, the negative effects of using these smart devices.

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