

1. Nov/2021/Paper_31/No.2

QR codes are two-dimensional bar codes (matrix bar codes) representing information about items to which they are attached. An example of a QR code is shown:



(a) Describe the functional elements of a QR code.

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(b) Explain why damaged QR codes may still be read while damaged one-dimensional bar codes often cannot be read.

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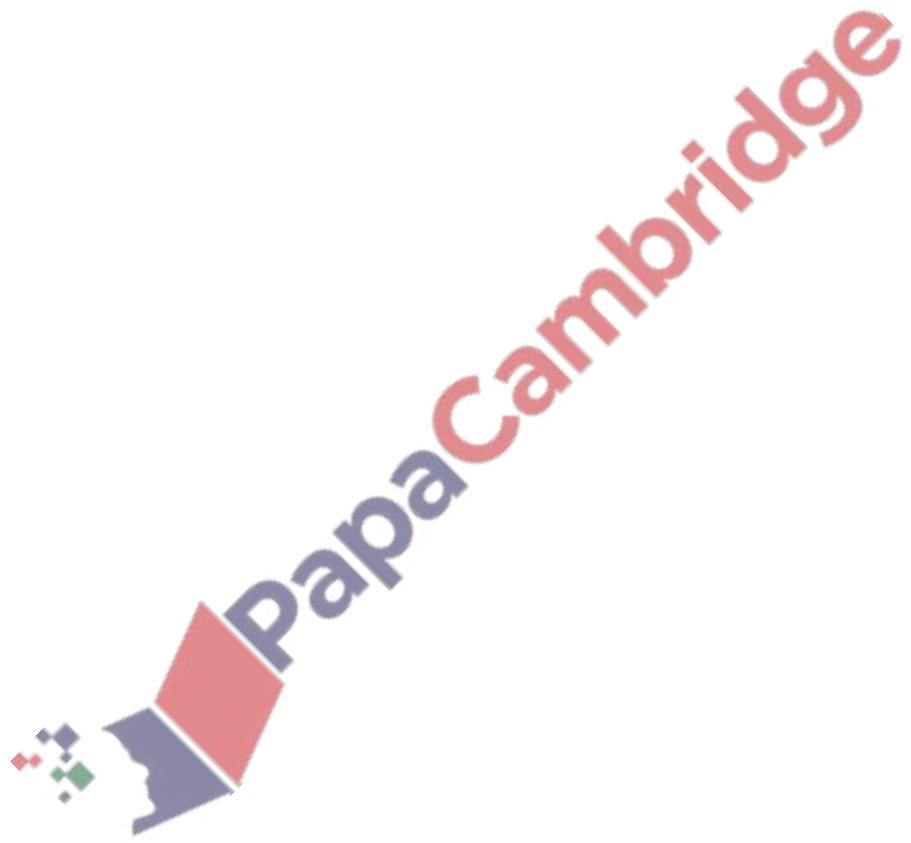
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The global positioning system (GPS) is a network of satellites orbiting the Earth. It is used by devices such as a 'satnav' in a delivery vehicle that assists the driver in finding destinations.

- (a) Describe the benefits and drawbacks of the use of a satnav with GPS by the driver of a delivery vehicle.

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- (b) Explain why the satnav may not be able to provide an accurate location.

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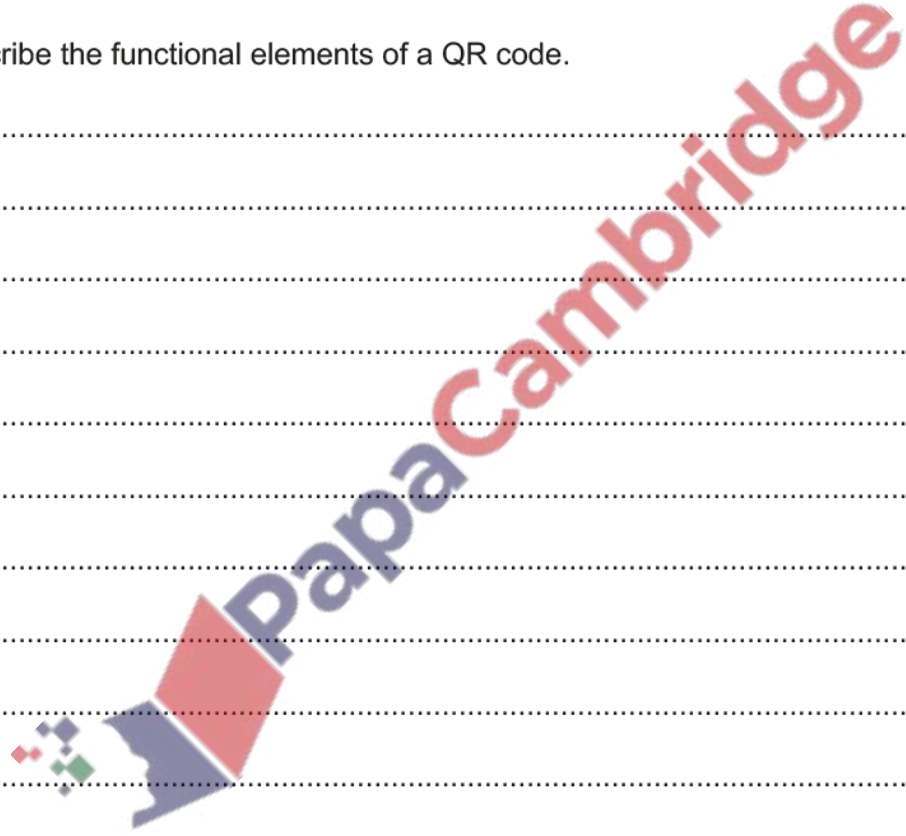
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(b) Explain why damaged QR codes may still be read while damaged one-dimensional bar codes often cannot be read.

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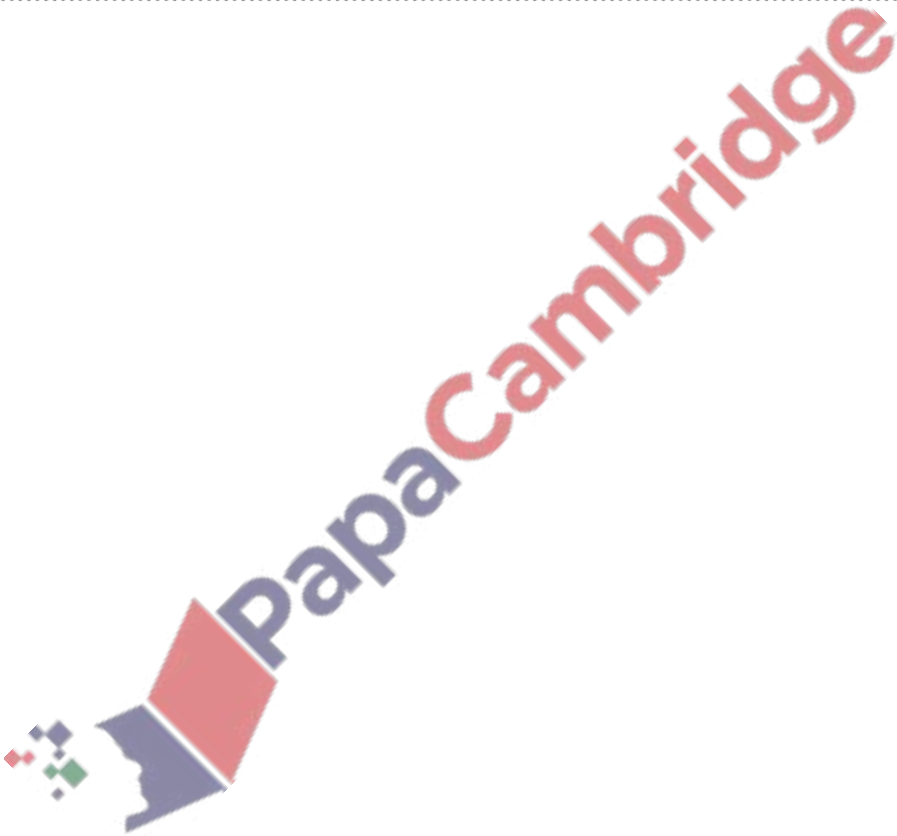
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(a) Tick the most accurate statement referring to a gesture-based interface.

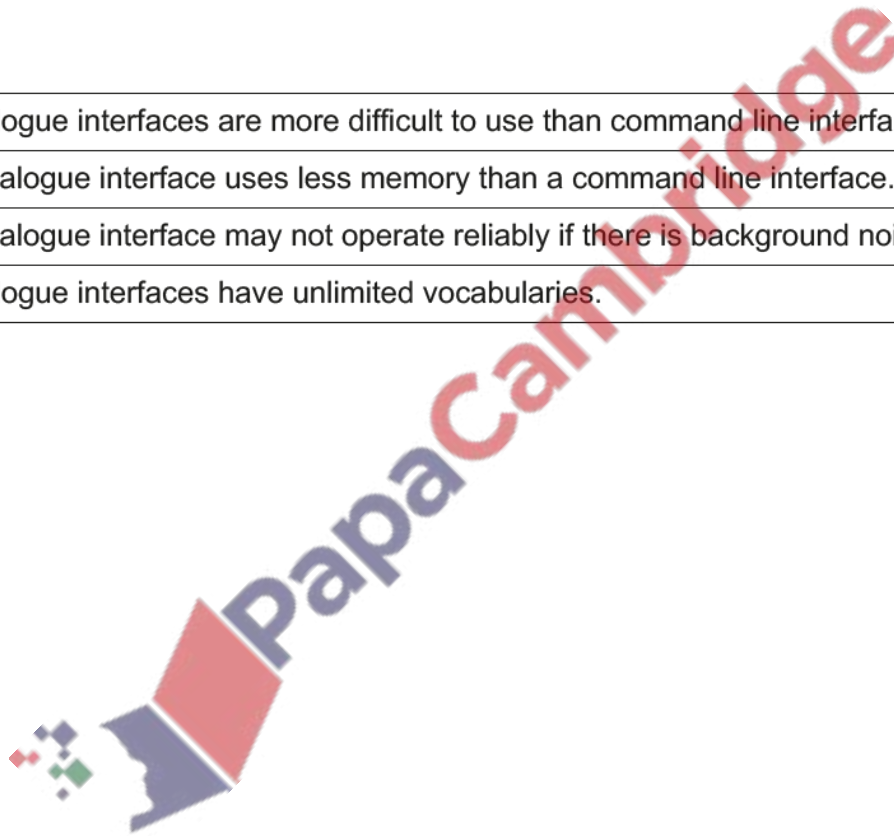
	✓
It is easier for users with physical disabilities to use a keyboard or mouse than make gestures.	
It is easier to enter text with a gesture-based interface than with a command line interface.	
Gestures are more accurately interpreted than mouse clicks.	
Some gestures may be unintentional but still initiate a reaction from the device.	

[1]

(b) Tick the most accurate statement referring to a dialogue interface.

	✓
Dialogue interfaces are more difficult to use than command line interfaces.	
A dialogue interface uses less memory than a command line interface.	
A dialogue interface may not operate reliably if there is background noise.	
Dialogue interfaces have unlimited vocabularies.	

[1]



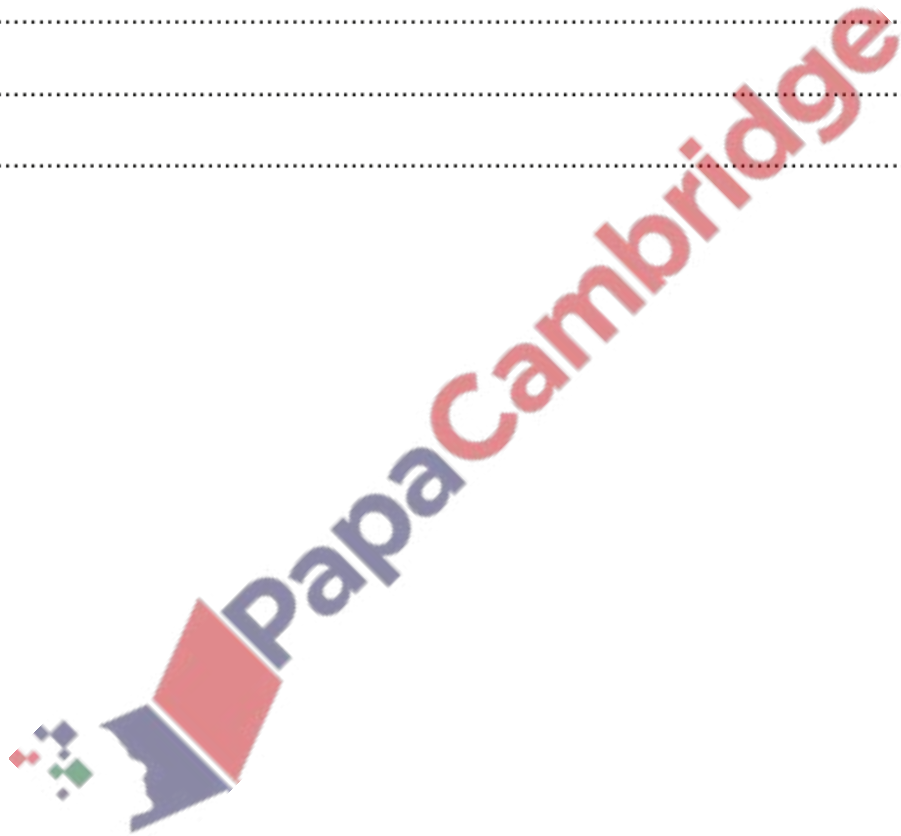
A printed newspaper is regarded as a source of static data.

(a) Give **two** other examples of sources of static data.

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(b) Explain why a printed newspaper is regarded as a source of static data.

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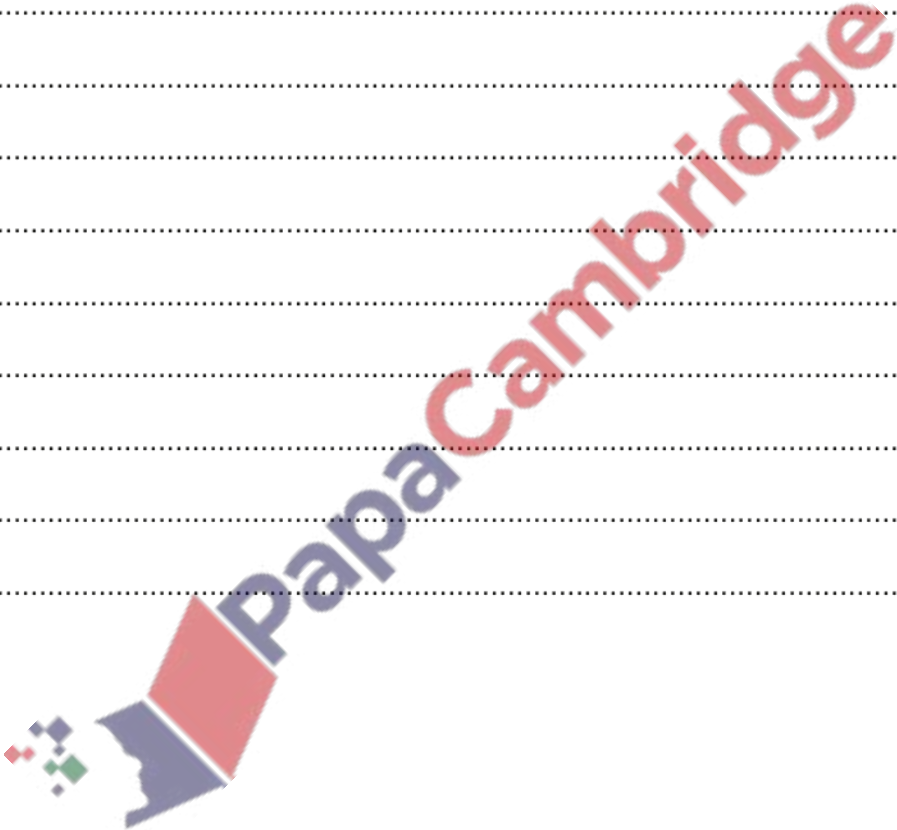


15. June/2021/Paper_32/No.13

Bluetooth and infrared can both be used to send data between devices.

Contrast, by describing the differences between, the use of Bluetooth and the use of infrared for transmitting data between devices.

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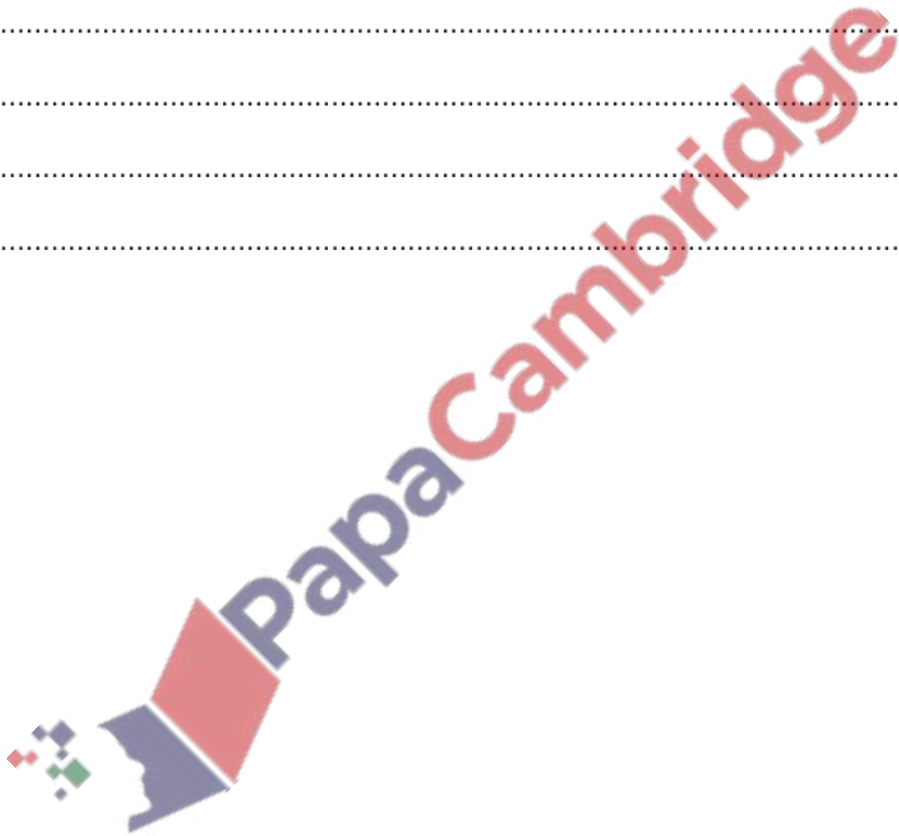
[6]

(a) Describe bit streaming.

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(b) Describe the differences between real-time bit streaming and on demand bit streaming.

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20. Nov/2020/Paper_33/No.1

LANs and WANs use protocols to send, receive and route data across networks.

Describe, in detail, each of the following protocols.

(a) Dynamic Host Configuration Protocol (DHCP)

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(b) BitTorrent

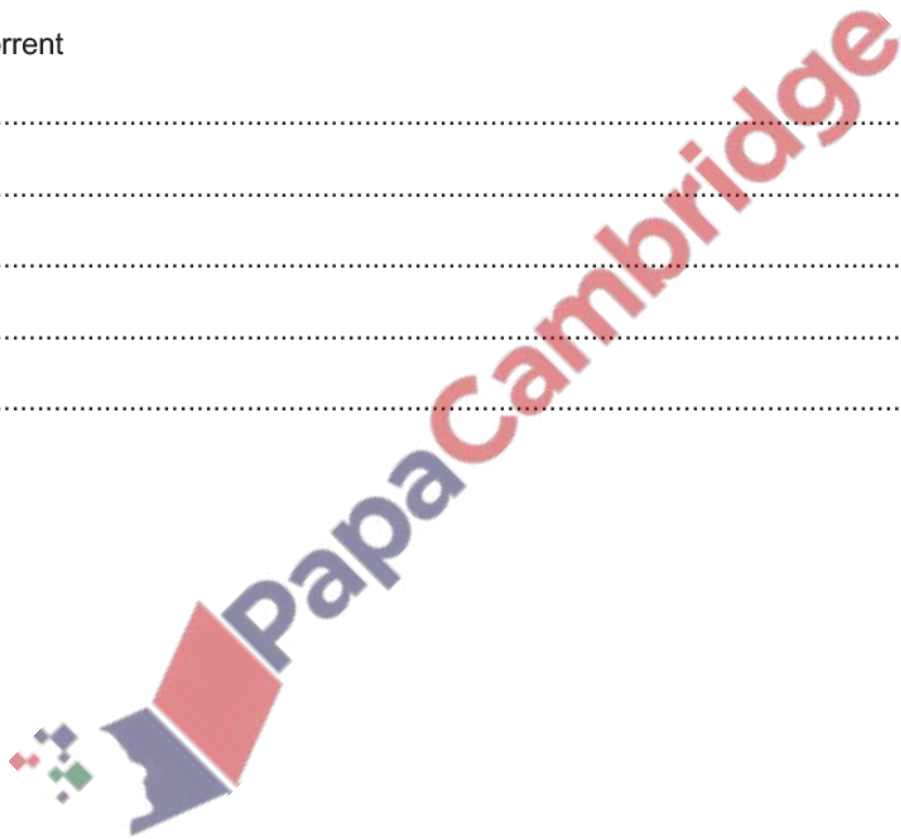
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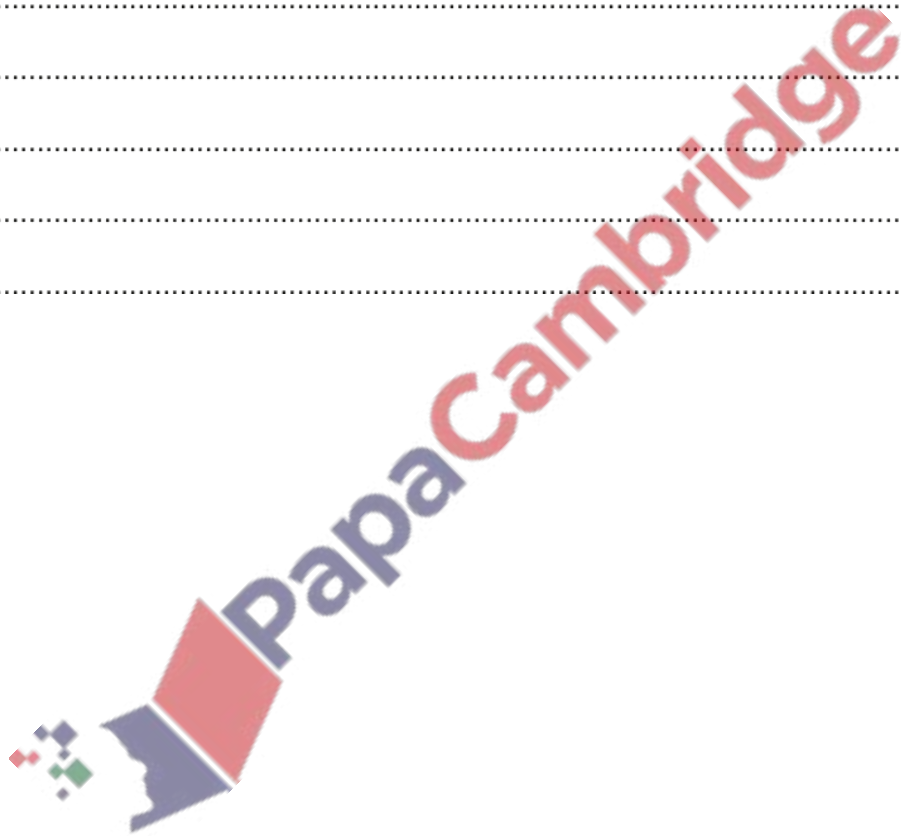


(c) User Datagram Protocol (UDP)

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(d) Transmission Control Protocol (TCP)

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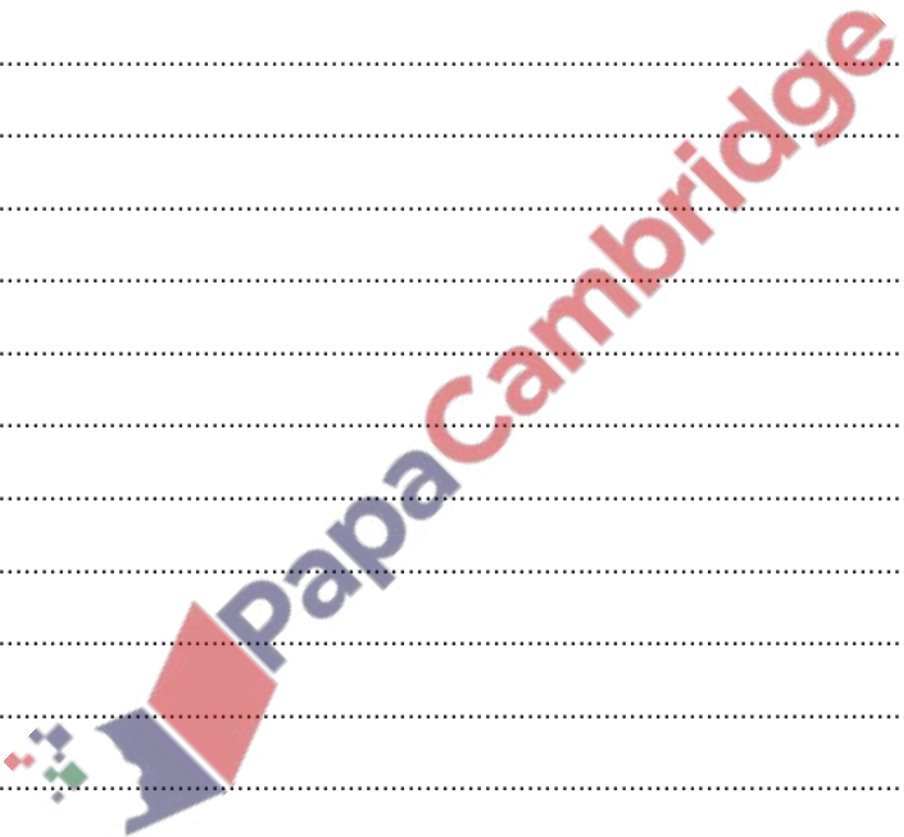


21. Nov/2020/Paper_33/No.4

A company employs a large number of teleworkers.

Discuss the effects of teleworking on the workers.

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[8]

22. June/2020/Paper_31/No.1

(a) Describe how computer-controlled 3D printing creates objects.

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(b) Describe, with examples, how 3D printing can be used in medicine by surgeons when treating patients.

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23. June/2020/Paper_31/No.2

Ultra-high definition television is available from video streaming services over the internet.

- (a) Describe the features of ultra-high definition television systems that improve the viewing experience.

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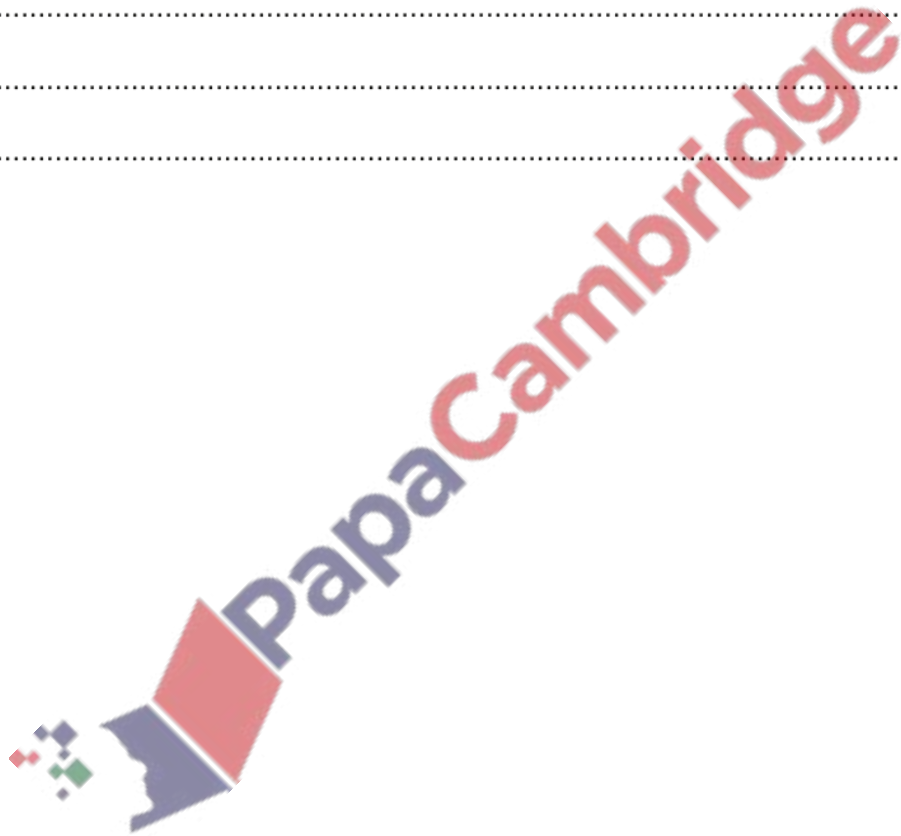
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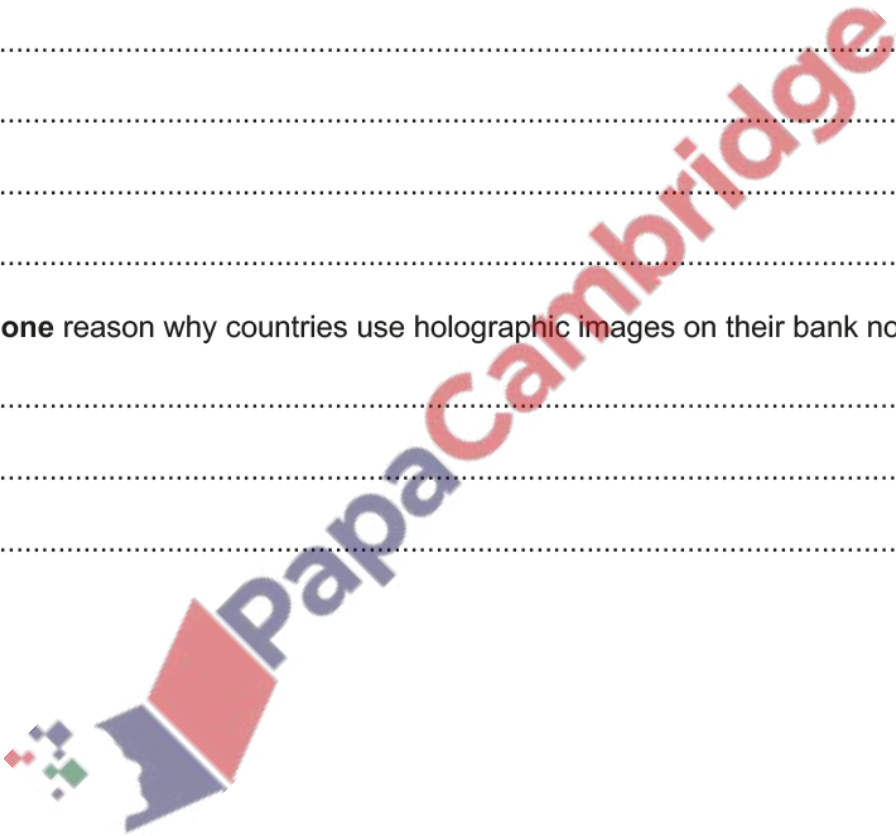
Many countries use holographic images on their bank notes.

(a) Describe how a holographic image is created.

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(b) Give **one** reason why countries use holographic images on their bank notes.

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(c) Describe **two** other uses of holographic imaging.

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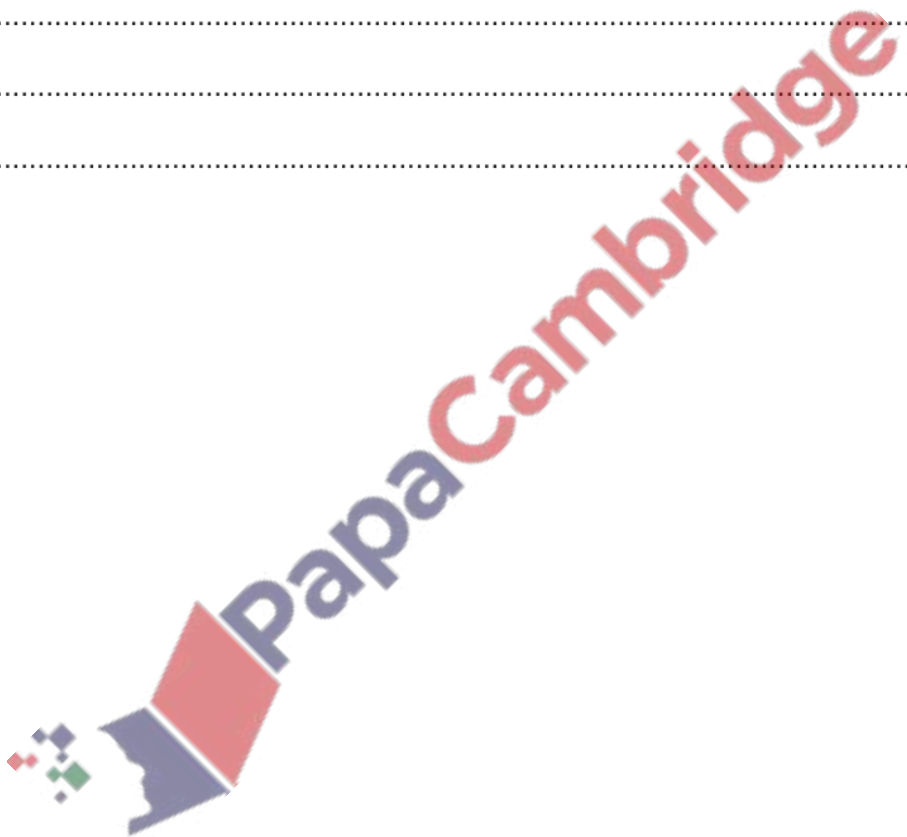
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(a) Describe how computer-controlled 3D printing creates objects.

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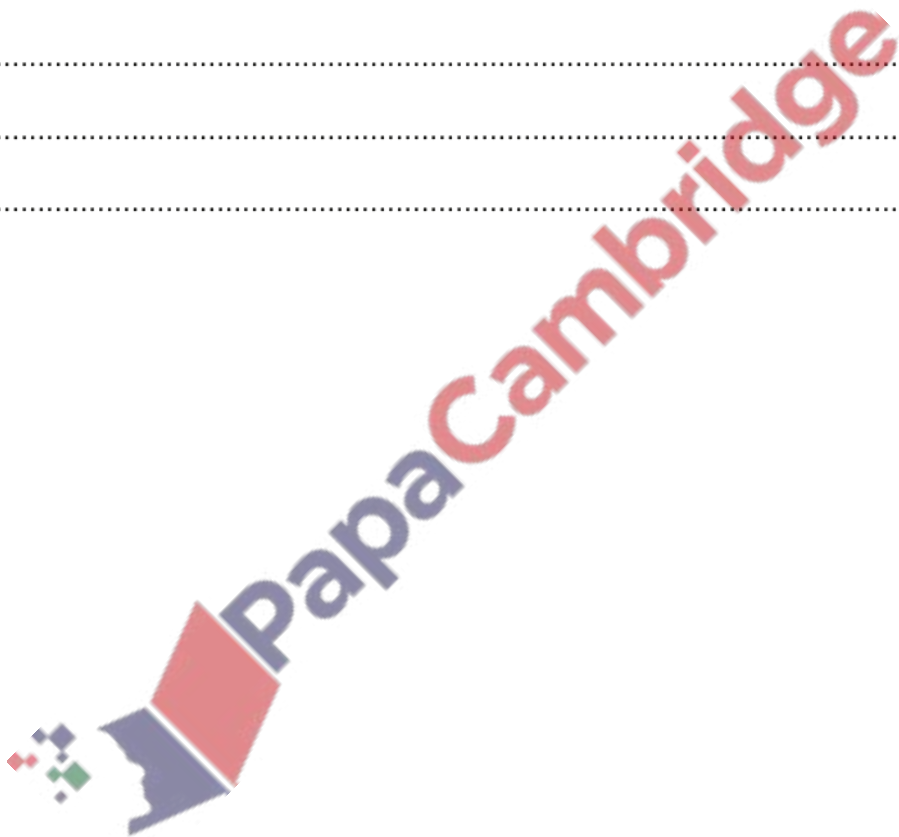
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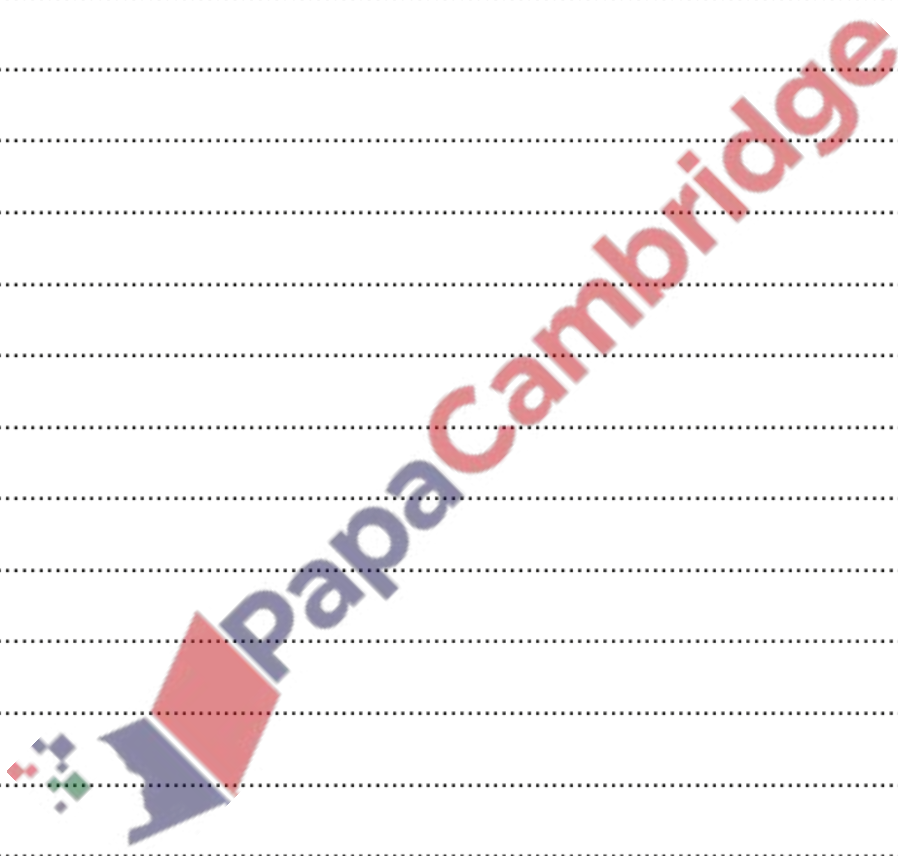
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- (b) Analyse how the different types of transmission media used by internet service providers affect the availability of ultra-high definition television to their customers.

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