## New and emerging technologies – A2 9626

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:



` '	Describe the functional elements of a QR code.
	<i>(</i> *)
	[5]

(b)	Explain why damaged QR codes may still be read while damaged one-dimensional bar codes often cannot be read.
	[3]
	Palpa Carribridde

Digital currencies, such as Bitcoin and Litecoin, can be used to pay for goods and services.
Analyse the effectiveness of digital currencies as a method of payment.
100
[7

**2.** Nov/2021/Paper\_31/No.6

3.	Nov/2021/Paper_31/No.12
	Describe how augmented reality could be used by firefighters.
	[6]
	Pale.

Robotic technology is used in the car manufacturing industry.
Describe how robotics are used in the car manufacturing industry.
[7]

**4.** Nov/2021/Paper\_32/No.5

5.	Nov/2021/Paper_32/No.8  Describe the benefits and drawbacks of using microblogs for social networking.
	[6

3D printing is a manufacturing method in which objects are made by fusing or depositing materials. It is used in the fields of medicine and manufacturing.
Discuss the benefits and drawbacks of using 3D printing.
[8]
[δ]

**6.** Nov/2021/Paper\_32/No.10

dev	evices 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.	
	[6]	
(b)	Explain why the satnav may not be able to provide an accurate location.	
	[2]	

The global positioning system (GPS) is a network of satellites orbiting the Earth. It is used by

**7.** Nov/2021/Paper\_32/No.12

## **8.** Nov/2021/Paper\_33/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.	
	0.0	
	•••	
		[6

(b)	Explain why damaged QR codes may still be read while damaged one-dimensional bar codes often cannot be read.
	[3]
	Palpacantibilities Palpacantibil

Digital currencies, such as Bitcoin and Litecoin, can be used to pay for goods and services.
Analyse the effectiveness of digital currencies as a method of payment.
***
[7

**9.** Nov/2021/Paper\_33/No.6

#### **10.** Mar/2021/Paper\_32/No.2

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

	1
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.

	1
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]



Evaluate, by weighing up the advantages and disadvantages, a CLI compared to a graphica user interface (GUI).
[8]

(c) Many software developers use a command line interface (CLI).

#### 11. Mar/2021/Paper\_32/No.3

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

.....

(a) Give two other examples of sources of static data. ......[1] (b) Explain why a printed newspaper is regarded as a source of static data. .....

Palpacalitio

12.	Mar/2021/Paper_32/No.6
	Some people use modern technology in their everyday lives. Explain how aspects of such modern technology influence the digital divide.
	[8]

John wants to know how a Global Positioning System (GPS) works. He currently thinks that a GPS satellite calculates the position of a car and sends a signal telling the car what its position is.
John discovers that this is incorrect.
Explain how a GPS actually works.
[5]

13. June/2021/Paper\_31/No.13

Ferdinand shops online using his credit card. Ferdinand has noticed that fraudulent transactions have appeared on his credit card statement.
Describe how it is possible for Ferdinand to be subjected to fraud when using his credit card for online shopping.
40
[6]

**14.** June/2021/Paper\_32/No.3

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.
[6]

15. June/2021/Paper\_32/No.13

<b>16.</b> June,	/2021/Paper_32/No.14
(a)	Describe bit streaming.
	[1]
(b)	Describe the differences between real-time bit streaming and on demand bit streaming.
	Palpa Califilia

GPS satellite calculates the position of a car and sends a signal telling the car what its position is.
John discovers that this is incorrect.
Explain how a GPS actually works.

John wants to know how a Global Positioning System (GPS) works. He currently thinks that a

**17.** June/2021/Paper\_33/No.13

18.	Nov/2020/Paper_32/No.6
	Discuss the advantages and disadvantages of using data mining to analyse social trends.
	**
	[8]

Nov/2020/Paper_32/No.8  Describe how robotics are being used in space exploration.

19.

## **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)
	[2]
b)	BitTorrent
	[2]
	Palpa Palpa

(c)	User Datagram Protocol (UDP)
	[2]
(d)	Transmission Control Protocol (TCP)
	[21
	Palpa Call

A company employs a large number of teleworkers.
Discuss the effects of teleworking on the workers.
- 0,
30
60
<b>10.0</b>
T <sub>i</sub>

21. Nov/2020/Paper\_33/No.4

<b>22</b> .	June	/2020/Paper_31/No.1
		Describe how computer-controlled 3D printing creates objects.
		[4]
	(b)	Describe, with examples, how 3D printing can be used in medicine by surgeons when treating patients.
		***

# 

(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.
	[8]

24.		/2020/Paper_32/No.2 ny countries use holographic images on their bank notes.
	(a)	Describe how a holographic image is created.
		[4
	(b)	Give one reason why countries use holographic images on their bank notes.
		[1

(c)	Describe <b>two</b> other uses of holographic imaging.
	Palpa Califibrii

1	By weighing up the advantages and disadvantages, evaluate the impact of tissue engineering medicine.
	. 0

(a)	Describe how computer-controlled 3D printing creates objects.
	[4]
(b)	Describe, with examples, how 3D printing can be used in medicine by surgeons when treating patients.
	***

**26.** June/2020/Paper\_33/No.1

# **27.** June/2020/Paper\_33/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.
	Palpa Califila

(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.
	[8]