

Write your name here

Surname

Other names

Edexcel
Principal Learning

Centre Number

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Candidate Number

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Information Technology

Level 2

Unit 1: The Potential of Technology

Friday 11 January 2013 – Afternoon

Time: 1 hour

Paper Reference

IT201/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.

Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets
– use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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Turn over ►

PEARSON

ALL questions must be answered with a cross in a box ☒.

If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Supermarkets use a range of technology systems in their stores.

(a) Loyalty card schemes are used by supermarkets to encourage customers to return to their stores.

(i) When a customer uses a loyalty card data is collected.

This data can be used by the supermarket to:

(1)

A	discount the prices of all items	<input type="checkbox"/>
B	analyse an individual's purchases	<input type="checkbox"/>
C	analyse sales of all 'own brand' items	<input type="checkbox"/>
D	monitor checkout operators	<input type="checkbox"/>

(ii) **One** advantage to customers of joining a loyalty card scheme is that they will:

(1)

A	be able to pay using a variety of different methods	<input type="checkbox"/>
B	save time shopping by using self-service checkouts	<input type="checkbox"/>
C	be offered a wider range of items to purchase	<input type="checkbox"/>
D	receive discount vouchers based on previous purchases	<input type="checkbox"/>

(b) EFTPOS systems are used widely in supermarkets.

(i) Which device is used as part of an EFTPOS system to read the electronic data from a customer's payment card?

(1)

A	Barcode scanner	<input type="checkbox"/>
B	Chip and PIN reader	<input type="checkbox"/>
C	Magnetic ink reader	<input type="checkbox"/>
D	Biometric scanner	<input type="checkbox"/>



(ii) **One** benefit to a supermarket of EFTPOS systems is that:

(1)

A	the performance of the checkout operator can be monitored	<input type="checkbox"/>
B	revenue can be increased by charging for card transactions	<input type="checkbox"/>
C	cash transactions can be processed faster	<input type="checkbox"/>
D	there is less risk of fraud as the transactions are secure	<input type="checkbox"/>

(c) Self-service checkouts are also available in most supermarkets.

(i) Which **one** of these statements is accurate?

Self-service checkouts:

(1)

A	do not need monitoring by supermarket staff	<input type="checkbox"/>
B	benefit the supermarket as fewer errors are made	<input type="checkbox"/>
C	enable supermarkets to extend opening hours	<input type="checkbox"/>
D	benefit the supermarket as fewer staff are needed	<input type="checkbox"/>

(ii) When using a self-service checkout customers place their items in a 'bagging area'.

Name the device used to identify when an item is placed in the bagging area.

(1)

A	Sensor	<input type="checkbox"/>
B	Touch screen	<input type="checkbox"/>
C	Control device	<input type="checkbox"/>
D	Scanner	<input type="checkbox"/>



(d) EPOS systems are also used in supermarkets.

Many EPOS systems use a Local Area Network (LAN) to link the terminals to a central computer in the store.

Identify which **four** of the following statements are correct.

LANs:

(4)

A	must have a telephone connection	<input type="checkbox"/>
B	improve the quality of external communications	<input type="checkbox"/>
C	can transfer data using radio waves	<input type="checkbox"/>
D	can be accessed by both wired and wireless devices	<input type="checkbox"/>
E	improve the quality of internal communications	<input type="checkbox"/>
F	must have an internet connection	<input type="checkbox"/>
G	reduce the need for security measures	<input type="checkbox"/>
H	can connect to the internet using a router	<input type="checkbox"/>

(Total for Question 1 = 10 marks)



2 *Clearvue* is a cinema complex.

Customers can buy tickets in a variety of ways.

(a) One way of buying tickets is using self-service machines in the cinema complex.

(i) Identify the components that would be part of the self-service machines.

(1)

A	Monitor, touch screen, card reader, printer	<input type="checkbox"/>
B	Sensor, keypad, card reader, scanner	<input type="checkbox"/>
C	Touch screen, keypad, card reader, printer	<input type="checkbox"/>
D	Touch screen, sensor, card reader, printer	<input type="checkbox"/>

(ii) *Clearvue* offers reduced price tickets to people under the age of sixteen.

They cannot buy these tickets from the self-service machines.

One reason why they cannot use the machines is that they:

(1)

A	do not have the necessary experience	<input type="checkbox"/>
B	must provide proof of age	<input type="checkbox"/>
C	may damage the machines	<input type="checkbox"/>
D	must have their parents' permission	<input type="checkbox"/>

(b) Customers can also buy tickets online. Online bookings are confirmed by email.

(i) **One** benefit to *Clearvue* of having an online booking system is that:

(1)

A	staff will be able to work from home	<input type="checkbox"/>
B	communication with staff will be improved	<input type="checkbox"/>
C	costs of premises will be reduced	<input type="checkbox"/>
D	it will gain customers from a wider area	<input type="checkbox"/>



(ii) **One** benefit to customers of being able to book online rather than at the cinema is that they:

(1)

A	can select the screening they want to see	<input type="checkbox"/>
B	can make the booking at any convenient time	<input type="checkbox"/>
C	save money travelling to the cinema	<input type="checkbox"/>
D	can read previews of the films	<input type="checkbox"/>

(iii) An internet connection is needed to book tickets online.

Other requirements are:

(1)

A	ISP, web browser, communication software	<input type="checkbox"/>
B	web browser, communication software, printer	<input type="checkbox"/>
C	ISP, web browser, application software	<input type="checkbox"/>
D	ISP, communication software, printer	<input type="checkbox"/>

(iv) Customers can collect their tickets from the automatic ticket machines.

What item of data **must** be entered to allow ticket collection?

(1)

A	Customer's name	<input type="checkbox"/>
B	Date of performance	<input type="checkbox"/>
C	Confirmation number	<input type="checkbox"/>
D	Date of booking	<input type="checkbox"/>



(c) Buying cinema tickets online is one of the many benefits that individuals have gained from the introduction of new technologies.

Identify **four** other benefits arising from new technologies.

(4)

A	Individuals are now fully aware of the data held about them	<input type="checkbox"/>
B	Many individuals have been given the opportunity to change working patterns	<input type="checkbox"/>
C	Individuals can make a more informed decision by accessing a wider range of information	<input type="checkbox"/>
D	Individuals can communicate easily with other like-minded individuals	<input type="checkbox"/>
E	Legislation ensures that individuals no longer need to worry about personal data security	<input type="checkbox"/>
F	Measures to reduce computer misuse have become less effective	<input type="checkbox"/>
G	Organisations have reduced the amount of data held about individuals	<input type="checkbox"/>
H	Many individuals have been given the opportunity to develop additional skills	<input type="checkbox"/>

(Total for Question 2 = 10 marks)



3 ATMs are a convenient way for customers to withdraw cash from bank accounts.

(a) In order to withdraw cash a customer must insert a card into a reader.

Where on the card can electronic data be stored?

(1)

A	Hologram and printed account number	<input type="checkbox"/>
B	Micro chip and magnetic stripe	<input type="checkbox"/>
C	Hologram and magnetic stripe	<input type="checkbox"/>
D	Micro chip and printed account number	<input type="checkbox"/>

(b) In order to access the system customers must enter their:

(1)

A	sort code number	<input type="checkbox"/>
B	account number	<input type="checkbox"/>
C	user name	<input type="checkbox"/>
D	personal identity number	<input type="checkbox"/>

(c) The information read from the card is transmitted electronically from the ATM to the bank's central computer via a:

(1)

A	wide area network	<input type="checkbox"/>
B	telephone system	<input type="checkbox"/>
C	mobile technology system	<input type="checkbox"/>
D	local area network	<input type="checkbox"/>



(d) The bank must ensure that the electronic data is transmitted securely.

One method used to secure data during transmission is:

(1)

A	decoding	<input type="checkbox"/>
B	validation	<input type="checkbox"/>
C	cloning	<input type="checkbox"/>
D	encryption	<input type="checkbox"/>

(e) A customer using an ATM should take steps to minimise the risk of identity theft.

Which **one** of these is sensible advice to follow?

(1)

A	Make sure no one sees you enter your details and only accept help from strangers if you have a problem	<input type="checkbox"/>
B	If your details are not accepted ask someone to check that you are entering them correctly	<input type="checkbox"/>
C	Make sure no one sees you enter your details and never accept help from strangers even if you have a problem	<input type="checkbox"/>
D	If you see anything unusual about the ATM complete your transaction and inform the bank	<input type="checkbox"/>

(f) **One** benefit to a bank of having an ATM outside its premises is that it can:

(1)

A	charge customers for the transactions	<input type="checkbox"/>
B	reduce the number of staff	<input type="checkbox"/>
C	introduce different types of accounts	<input type="checkbox"/>
D	reduce the amount of cash held	<input type="checkbox"/>



(g) Many banks offer online banking facilities for their customers.

This has had an impact on the banks, their staff and customers.

Identify which **four** of the following statements are correct.

Online banking:

(4)

A	has resulted in different job roles for many bank staff	<input type="checkbox"/>
B	enables banks to reduce costs by storing less personal data	<input type="checkbox"/>
C	is available to all individuals	<input type="checkbox"/>
D	enables banks to increase profits by increasing charges to customers	<input type="checkbox"/>
E	is accessible using both wired and wireless devices	<input type="checkbox"/>
F	improves the security of customers' personal data	<input type="checkbox"/>
G	improves the profitability of banks by reducing the number of high street branches	<input type="checkbox"/>
H	gives banks access to a wider customer base	<input type="checkbox"/>

(Total for Question 3 = 10 marks)



4 *Hiking Heaven* sells clothes and hiking equipment using the internet.

Customers order clothes via the *Hiking Heaven* website.

(a) An effective website will help promote the brand image and:

(1)

A	improve employees' productivity	<input type="checkbox"/>
B	gain a competitive edge over competitors	<input type="checkbox"/>
C	improve internal communications	<input type="checkbox"/>
D	reduce the company overheads	<input type="checkbox"/>

(b) Customers buying goods over the internet should take steps to ensure that their personal data is kept secure.

Which **one** of these will prevent unauthorised access?

(1)

A	Email filter	<input type="checkbox"/>
B	Anti-virus software	<input type="checkbox"/>
C	Filtering software	<input type="checkbox"/>
D	Firewall	<input type="checkbox"/>

(c) Identify the legislation which relates to the unauthorised access of computer systems.

(1)

A	Data Protection Act	<input type="checkbox"/>
B	Computer Protection Act	<input type="checkbox"/>
C	Data Misuse Act	<input type="checkbox"/>
D	Computer Misuse Act	<input type="checkbox"/>



(d) Some customers are reluctant to buy goods online as they are worried about the security of their payment details.

Which **one** of the following indicates that the website is secure?

(1)

A	www://hikingheaven.co.uk	<input type="checkbox"/>
B	http://hikingheaven.co.uk	<input type="checkbox"/>
C	https://hikingheaven.co.uk	<input type="checkbox"/>
D	wwws://hikingheaven.co.uk	<input type="checkbox"/>

(e) When customers order goods they complete an online form.

The data is entered automatically into *Hiking Heaven's* computer system.

(i) Identify the software used to store the details.

(1)

A	A database, which is an application package	<input type="checkbox"/>
B	A spreadsheet, which is an application package	<input type="checkbox"/>
C	A database, which is an operating system	<input type="checkbox"/>
D	A spreadsheet, which is an operating system	<input type="checkbox"/>

(ii) Identify the benefit of using this method of automated data capture.

(1)

A	Less data is needed	<input type="checkbox"/>
B	Data will be more secure	<input type="checkbox"/>
C	More data can be processed	<input type="checkbox"/>
D	Data will be more accurate	<input type="checkbox"/>



(f) Selling goods over the internet has an impact on both the company and the customer.

Which **four** of the following statements are correct?

(4)

A	Customers can readily compare prices from many online retailers	<input type="checkbox"/>
B	Companies always pass on savings in overheads to the customers	<input type="checkbox"/>
C	Companies do not increase their profits by charging for delivery	<input type="checkbox"/>
D	Companies can improve profitability by taking advantage of global markets	<input type="checkbox"/>
E	The online sale of goods is well regulated	<input type="checkbox"/>
F	Customers can contribute to the quality of goods by posting reviews on company websites	<input type="checkbox"/>
G	Companies can target individual customers by reviewing previous purchases	<input type="checkbox"/>
H	The 24/7 availability of the internet ensures that everyone can benefit from online sales	<input type="checkbox"/>

(Total for Question 4 = 10 marks)



5 Congestion charging systems are used in many cities.

A roadside camera takes a photograph as a car enters the congestion charging zone.

(a) The registration number is captured by the camera.

(i) The data is checked against information held on a:

(1)

A	back up device	<input type="checkbox"/>
B	roadside camera memory	<input type="checkbox"/>
C	mobile data device	<input type="checkbox"/>
D	mainframe computer database	<input type="checkbox"/>

(ii) The system will identify the:

(1)

A	vehicle owner	<input type="checkbox"/>
B	date of manufacture	<input type="checkbox"/>
C	place of manufacture	<input type="checkbox"/>
D	vehicle driver	<input type="checkbox"/>

(iii) Other items of data are also recorded.

These are:

(1)

A	date, speed and location	<input type="checkbox"/>
B	time, date and speed	<input type="checkbox"/>
C	date, time and location	<input type="checkbox"/>
D	time, location and speed	<input type="checkbox"/>



(iv) This data is used to check that the:

(1)

A	congestion charge has been paid for the vehicle	<input type="checkbox"/>
B	driver has passed a driving test	<input type="checkbox"/>
C	vehicle has been serviced	<input type="checkbox"/>
D	owner has a 'clean' driving licence	<input type="checkbox"/>

(b) Congestion charging systems are used to reduce the amount of traffic in city centres.

Other traffic control systems are used to help traffic flow freely.

Which **one** of the following correctly identifies an input device and an output device in this type of system?

(1)

	Input	Output	
A	scanner	light	<input type="checkbox"/>
B	sensor	light	<input type="checkbox"/>
C	camera	button	<input type="checkbox"/>
D	sensor	monitor	<input type="checkbox"/>

(c) Many local authorities have websites, incorporating RSS feeds to local traffic information.

The RSS feed will:

(1)

A	reduce traffic congestion	<input type="checkbox"/>
B	save individuals' time searching for information	<input type="checkbox"/>
C	reduce the need to monitor traffic flow	<input type="checkbox"/>
D	provide alternative routes for drivers	<input type="checkbox"/>



(d) Local authorities are part of the public sector.

Their websites are important to both individuals and organisations.

Which **four** of the following statements are correct?

Four reasons for a local authority to have a website are to:

(4)

A	reduce the carbon footprint of the local authority by reducing energy consumption of buses	<input type="checkbox"/>
B	increase income by charging for the use of local amenities	<input type="checkbox"/>
C	save costs by providing online application systems for services	<input type="checkbox"/>
D	provide up to date information to residents about local services	<input type="checkbox"/>
E	monitor the use of local amenities	<input type="checkbox"/>
F	reduce the carbon footprint of the local authority by reducing printing	<input type="checkbox"/>
G	increase income by charging other local authorities for information	<input type="checkbox"/>
H	provide information to individuals about the area and local amenities	<input type="checkbox"/>

(Total for Question 5 = 10 marks)



6 Advances in technology have raised many issues for both individuals and society as a whole.

(a) Some people are concerned that technology systems are contributing to a loss of privacy.

Which **one** of these is **most** likely to lead to a loss of privacy?

(1)

A	CCTV systems, biometric controls, process controls	<input type="checkbox"/>
B	Biometric controls, RSS feeds, electronic storage of personal data	<input type="checkbox"/>
C	CCTV systems, biometric controls, electronic storage of personal data	<input type="checkbox"/>
D	Biometric controls, process controls, electronic storage of personal data	<input type="checkbox"/>

(b) One issue for society is referred to as the 'digital divide'.

Which **one** of these statements **best** describes the digital divide?

(1)

A	The gap between those with access to technology and those without	<input type="checkbox"/>
B	Differing laws on freedom of information between countries	<input type="checkbox"/>
C	The differing rate of economic growth between countries	<input type="checkbox"/>
D	The gap between individuals employed in the IT industry and those that are not	<input type="checkbox"/>



(c) Identify which **four** of these statements are correct.

(4)

A	Improved access to information can lead to people becoming more tolerant of other cultures	<input type="checkbox"/>
B	New technologies have enabled new methods of educational assessment to be developed	<input type="checkbox"/>
C	Poor telecommunication infrastructures have limited some societies' access to information	<input type="checkbox"/>
D	The introduction of new learning methods has improved education for all	<input type="checkbox"/>
E	Improved data security reduces governments' ability to monitor citizens' movements	<input type="checkbox"/>
F	Improved access to information has decreased the need for data security	<input type="checkbox"/>
G	All learning materials available on the internet have been verified by education authorities	<input type="checkbox"/>
H	Some governments place restrictions on the information that can be accessed by individuals	<input type="checkbox"/>



(d) The increasing use of technologies has had an impact on working practices.

Identify which **four** of these statements are correct.

(4)

A	Costs can be reduced when CAD/CAM systems are used in the manufacturing process	<input type="checkbox"/>
B	Industrial pollution is reduced when CAM systems are used in manufacturing	<input type="checkbox"/>
C	Changes in production methods will require some workers to be retrained	<input type="checkbox"/>
D	CAD/CAM systems are inexpensive and therefore overheads are reduced	<input type="checkbox"/>
E	CAM systems can operate in environments which would be hazardous to employees	<input type="checkbox"/>
F	It is difficult to modify designs produced using a CAD system	<input type="checkbox"/>
G	Fewer unskilled workers are needed where CAM systems are used to carry out repetitive tasks	<input type="checkbox"/>
H	Automated production methods reduce a company's responsibility for employees' health and safety	<input type="checkbox"/>

(Total for Question 6 = 10 marks)

TOTAL FOR PAPER = 60 MARKS



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