**Edexcel
Principal Learning**

Centre Number

Candidate Number

Information Technology

**Level 2
Unit 1: The Potential of Technology**

Wednesday 13 January 2010 – 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.

Turn over ▶

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Answer ALL questions 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 (a) EPOS systems are used in supermarkets.

Barcodes are scanned as part of the EPOS system.

Which **one** of the following statements is correct?

(1)

A	Barcodes are read by OCR scanners.	⊠
B	The price of an item is stored in the barcode.	⊠
C	An item can be uniquely identified by its barcode.	⊠
D	The barcode number cannot be entered manually.	⊠

(b) Which **four** of the following statements are correct?

EPOS systems:

(4)

A	enable supermarkets to operate a 'just-in-time' stock control system.	⊠
B	reduce theft from supermarkets as all items sold are scanned.	⊠
C	enable supermarkets to reduce the prices of all of their stock.	⊠
D	prevent supermarkets holding out-of-date stock.	⊠
E	enable supermarkets to reduce the amount of stock held.	⊠
F	enable supermarkets to set up automatic stock reordering.	⊠
G	increase the time customers spend queuing.	⊠
H	allow managers to monitor the efficiency of checkout operators.	⊠

(c) Some supermarkets use shelf-edge labelling systems.

Shelf-edge labelling systems are used to:

(1)

A	reduce the amount of stock on shelves.	☒
B	improve the efficiency of staff refilling shelves.	☒
C	improve the efficiency of checkout operators.	☒
D	increase the amount of stock on shelves.	☒

(d) Many supermarkets operate loyalty card schemes.

The electronic data stored on a customer's loyalty card is captured by a:

(1)

A	image scanner.	☒
B	touch screen.	☒
C	optical character reader.	☒
D	magnetic stripe reader.	☒

(e) Loyalty card schemes are used to encourage customers to return to the supermarket.

Customer data is analysed and this enables supermarkets to:

(1)

A	target marketing at individual customers.	☒
B	increase the range of items stocked.	☒
C	extend the opening hours.	☒
D	increase prices on items purchased.	☒

(f) Many supermarkets provide self-service checkouts. Customers scan and pack the items themselves.

Identify **one** accurate statement about self-service checkouts.

(1)

A	Customers need extensive training to use self-service checkouts.	☒
B	Self-service checkouts do not need monitoring by supermarket staff.	☒
C	Self-service checkouts enable supermarkets to extend opening hours.	☒
D	Self-service checkouts reduce the number of supermarket staff needed.	☒

(Total for Question 1 = 9 marks)

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2 Eezzee-Tunes is a chain of music stores offering a wide choice of music.

(a) Eezzee-Tunes has decided to set up a website which will allow customers to purchase and download music online.

One reason for setting up the website is to:

(1)

A	ensure customers' information is kept secure.	☒
B	gain an advantage over 'high street only' music retailers.	☒
C	improve communication within the company.	☒
D	increase prices charged to customers.	☒

(b) Identify **one** accurate statement about the introduction of the Eezzee-Tunes website.

(1)

A	Customers will be able to download music directly onto their computers.	☒
B	Customers will legally be able to sell copies to friends.	☒
C	The music will always be cheaper than that bought from stores.	☒
D	The quality of the downloaded music will always be better than the CD version.	☒

(c) Downloaded music is subject to copyright legislation.

Copyright legislation is set up to protect the rights of the:

(1)

A	downloader.	☒
B	retailer.	☒
C	owner.	☒
D	government.	☒

(d) Customers using the website will need to register with Eezzee-Tunes before buying music. They will need to select a user name and password.

Which **one** of the following will give the most secure password?

(1)

A	An eight digit password made up entirely of lower case letters.	☒
B	An eight digit password made up of upper case letters and numbers.	☒
C	A four digit password made up of upper and lower case letters and numbers.	☒
D	An eight digit password made up of upper and lower case letters and numbers.	☒

(e) The growth in the use of the internet has led to a greater risk of identity theft.

Which **one** of the following should be installed to reduce the risk of identity theft?

(1)

A	Firewall and anti-spyware.	☒
B	Firewall and anti-virus.	☒
C	Anti-virus and internet filter.	☒
D	Email filter and anti-spyware.	☒

(f) Online auction sites are a popular way of buying and selling items.

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

(4)

A	Items are always cheaper than those bought in shops.	☒
B	All items for sale are offered by private individuals.	☒
C	Prospective buyers can make and monitor bids over a period of time.	☒
D	Delivery charges must be paid by either the seller or the buyer.	☒
E	Secure methods of payment can be used to purchase items.	☒
F	All items carry a full quality guarantee.	☒
G	Items for sale may not always be brand new.	☒
H	Photographs are always an accurate representation of the items.	☒

(Total for Question 2 = 9 marks)

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3 Car manufacturers use technology in many different ways.

Computer Aided Design (CAD) is used to design new cars.

Computer Aided Manufacture (CAM) is used in the production process.

(a) Which **four** of the following statements are correct?

(4)

A	Accurate scaled designs, which can be viewed from different angles, can be produced using CAD software.	☒
B	CAD software can be used to calculate the petrol consumption of cars.	☒
C	CAD allows manufacturers to calculate the materials that will be needed in production.	☒
D	Designs drawn using CAD packages are not as accurate as manually drawn designs.	☒
E	Designs produced using CAD systems can be used to test how cars will perform in certain situations.	☒
F	CAD/CAM software is easy to use and very little training is needed.	☒
G	CAD systems reduce the time taken to manufacture cars.	☒
H	CAD/CAM systems can electronically link the design process to the manufacturing process.	☒

(b) Which **one** of the following is an accurate statement about CAM?

(1)

A	CAM systems play a large part in reducing industrial pollution.	☒
B	CAM can carry out very accurate machine operations.	☒
C	CAM systems can respond instantly to changing conditions.	☒
D	CAM can only be used to control the supply of components to the production line.	☒

(c) CAM systems are expensive to install.

Identify **one** reason why car manufacturers are willing to make the investment.

(1)

A	The quality of the finished cars will be consistent.	☒
B	They will be able to charge higher prices for the cars.	☒
C	The demand for new cars will be increased.	☒
D	They will be able to respond quickly to changes in demand.	☒

(d) The increased use of technology in manufacturing has led to changes in employment patterns.

Which row in the table best describes the changing pattern?

(1)

	Training needs	Demand for unskilled staff	Demand for skilled staff	
A	Increased	Reduced	Reduced	☒
B	Reduced	Increased	Reduced	☒
C	Reduced	Reduced	Increased	☒
D	Increased	Reduced	Increased	☒

(e) Process control systems are widely used in manufacturing.

Process control systems:

(1)

A	are only used in dangerous conditions.	☒
B	are unable to respond to changing conditions.	☒
C	use sensors to feedback data to a processor.	☒
D	increase industrial pollution.	☒

(Total for Question 3 = 8 marks)

H 3 5 7 3 8 R A 0 1 1 2 4

4 Most banks now have online banking facilities for their customers.

(a) Introducing online banking enables banks to:

(1)

A	reduce overheads by reducing the number of branches.	☒
B	increase profits by increasing the charges to customers.	☒
C	increase profits by increasing the range of services offered.	☒
D	reduce overheads by reducing the charges to customers.	☒

(b) Online banking enables customers to do most of their banking from home.

Which **one** of the following will the customer be able to do from home?

(1)

A	Withdraw cash from an account.	☒
B	Make transfers and payments.	☒
C	Pay cash into an account.	☒
D	Avoid bank charges.	☒

(c) A customer receives an email from a bank asking for their **personal data.**

What action should the customer take?

(1)

A	Click on the link in the email and send the required data.	☒
B	Reply to the email giving the information as soon as possible.	☒
C	Forward the email to their bank's known email address and then delete it.	☒
D	Reply to the email asking why the information has not been held securely.	☒

(d) ATMs are used by individuals to withdraw cash from their bank accounts.

Put a cross ☒ in the correct box to complete each sentence below.

The first one has been done for you.

(4)

To withdraw cash from an ATM a customer inserts their debit ☒ / loyalty ☐ card into the card reader.

The electronic data is read from the chip or account number ☐ / magnetic stripe ☐ on the card.

The customer is prompted to enter their password ☐ / PIN ☐ using the keypad.

The information is transmitted electronically via a network ☐ / an intranet ☐ to the bank's database

which is stored on a mainframe ☐ / stand-alone ☐ computer.

(e) The increased use of technology in banking has led to a changing pattern of employment within the banking sector.

Which group of statements best describes the changing pattern?

(1)

A	More staff employed offshore. Fewer staff employed in call centres. Fewer staff employed in local branches.	☐
B	More staff employed offshore. More staff employed in call centres. Fewer staff employed in local branches.	☐
C	Fewer staff employed offshore. Fewer staff employed in call centres. Fewer staff employed in local branches.	☐
D	More staff employed offshore. More staff employed in call centres. More staff employed in local branches.	☐

(Total for Question 4 = 8 marks)

H 3 5 7 3 8 R A 0 1 3 2 4

5 Scotswith General Hospital is a modern up-to-date hospital that takes advantage of emerging technologies.

(a) The hospital keeps patients' records on a database. Patients have the right to check that the data held is accurate and up-to-date.

Identify the legislation that gives patients this right.

(1)

A	Copyright, Designs and Patents Act.	☒
B	Data Protection Act.	☒
C	Computer Misuse Act.	☒
D	Health and Safety at Work Act.	☒

(b) Patients can book appointments online to see specialists.

Which item of data would be the **most** useful in identifying hospital patients?

(1)

A	Patient's name.	☒
B	Patient's date of birth.	☒
C	Patient's address.	☒
D	Patient's reference number.	☒

(c) Identify **one** benefit to the hospital of introducing online booking?

(1)

A	Doctors can spend more time with patients.	☒
B	Fewer doctors are needed to deal with patients.	☒
C	More patients will be seen in each clinic.	☒
D	Fewer staff are needed to deal with bookings.	☒

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(d) What is the **main** advantage to the patient of being able to book appointments online?

The patient will be able to:

(1)

A	see any doctor that they want to.	☒
B	go straight to the front of the queue.	☒
C	select the most appropriate time available.	☒
D	spend more time with the doctor.	☒

(e) The hospital uses expert diagnostic systems in some of its clinics.

Which **four** of the following statements about expert diagnostic systems are correct?

An expert diagnostic system:

(4)

A	is computer software that simulates the knowledge of a human expert.	☒
B	will have only a small amount of information stored.	☒
C	always produces an accurate diagnosis.	☒
D	may have a wider knowledge base than a doctor.	☒
E	will need an interface to allow patients to enter information.	☒
F	can be used to completely replace a doctor.	☒
G	is computer hardware that simulates the knowledge of a human expert.	☒
H	is based on a set of facts and rules.	☒

(Total for Question 5 = 8 marks)

6 Window World sells double glazed windows.

Sales staff visit customers to take window measurements.

Window World provides laptop computers with mobile internet access for the sales staff.

(a) **One** reason for providing the laptop computers is to enable the:

(1)

A	sales staff to download up to date data from head office.	☒
B	sales staff to check their personal emails.	☒
C	customers to communicate directly with head office.	☒
D	sales staff to keep in contact with home.	☒

(b) The sales staff will be able to use software on their laptops to calculate costs and provide quotations for their customers.

Identify the type of software they will need to do the calculations.

(1)

A	A database, which is an application package.	☒
B	A spreadsheet, which is an application package.	☒
C	A spreadsheet, which is an operating system.	☒
D	A database, which is an operating system.	☒

(c) When the customer agrees to purchase windows from Window World the sales staff sends the measurements to head office.

The data will be used by the company to:

(1)

A	improve communication with the customer.	☒
B	plan production schedules.	☒
C	plan a sales strategy.	☒
D	increase the prices charged.	☒

(d) Laptops are used by sales staff to access the internet via a mobile broadband device.

Identify the **additional** components that are needed to give secure access to the internet.

A	ISP, web browser, email account, security software.	☒
B	Network connection, ISP, web browser, email account.	☒
C	Network connection, ISP, web browser, security software.	☒
D	Network connection, web browser, email account, security software.	☒

(e) There is a risk to data stored on mobile devices such as laptops.

The **most** effective way to stop other people accessing the data online would be to install:

A	anti-virus software and use a secured network.	☒
B	an internet filter and use a secured network.	☒
C	anti-virus software and use an unsecured network.	☒
D	a firewall and use a secured network.	☒

(f) Window World has an intranet facility built into its computer network.

Put a cross ⊠ in the correct box to complete each sentence.

(4)

An intranet is a private network and is usually hosted on the company's

own ⎯⎯⎯ server ☒ .
         laptops ☒

Customers ☒
⎯⎯⎯⎯⎯⎯ can log on to the intranet to view the company's internal web pages.
Employees ☒

Access to the intranet is possible ⎯⎯ only at head office ☒ .
              anywhere with internet access ☒

An intranet is a very useful way of ⎯⎯ attracting new business ☒ .
              communicating ☒

(Total for Question 6 = 9 marks)

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7 New technologies have had a huge impact on the way that organisations, individuals and society operate.

(a) Which **one** of the following jobs has been created as a direct result of the introduction of new technologies?

(1)

A	Solicitor.	☒
B	Statistician.	☒
C	Call centre operator.	☒
D	Stock control clerk.	☒

(b) Advances in technologies have provided many people with the opportunity to work from home.

Which of the following people would be able to take advantage of home working?

(1)

A	Accountant.	☒
B	Checkout operator.	☒
C	Brick layer.	☒
D	Librarian.	☒

(c) Students often use the internet to research topics.

Which **one** of the following statements is correct?

(1)

A	Data uploaded onto websites has always been checked for accuracy.	☒
B	All information found on the internet can be freely copied.	☒
C	There are no restrictions on using information found on websites.	☒
D	Data uploaded onto websites may not have been checked for accuracy.	☒

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(d) Computer Aided Learning (CAL) systems are used to help students with their studies.

Which **one** of the following statements is correct?

CAL systems:

(1)

A	are only effective under teacher supervision.	☒
B	are only accessible via the internet.	☒
C	motivate students by varying presentation techniques.	☒
D	are beneficial in all learning situations.	☒

(e) Some people fear that technology systems are reducing an individual's right to privacy.

Which **one** of the following is most likely to contribute to these concerns?

(1)

A	CCTV systems, electronic storage of personal data, biometric controls.	☒
B	CCTV systems, electronic storage of personal data, mobile technologies.	☒
C	Electronic storage of personal data, biometric controls, mobile technologies.	☒
D	CCTV systems, mobile technologies, biometric controls.	☒

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(f) Which **four** of the following statements accurately assess the impact of new technology systems?

(4)

A	New technologies have changed the way in which all individuals work.	☒
B	The internet has reduced the feeling of isolation for many housebound individuals.	☒
C	New technologies have enabled many organisations to enhance their productivity.	☒
D	Organisations have been able to take advantage of cheaper workforces around the world.	☒
E	Access to a wider range of information enables individuals to make more informed decisions.	☒
F	The introduction of new technologies has reduced the need to store large quantities of personal data.	☒
G	New technologies have reduced the gap between rich and poor nations.	☒
H	New technologies have reduced the risk of misuse of personal data.	☒

(**Total for Question 7 = 9 marks**)

TOTAL FOR PAPER = 60 MARKS

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