

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. (a) EFTPOS systems are widely used in supermarkets.

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

<p>A <u>loyalty card</u> ☒ is inserted into a card reader <u>debit card</u> ☒ and the customer's bank <u>account number</u> ☒ is identified. <u>balance</u> ☒</p> <p>This information and the amount of the bill are sent via the <u>telephone system</u> ☒ <u>internet</u> ☒ to the bank's computer system.</p> <p>The correct amount of money is transferred by the computer system from the <u>supermarket's account to the customer's account</u> ☒. <u>customer's account to the supermarket's account</u> ☒</p>
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(4)

- (b) Which device is used in an EFTPOS system to read the electronic data from a customer's card?

Chip and pin reader.	<input type="checkbox"/>
Optical character reader.	<input type="checkbox"/>
Optical mark reader.	<input type="checkbox"/>
Barcode reader.	<input type="checkbox"/>

(1)

- (c) Supermarkets use network systems to link EPOS terminals to a server. One benefit is that stock levels can be updated instantly on the server.

Which **one** of these is also a benefit of using an EPOS system?

Communication with customers can be improved.	<input type="checkbox"/>
Thefts can be reduced as all items are scanned.	<input type="checkbox"/>
Price changes can be implemented easily.	<input type="checkbox"/>
A more limited range of items can be sold.	<input type="checkbox"/>

(1)



(d) The information provided by the stock control system can be analysed to show how well individual items are selling.

This information can be used to:

set selling prices.	<input type="checkbox"/>
reduce an items' buying costs.	<input type="checkbox"/>
determine staffing levels.	<input type="checkbox"/>
decide opening times.	<input type="checkbox"/>

(1)

(e) Other data is generated by the EPOS system.

Analysing EPOS data will also allow supermarkets to monitor:

checkout operator performance.	<input type="checkbox"/>
the quality of the produce.	<input type="checkbox"/>
sell-by dates on items.	<input type="checkbox"/>
the time spent queuing.	<input type="checkbox"/>

(1)

(f) Some EPOS systems in supermarkets use Local Area Networks (LAN).

Which **one** of these statements is correct?

A network will always allow internet connection.	<input type="checkbox"/>
Data can be transferred over a network using radio waves.	<input type="checkbox"/>
Mobile devices cannot be connected to a network.	<input type="checkbox"/>
Data cannot be transferred over a network using radio waves.	<input type="checkbox"/>

(1)

Q1

(Total 9 marks)



2. Baldin School has funding to equip an IT suite which is to be connected to the existing school network. The school must decide whether the connection is to be wired or wireless.

(a) Here are some statements about wired and wireless networks.

Four of these statements are correct.

Put a cross next to each of the correct statements.

There are no security issues when using a wired connection.	<input type="checkbox"/>
The signal provided by a wireless connection has a limited range.	<input type="checkbox"/>
Wireless connections do not need any cabling to link PCs together.	<input type="checkbox"/>
Transmission is always faster over a wireless connection.	<input type="checkbox"/>
A wired connection usually gives a more reliable signal than a wireless connection.	<input type="checkbox"/>
A wireless connection gives a stronger signal than a wired connection.	<input type="checkbox"/>
Monitoring of system use is easier using a wireless connection.	<input type="checkbox"/>
Wired connections are usually expensive to install.	<input type="checkbox"/>

(4)

(b) To register students, the school uses a device to 'read' their fingerprints.

The device used is:

a laser scanner.	<input type="checkbox"/>
a laser sensor.	<input type="checkbox"/>
an ergonomic sensor.	<input type="checkbox"/>
a biometric scanner.	<input type="checkbox"/>

(1)



- (c) The registration is transferred automatically into the school's management information system.

Which **one** of these is an accurate statement about management information systems?

The data must be entered into each table in the system.	<input type="checkbox"/>
Only one person at a time can access the data.	<input type="checkbox"/>
The data can be output in different formats for different users.	<input type="checkbox"/>
Users have access to all data in the system.	<input type="checkbox"/>

(1)

- (d) The school has a website which provides a wide variety of information for students and parents. The geography department has incorporated an RSS feed to show the BBC weather page.

This RSS feed will:

enable the school to monitor the time each student spends using the web page.	<input type="checkbox"/>
enable students to work off-line.	<input type="checkbox"/>
monitor the number of students visiting the web page.	<input type="checkbox"/>
save the time students spend checking for updates.	<input type="checkbox"/>

(1)

- (e) Students at Baldin School are not allowed to use USB devices to store data.

The school has made this decision to:

reduce the risk of hackers.	<input type="checkbox"/>
stop students sending emails.	<input type="checkbox"/>
reduce the risk of viruses.	<input type="checkbox"/>
stop students deleting work.	<input type="checkbox"/>

(1)

Q2

(Total 8 marks)



3. (a) Number plate recognition is used in congestion charging systems.

Which **one** of these statements is correct?

The number plate:

identifies the place of manufacture.	<input type="checkbox"/>
uniquely identifies a driver.	<input type="checkbox"/>
identifies the date of manufacture.	<input type="checkbox"/>
uniquely identifies a vehicle.	<input type="checkbox"/>

(1)

(b) Traffic control systems are used to help traffic to flow freely.

Select the row which correctly identifies both devices used in this type of system.

Input	Output	
sensor	light	<input type="checkbox"/>
light	sensor	<input type="checkbox"/>
scanner	light	<input type="checkbox"/>
camera	light	<input type="checkbox"/>

(1)

(c) Organisations use item tracking so customers can see how their orders are progressing.

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

When an order is placed the computer <u>hardware</u> <input type="checkbox"/> generates an unique number. software <input type="checkbox"/>
This number is automatically issued to the customer by <u>telephone</u> <input type="checkbox"/> . email <input type="checkbox"/>
The customer uses the <u>order</u> <input type="checkbox"/> number to track the progress of the item by product <input type="checkbox"/>
accessing the organisation's <u>database</u> <input type="checkbox"/> . accounts <input type="checkbox"/>

(4)



Leave
blank

(d) **One** advantage to an organisation of introducing item tracking is to:

improve customer relations.	<input type="checkbox"/>
reduce staffing costs.	<input type="checkbox"/>
attract customers from a wider area.	<input type="checkbox"/>
improve internal communications.	<input type="checkbox"/>

(1)

(e) GPS may be used in vehicle navigation.

Which **one** of these statements is correct?

Radio wave technology is used to locate a vehicle.	<input type="checkbox"/>
GPS is most appropriate for small area tracking.	<input type="checkbox"/>
The information provided by GPS systems is always accurate.	<input type="checkbox"/>
Satellite technology is used to locate a vehicle.	<input type="checkbox"/>

(1)

(f) Which **one** of these is most **unlikely** to benefit from the use of GPS?

Emergency services.	<input type="checkbox"/>
Local bus driver.	<input type="checkbox"/>
Long distance lorry driver.	<input type="checkbox"/>
Yachtsman.	<input type="checkbox"/>

(1)

(Total 9 marks)

Q3

7



Turn over

4. (a) 'Flora's Flowers' is a shop selling flower arrangements. It has decided to sell its flower arrangements over the internet. The shop has a PC that is used for general office tasks.

Which row correctly identifies the **additional** components that 'Flora's Flowers' will need to use the internet effectively?

Operating system software, broadband connection, ISP, web browser.	<input type="checkbox"/>
Operating system software, broadband connection, ISP, application software.	<input type="checkbox"/>
Application software, broadband connection, ISP, web browser.	<input type="checkbox"/>
Communication software, broadband connection, ISP, web browser.	<input type="checkbox"/>

(1)

- (b) Identify the main benefit to 'Flora's Flowers' of selling the flower arrangements over the internet.

Access to a wider customer base leading to increased sales.	<input type="checkbox"/>
A reduction in costs as fewer staff will be needed to create the arrangements.	<input type="checkbox"/>
Increased revenue arising from increased delivery charges.	<input type="checkbox"/>
Access to a wider customer base leading to an increase in the prices charged.	<input type="checkbox"/>

(1)

- (c) 'Flora's Flowers' can improve the security of customers' payments by providing a secure website.

One way the data can be secured is by:

encoding.	<input type="checkbox"/>
encryption.	<input type="checkbox"/>
creating back ups.	<input type="checkbox"/>
validation.	<input type="checkbox"/>

(1)



- (d) When ordering via 'Flora's Flowers' online facility, customers should ensure that their personal data is kept secure.

Which **one** of these will prevent unauthorised people accessing their personal data?

Firewall.	<input type="checkbox"/>
Virus-checker.	<input type="checkbox"/>
Filtering software.	<input type="checkbox"/>
Email filter.	<input type="checkbox"/>

(1)

- (e) There are a number of laws which have been passed in relation to the use of ICT.

Which law was passed to prevent unauthorised access to other people's data?

Copyright, Designs and Patents Act.	<input type="checkbox"/>
Computer Application Act.	<input type="checkbox"/>
Computer Misuse Act.	<input type="checkbox"/>
Health and Safety at Work Act.	<input type="checkbox"/>

(1)

- (f) Many organisations sell goods over the internet.
Four of these statements are correct.
 Put a cross next to each of the correct statements.

The availability of the internet gives organisations 24/7 access to international markets.	<input type="checkbox"/>
Goods bought over the internet are always cheaper than those sold in shops.	<input type="checkbox"/>
Selling goods over the internet reduces the need for organisations to monitor stock levels.	<input type="checkbox"/>
Customers using the internet can compare many products before purchase.	<input type="checkbox"/>
Selling goods over the internet reduces the need for organisations to keep business data secure.	<input type="checkbox"/>
The sale of goods over the internet is always well regulated.	<input type="checkbox"/>
Organisations selling goods over the internet have a responsibility for their staff's health and safety.	<input type="checkbox"/>
Selling goods over the internet gives organisations the opportunity to reduce overhead costs.	<input type="checkbox"/>

(4)

Q4

(Total 9 marks)

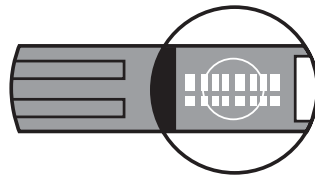


5. (a) 'Gym for Life' is a members only chain of fitness studios. Membership cards are given to all members. The magnetic stripe on the card is swiped when a member attends a studio. Members' details are stored in a database. What new data will be recorded when the card is read?

Date and time.	<input type="checkbox"/>
Member date of birth.	<input type="checkbox"/>
Member name.	<input type="checkbox"/>
Fees due.	<input type="checkbox"/>

(1)

Members are also given a 'smart key' when they join. The member works with a personal trainer to develop an individual training programme. The programme is stored on a micro chip in a 'smart key'.



- (b) Identify which row of the table is correct.

'Smart key' microchip	Card magnetic stripe	
Data can be read from and written to.	Data can only be read from.	<input type="checkbox"/>
Data can only be read from.	Data can only be written to.	<input type="checkbox"/>
Data can only be written to.	Data can be read from and written to.	<input type="checkbox"/>
Data can be read from and re-written to.	Data can be read from and re-written to.	<input type="checkbox"/>

(1)



(c) A member using a treadmill puts their 'smart key' into a reader. Instructions are provided for the member to follow and performance information is also given.

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

The instructions are displayed on a keypad which also allows the member to
touch screen
input changes manually if needed.

The member's pulse rate is measured by placing their hands on a
sensor in the equipment.
biometric scanner

The data is input to a server where it is analysed.
processor

A control device then automatically adjusts the speed of the treadmill.
processor

(4)

(d) The specialised equipment needed for the 'smart key' system is very expensive.

Which **one** of these is a benefit to 'Gym for Life' of using the 'smart key' system?

Increased membership by attracting members from other gyms, leading to increased revenue.	<input type="checkbox"/>
A reduction in the number of staff needed, leading to a reduction in costs.	<input type="checkbox"/>
Increased membership by attracting members from other gyms, leading to higher costs.	<input type="checkbox"/>
An improvement in the fitness of members, leading to higher membership fees.	<input type="checkbox"/>

(1)

(e) At the end of a training session members can view reports and statistics on their performance. The statistics are displayed as graphs and charts.

Which type of software is used to produce graphs and charts?

Operating systems software.	<input type="checkbox"/>
Application software.	<input type="checkbox"/>
Communication software.	<input type="checkbox"/>
Security software.	<input type="checkbox"/>

(1)

Q5

(Total 8 marks)



6. (a) ATMs are used to withdraw cash from banks. They are widely available outside banks, in supermarkets and in many other places.

The increased use of ATMs has allowed banks to:

reduce personal bank charges.	<input checked="" type="checkbox"/>
increase customer security.	<input checked="" type="checkbox"/>
increase the range of accounts offered.	<input checked="" type="checkbox"/>
reduce the number of branches.	<input checked="" type="checkbox"/>

(1)

- (b) What advice should an ATM user follow to minimise the risk of identity theft?

Look for changes in the equipment. Block the keypad while entering your PIN.	<input checked="" type="checkbox"/>
Keep your PIN and card together. Block the keypad while entering your PIN.	<input checked="" type="checkbox"/>
Keep your PIN and card together. Use a different ATM each time.	<input checked="" type="checkbox"/>
Tell someone your PIN. Use a different ATM each time.	<input checked="" type="checkbox"/>

(1)



- (c) The increased use of online banking has impacted on the banks, their employees and their customers. One impact has been the growth in the number of call centres.

Here are some statements about call centres.

Four of these statements are correct.

Put a cross next to each of the correct statements.

Call centre staff do not need training.	<input type="checkbox"/>
Call centres are usually located in city centres to make travelling easier for staff.	<input type="checkbox"/>
Call centres have a high level of automation.	<input type="checkbox"/>
Calls can be monitored and used to measure staff satisfaction.	<input type="checkbox"/>
Call centres are usually located outside city centres where premises are cheaper.	<input type="checkbox"/>
Calls can be monitored and used to assess staff performance.	<input type="checkbox"/>
Call centre staff are highly qualified and demand high salaries.	<input type="checkbox"/>
Call centres can be located overseas where salaries are lower.	<input type="checkbox"/>

(4)

- (d) One downside of the growth in online banking is the increase in phishing. Phishing is a method of identity theft.

What advice should be followed to prevent phishing?

Do not respond to suspicious emails.	<input type="checkbox"/>
Do not open email attachments.	<input type="checkbox"/>
Install a firewall.	<input type="checkbox"/>
Install anti-virus software.	<input type="checkbox"/>

(1)



Leave blank

- (e) JHG Bank has a large number of branches around the world. The bank uses an internal network of computers.

This type of network helps the bank by improving the effectiveness of communication:

between branches, leading to accurate, up-to-date information.	<input type="checkbox"/>
with other banks leading to the easy transfer of customers' money.	<input type="checkbox"/>
between branches and customers, leading to accurate, up-to-date information.	<input type="checkbox"/>
between branches and retail outlets so that customers' credit can be checked.	<input type="checkbox"/>

(1)

- (f) JHG Bank has an intranet facility built into its computer network.

Here are some statements about intranets.
Which **one** of these statements is correct?

Employees can only access the intranet when at work. User names and passwords ensure data security.	<input type="checkbox"/>
Employees can only access the intranet when at work. Firewalls ensure data security.	<input type="checkbox"/>
Employees can access the intranet whenever they have internet connectivity. User names and passwords ensure data security.	<input type="checkbox"/>
Employees can access the intranet whenever they have internet connectivity. Email filters ensure data security.	<input type="checkbox"/>

(1)

Q6

(Total 9 marks)



7. New technologies are changing the way in which individuals, organisations and society operate.

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

Technological advances have:

given all members of society equal access to information.	<input type="checkbox"/>
reduced the gap between rich and poor societies across the world.	<input type="checkbox"/>
improved the quality of communication at local and global levels.	<input type="checkbox"/>
improved the quality of life for all members of society.	<input type="checkbox"/>

(1)

(b) Computer Aided Learning (CAL) is one area where technologies have had a significant impact.

Which **four** of these statements about CAL is correct?

Students only benefit from using CAL systems when under teacher supervision.	<input type="checkbox"/>
CAL systems motivate students by using multimedia and interactivity.	<input type="checkbox"/>
Students can work through the resources at their own pace.	<input type="checkbox"/>
The student's rate of progress is controlled by the teacher.	<input type="checkbox"/>
Students can access web-based CAL at any time they have internet access.	<input type="checkbox"/>
CAL systems are suitable for all learning situations.	<input type="checkbox"/>
CAL systems incorporate self-assessment giving instant feedback on progress.	<input type="checkbox"/>
CAL systems are only useful to young people.	<input type="checkbox"/>

(4)

Q7

(Total 5 marks)



8. New technologies have had an impact on employment patterns.

(a) Identify **one** way in which use of the internet has led to a reduction in the number of workers doing traditional jobs.

Emailing documents.	<input type="checkbox"/>
Researching family history.	<input type="checkbox"/>
Downloading software.	<input type="checkbox"/>
Using online personal data storage.	<input type="checkbox"/>

(1)

(b) Identify **one** job which has resulted from the arrival of new technologies.

Factory supervisor.	<input type="checkbox"/>
Accountant.	<input type="checkbox"/>
Network manager.	<input type="checkbox"/>
Electrician.	<input type="checkbox"/>

(1)

(c) Which **one** of these is a result of introducing new technologies into business?

An increase in the number of people carrying out manual tasks.	<input type="checkbox"/>
A decrease in the number of people working from home.	<input type="checkbox"/>
An increase in the number of people doing clerical tasks.	<input type="checkbox"/>
An increase in the number of people working from home.	<input type="checkbox"/>

(1)

Q8

(Total 3 marks)

TOTAL FOR PAPER: 60 MARKS

END

