

Answer ALL the questions.

1. HFM Bank has decided to introduce home banking for customers as an additional service.

(a) Which **one** of these statements about online banking is correct?

| | |
|------------------------------------------------------------|--------------------------|
| The security of customers' personal data will be improved. | <input type="checkbox"/> |
| Charges to customers will be reduced. | <input type="checkbox"/> |
| The bank will have access to a larger customer base. | <input type="checkbox"/> |
| Costs will be increased as more staff are required. | <input type="checkbox"/> |

(1)

(b) Customers will be able to do most of their banking online.

Which one of these will they **not** be able to do from home?

| | |
|----------------------------------|--------------------------|
| Pay utility bills. | <input type="checkbox"/> |
| Check recent statements. | <input type="checkbox"/> |
| Withdraw cash 24 hours a day. | <input type="checkbox"/> |
| Transfer funds between accounts. | <input type="checkbox"/> |

(1)

(c) Some people have concerns about the security of online banking.

Which of these is the most appropriate advice for customers to maximise their security?

| | |
|-------------------------------------------------------------------------|--------------------------|
| Install spyware and choose a password that is easy to remember. | <input type="checkbox"/> |
| Install a virus checker and regularly change your password. | <input type="checkbox"/> |
| Install a virus checker and choose a password that is easy to remember. | <input type="checkbox"/> |
| Install a firewall and regularly change your password. | <input type="checkbox"/> |

(1)



Leave
blank

(d) Many banks now contact customers via email.

A customer receives an email from a bank asking for their password and other personal information.

What action should the customer take?

| | |
|--------------------------------------------------------------------------------------|-------------------------------------|
| Provide the information required as soon as possible. | <input checked="" type="checkbox"/> |
| Reply to the email asking why their personal information has not been held securely. | <input checked="" type="checkbox"/> |
| Forward the email to the bank and then delete it. | <input checked="" type="checkbox"/> |
| Provide the information required and then delete the email. | <input checked="" type="checkbox"/> |

(1)

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

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

A customer wanting to withdraw cash inserts a(n) identity / loyalty / debit card into the ATM. The electronic data is read from either the magnetic stripe or the hologram / chip / account number on the card.

The customer enters their PIN using a key pad. In order to reduce fraud the data is filtered / encrypted / encoded before being transmitted electronically via a network / telephone system / mobile device to the bank. The details are then checked against the details held in the bank's database.

(4)



Leave
blank

(f) ATMs are available outside banks, in supermarkets and in many other places.

Which of these is the most likely explanation for the increasing number of ATMs?

| | |
|--------------------------------------------------------------------------------------------|-------------------------------------|
| Convenience for staff and a reduction in the banks' operating costs. | <input checked="" type="checkbox"/> |
| Customer convenience and a reduction in the banks' operating costs. | <input checked="" type="checkbox"/> |
| Convenience for both staff and customers. | <input checked="" type="checkbox"/> |
| Reduction in banks' operating costs, leading to an increase in bank charges for customers. | <input checked="" type="checkbox"/> |

(1)

(g) Banks monitor the use of each ATM.

Why do banks need to do this?

| | |
|------------------------------------------------------------------------------------------|-------------------------------------|
| To identify which ATMs are fully utilised and where additional machines may be required. | <input checked="" type="checkbox"/> |
| To ensure that customers do not exceed their cash withdrawal limit. | <input checked="" type="checkbox"/> |
| To prevent customers from rival banks using the ATM. | <input checked="" type="checkbox"/> |
| To ensure that bank staff are fully employed. | <input checked="" type="checkbox"/> |

(1)

Q1

(Total 10 marks)



Leave
blank

2. (a) Many supermarkets operate loyalty card schemes.

(i) Supermarkets use loyalty card schemes to collect and analyse customer purchase data.

This enables them to:

| | |
|---------------------------------------------------------------------|-------------------------------------|
| increase revenue by putting up prices on regularly purchased items. | <input checked="" type="checkbox"/> |
| offer 24/7 shopping. | <input checked="" type="checkbox"/> |
| increase sales by targeting advertising. | <input checked="" type="checkbox"/> |
| offer a wider range of products for sale. | <input checked="" type="checkbox"/> |

(1)

(ii) By joining a loyalty card scheme, customers:

| | |
|-----------------------------------------------------------------------------|-------------------------------------|
| save time shopping by using dedicated loyalty card tills. | <input checked="" type="checkbox"/> |
| are given special offer vouchers, to encourage them to return to the store. | <input checked="" type="checkbox"/> |
| can get cash back at the tills. | <input checked="" type="checkbox"/> |
| are able to reduce the amount of time they spend shopping. | <input checked="" type="checkbox"/> |

(1)

(b) What device would be used to capture the electronic data from a loyalty card?

| | |
|-------------------------|-------------------------------------|
| Chip and PIN reader. | <input checked="" type="checkbox"/> |
| Barcode scanner. | <input checked="" type="checkbox"/> |
| Magnetic stripe reader. | <input checked="" type="checkbox"/> |
| Sensor. | <input checked="" type="checkbox"/> |

(1)



(c) When customers join a loyalty card scheme their personal information is stored electronically.

Which piece of legislation restricts the way personal information can be used?

| | |
|------------------------------------|-------------------------------------|
| Computer Misuse Act. | <input checked="" type="checkbox"/> |
| Data Protection Act. | <input checked="" type="checkbox"/> |
| Copyright, Design and Patents Act. | <input checked="" type="checkbox"/> |
| Data Misuse Act. | <input checked="" type="checkbox"/> |

(1)

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

What are the main advantages of providing self-service checkouts?

| | |
|----------------------------------------------------------------------------------|-------------------------------------|
| Supermarkets need less equipment. Customers save money as fewer errors are made. | <input checked="" type="checkbox"/> |
| Supermarkets need less equipment. Customers spend less time queuing. | <input checked="" type="checkbox"/> |
| Supermarkets need fewer staff. Customers save money as fewer errors are made. | <input checked="" type="checkbox"/> |
| Supermarkets need fewer staff. Customers spend less time queuing. | <input checked="" type="checkbox"/> |

(1)



Leave
blank

(e) EPOS systems are used in supermarkets.

Here are some statements about EPOS systems. **Four** of these statements are correct.

Place a cross in the box next to each of the **four** correct statements.

| | |
|-------------------------------------------------------------------------------------------------------|--------------------------|
| EPOS systems increase efficiency and reduce the amount of stock supermarkets need to hold. | <input type="checkbox"/> |
| When a barcode is scanned the stock level is automatically reduced on a data file. | <input type="checkbox"/> |
| EPOS systems can only be used in supermarkets. | <input type="checkbox"/> |
| When an item is scanned the price is extracted from the barcode and displayed on a screen. | <input type="checkbox"/> |
| The amount of stock stolen from supermarkets is reduced as all items are scanned at point of sale. | <input type="checkbox"/> |
| EPOS systems allow managers to monitor the demand at checkouts and ensure the correct staffing level. | <input type="checkbox"/> |
| EPOS systems reduce the number of errors made by checkout operators. | <input type="checkbox"/> |
| EPOS systems prevent the supermarket from selling out-of-date stock. | <input type="checkbox"/> |

(4) Q2

(Total 9 marks)

7

Turn over



3. (a) The list on the left shows problems that can occur when using the internet.

Draw a straight line to link each Problem to its Solution. Each Problem has only one Solution.

| Problem | Solution |
|----------------------|----------------------|
| Spam | Passwords on folders |
| Hacking attempts | Firewall |
| Viruses | Internet filter |
| Anti-social material | Access rights |
| | Email filter |
| | Backup files |
| | Anti-virus software |

(4)



Leave
blank

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

Which of these statements is correct?

| | |
|------------------------------------------------------------------------------------------------|--------------------------|
| Items bought are always cheaper than they would be in shops. | <input type="checkbox"/> |
| Cash, vouchers, debit cards and secure payment systems can be used to pay for items. | <input type="checkbox"/> |
| Items bought from online auction sites are always true to the description given by the seller. | <input type="checkbox"/> |
| Prospective buyers can make and monitor bids over a period of time. | <input type="checkbox"/> |

(1)

(c) Remaining safe whilst using auction sites is important.

Which of these is **not** sensible advice?

| | |
|------------------------------------------------------------------------------------------------------|--------------------------|
| Always use a secure method of payment. | <input type="checkbox"/> |
| Use a 'nickname' and do not give your name and contact details to a buyer/seller. | <input type="checkbox"/> |
| Arrange to meet a buyer/seller in a private place to exchange goods. | <input type="checkbox"/> |
| Do not give out your personal information and bank details until a successful bid has been accepted. | <input type="checkbox"/> |

(1)

(d) Downloading music from the internet is very popular.

Which of these statements is true?

| | |
|------------------------------------------------------------------------------------------------|--------------------------|
| All music files take the same amount of time to download. | <input type="checkbox"/> |
| Downloading individual tracks, rather than complete CDs, does not need the owner's permission. | <input type="checkbox"/> |
| It is illegal to download music without the owner's permission. | <input type="checkbox"/> |
| Downloaded music can always be legally copied and passed on to other people. | <input type="checkbox"/> |

(1)



Leave
blank

(e) JayJay Sports is a small company selling sports equipment.

They have decided to introduce a website to allow customers to buy equipment over the internet.

Which statement accurately identifies the advantages of online ordering?

| | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| The customers benefit as the goods are always cheaper. The company benefits as it has access to a wider market. | <input checked="" type="checkbox"/> |
| The customers benefit as they no longer need to travel to the shop. The company benefits as it has access to a wider market. | <input checked="" type="checkbox"/> |
| The customers benefit as they no longer need to travel to the shop. The company benefits as it is able to keep sales information secure. | <input checked="" type="checkbox"/> |
| The customers benefit as the goods are always cheaper. The company benefits as it is able to keep sales information secure. | <input checked="" type="checkbox"/> |

(1)

Q3

(Total 8 marks)



Leave
blank

4. (a) Car manufacturers use technology in many different ways. A robot can be used to move car parts around a factory. It must be programmed to stop if an object is in its way.

Which device would be used to detect the object?

| | |
|-----------|-------------------------------------|
| Plotter. | <input checked="" type="checkbox"/> |
| Scanner. | <input checked="" type="checkbox"/> |
| Sensor. | <input checked="" type="checkbox"/> |
| Actuator. | <input checked="" type="checkbox"/> |

(1)

- (b) Technology systems are used widely in manufacturing.

Here are some statements about these systems.

Four of these statements are correct.

Place a cross in the box next to each of the **four** correct statements.

| | |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------|
| More mundane tasks are carried out using CAM leaving more interesting tasks for workers. | <input checked="" type="checkbox"/> |
| Process control systems reduce the need for monitoring by staff. | <input checked="" type="checkbox"/> |
| The equipment needed to carry out process control is relatively cheap and reduces manufacturers' overheads. | <input checked="" type="checkbox"/> |
| The introduction of CAM may lead to some workers being unhappy as they will need retraining. | <input checked="" type="checkbox"/> |
| Process control systems can instantly respond to changing conditions. | <input checked="" type="checkbox"/> |
| Working conditions are improved as CAM is used to carry out unpleasant tasks. | <input checked="" type="checkbox"/> |
| CAM always prevents delays occurring in the manufacturing process. | <input checked="" type="checkbox"/> |
| CAM will reduce industrial pollution. | <input checked="" type="checkbox"/> |

(4)



(c) The increased use of technology systems in manufacturing has led to a changing pattern of employment.

Which group of statements best describes this changing pattern?

| | |
|--------------------------------------------------------------------------------------------|-------------------------------------|
| Fewer skilled staff required. More unskilled staff required. More training required. | <input checked="" type="checkbox"/> |
| More skilled staff required. Fewer unskilled staff required. More training required. | <input checked="" type="checkbox"/> |
| More skilled staff required. Fewer unskilled staff required. Less training required. | <input checked="" type="checkbox"/> |
| Fewer skilled staff required. More unskilled staff required. Less training required. | <input checked="" type="checkbox"/> |

(1)

(d) Kitchen manufacturers use CAD packages to produce individual designs for customers.

Which of these would be the most likely reason for using CAD rather than manual methods?

| | |
|-----------------------------------------------------------------------------------|-------------------------------------|
| To attract more customers by improving the quality of the kitchens installed. | <input checked="" type="checkbox"/> |
| To reduce costs as fewer items will need to be built to order. | <input checked="" type="checkbox"/> |
| To reduce the time taken to manufacture and install a kitchen. | <input checked="" type="checkbox"/> |
| To attract more customers by providing a virtual representation of their kitchen. | <input checked="" type="checkbox"/> |

(1)

Q4

(Total 7 marks)



Leave
blank

5. (a) Large organisations often communicate using an internal network of computers.

This type of communication can help organisations by:

| | |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| improving the quality of communication with customers, which leads to more reliable and up-to-date information. | <input checked="" type="checkbox"/> |
| improving the effectiveness of communication between departments, which leads to more reliable and up-to-date information. | <input checked="" type="checkbox"/> |
| increasing the amount of communication between departments, which leads to more reliable and up-to-date information. | <input checked="" type="checkbox"/> |
| improving the effectiveness of communication with customers, which leads to increased sales. | <input checked="" type="checkbox"/> |

(1)

(b) One facility that can be provided on an internal network is an intranet.

Which of these statements is correct?

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| An intranet only allows information to be accessed by members of the organisation when they are in the office. This ensures that business-critical data is kept secure. | <input checked="" type="checkbox"/> |
| An intranet allows information to be accessed by anyone via the internet. Sensitive data is kept secure by installing firewalls. | <input checked="" type="checkbox"/> |
| An intranet only allows information to be accessed by members of the organisation. This ensures that business-critical data is kept secure. | <input checked="" type="checkbox"/> |
| An intranet allows information to be accessed by members of the public. Passwords must be used to access sensitive data. | <input checked="" type="checkbox"/> |

(1)



(c) Many organisations provide laptops for employees to use when they are away from the office on company business.

Which of these is **not** a reason for providing employees with laptops?

| | |
|-----------------------------------------------------------------------------------------|-------------------------------------|
| Contact between the employee and home can be maintained. | <input checked="" type="checkbox"/> |
| The employee will be able to access the internet if additional information is required. | <input checked="" type="checkbox"/> |
| Contact between the employee and the company can be maintained. | <input checked="" type="checkbox"/> |
| The employee will be able to process information provided by the customer. | <input checked="" type="checkbox"/> |

(1)

(d) Most laptops come equipped with wireless adaptors; however there is a risk to data held on laptops.

Which of these poses the least risk to data held on a laptop?

| | |
|---------------------------------------------------|-------------------------------------|
| Using the laptop in an internet café. | <input checked="" type="checkbox"/> |
| Accessing the internet using a secure network. | <input checked="" type="checkbox"/> |
| Accessing the internet using an unsecure network. | <input checked="" type="checkbox"/> |
| Using the laptop at home. | <input checked="" type="checkbox"/> |

(1)



Leave
blank

(e) Technology is changing the way organisations operate.

Four of these statements are correct.

Place a cross in the box next to each of the **four** correct statements.

| | |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| The increased use of mobile technologies has changed the way many individuals work. | <input type="checkbox"/> |
| The availability of the internet gives organisations access to more information. | <input type="checkbox"/> |
| The increased use of computers has made it easier for organisations to safeguard sensitive data. | <input type="checkbox"/> |
| The increased use of mobile technologies has led to an improvement in communications between organisations and customers. | <input type="checkbox"/> |
| The increased use of mobile technologies has led to concerns about the health of individuals. | <input type="checkbox"/> |
| The increased use of mobile technologies has reduced the responsibility of organisations for the health and safety of their employees. | <input type="checkbox"/> |
| The increased use of computers has reduced the need to store large amounts of data. | <input type="checkbox"/> |
| The increased use of computers has reduced energy consumption in offices. | <input type="checkbox"/> |

(4)

Q5

(Total 8 marks)

15

Turn over



H 3 5 7 5 2 A 0 1 5 2 0

6. (a) Patients in many areas have the opportunity to make hospital appointments online.

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

In order to use the online appointment system a patient must have access to a laptop ☒ / the internet ☒ / a server ☒ .

A unique password ☒ / name ☒ / number ☒ will be used to identify the patient.

When the patient has made the appointment the database ☒ / computer ☒ / operating system ☒ at the hospital will be updated.

The patient can output a hard copy of the details using a scanner ☒ / printer ☒ / monitor ☒.

(4)

(b) Hospitals use advanced technology systems to monitor the progress of patients in departments, such as intensive care.

Which group of devices will be used in the monitoring system?

| | |
|--------------------------------------|--------------------------|
| Sensor, monitor, plotter. | <input type="checkbox"/> |
| Camera, monitor, printer. | <input type="checkbox"/> |
| Biometric scanner, monitor, printer. | <input type="checkbox"/> |
| Sensor, biometric scanner, plotter. | <input type="checkbox"/> |

(1)



Leave blank

(c) Expert systems are used to help doctors diagnose patients' illnesses.

Which of these is an accurate description of an expert diagnostic system?

| | |
|--------------------------------------------------------------------|--------------------------|
| Computer hardware which simulates the actions of a human expert. | <input type="checkbox"/> |
| Computer hardware which simulates the knowledge of a human expert. | <input type="checkbox"/> |
| Computer software which simulates the knowledge of a human expert. | <input type="checkbox"/> |
| Computer software which simulates the actions of a human expert. | <input type="checkbox"/> |

(1)

(d) Which of these statements is correct?

An expert system has a wider knowledge base than a doctor:

| | |
|--------------------------------------------------------|--------------------------|
| therefore its diagnosis is always accepted. | <input type="checkbox"/> |
| although there may be errors in its knowledge base. | <input type="checkbox"/> |
| and is used by hospitals as a substitute for a doctor. | <input type="checkbox"/> |
| therefore the suggested diagnosis is always correct. | <input type="checkbox"/> |

(1)

(e) The most likely reason for introducing an expert diagnostic system is to:

| | |
|---------------------------------------------------------------------------------------|--------------------------|
| improve the accuracy of a diagnosis and make more efficient use of the doctor's time. | <input type="checkbox"/> |
| save money by reducing the amount of time spent with patients. | <input type="checkbox"/> |
| improve communication between doctors and patients. | <input type="checkbox"/> |
| reduce costs by limiting surgery opening hours. | <input type="checkbox"/> |

(1)

Q6

(Total 8 marks)



Leave
blank

7. (a) New technologies have had a huge impact on the way in which organisations, individuals and society operate.

Four of these statements are correct.

Place a cross in the box next to each of the **four** correct statements.

| | |
|------------------------------------------------------------------------------------------------------------------|--------------------------|
| All members of society have equal opportunity to access the information and resources available on the internet. | <input type="checkbox"/> |
| The availability of the internet has had a positive effect on many housebound individuals. | <input type="checkbox"/> |
| A wider variety of learning methods have emerged from the use of the internet. | <input type="checkbox"/> |
| New technologies have led to organisations outsourcing work to other countries. | <input type="checkbox"/> |
| Improved technologies have reduced the gap between rich and poor countries across the world. | <input type="checkbox"/> |
| The increased use of the mobile technologies has allowed for a greater flexibility in peoples' lives. | <input type="checkbox"/> |
| All learning materials found on the internet have been verified as an acceptable source for education. | <input type="checkbox"/> |
| Mobile technologies can only be used outside the workplace. | <input type="checkbox"/> |

(4)



- (b) Some people are concerned that the increased use of technology systems is leading to a lack of privacy for individuals.

Which group of systems is most likely to contribute to the loss of an individual's privacy?

| | |
|------------------------------------------------------------------|-------------------------------------|
| Computerised databases, biometric controls, virtual communities. | <input checked="" type="checkbox"/> |
| CCTV, computerised databases, virtual communities. | <input checked="" type="checkbox"/> |
| CCTV, biometric controls, virtual communities. | <input checked="" type="checkbox"/> |
| CCTV, biometric controls, computerised databases. | <input checked="" type="checkbox"/> |

(1)

- (c) Advances in technologies, such as mobile communication, and the ease of internet access have given people the opportunity to work from home. Home working has both advantages and disadvantages for employers and employees.

Here is a list of statements.
Home working:

| | | | |
|---|---------------------------------------------|---|-----------------------------------------|
| A | reduces space required in company premises. | E | enables flexible working. |
| B | increases travelling time. | F | reduces the number of working hours. |
| C | increases relocation costs. | G | makes team management more difficult. |
| D | can create a feeling of isolation. | H | reduces the need for internet security. |

Insert the letter corresponding to each correct answers into the table.

- (i) Select **one** advantage and **one** disadvantage for an employee.

| | |
|--------------|--|
| Advantage | |
| Disadvantage | |

(2)

- (ii) Select **one** advantage and **one** disadvantage for an employer.

| | |
|--------------|--|
| Advantage | |
| Disadvantage | |

(2)



Leave
blank

(d) New technologies have provided the opportunity for online training.

Which of these statements is **not** correct?

| | |
|---------------------------------------------------------------------------------------------------------------|--------------------------|
| Online training can be done in the learner's own time and the learner can work at their own pace. | <input type="checkbox"/> |
| Learners must be self disciplined if they are to complete an online training course. | <input type="checkbox"/> |
| Online training is suitable for all training needs. | <input type="checkbox"/> |
| The quality of online training materials must be of a very high standard if the training is to be successful. | <input type="checkbox"/> |

(1)

Q7

(Total 10 marks)

TOTAL FOR PAPER: 60 MARKS

END

