REVISE BTEC TECH AWARD
Digital Information Technology

PRACTICE ASSESSMENTS Plus+

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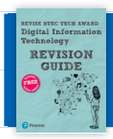
Introduction

This book has been designed to help you to practise the skills you may need for the external assessment of BTEC Tech Award Digital Information Technology, Component 3: Effective Digital Working Practices.

About the practice assessments

The book contains four practice assessments for the component. Unlike your actual assessment, the questions have targeted hints, guidance and support in the margin to help you understand how to tackle them:



Revision Guide pages XX — links to relevant pages in the BTEC Tech Award Digital Information Technology so you can revise the essential content. This will also help you to understand how the essential content is applied to different contexts when assessed.

Hint — to get you started and remind you of the skills or knowledge you need to apply.

Prepare — to help you on how to approach a question, such as making a brief plan.

LEARN IT! — to provide content that you need to learn such as a definition or policy.

Watch out! — to help you avoid common pitfalls.

Explore — to remind you of content related to the question to aid your revision on that topic.

Time it! — for use with the final practice assessment to help you become familiar with answering in a given time and ways to think about allocating time for different questions.

There is space for you to write your answers to the questions within this book. However, if you require more space to complete your answers, you may want to use separate paper.

There is also an answer section at the back of the book, so you can check your answers for each practice assessment.

Check the Pearson website

For overarching guidance on the official assessment outcomes and key terms used in your assessment, please refer to the specification on the Pearson website. For this component, check whether the assessment is completed on a computer.

The practice questions, support and answers in this book are provided to help you to revise the essential content in the specification, along with ways of applying your skills. Details of your actual assessment may change, so always make sure you are up to date on its format and requirements by asking your tutor or checking the Pearson website for the most up-to-date Sample Assessment Material, Mark Schemes and any past papers.

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A bit of small print

Pearson publishes Sample Assessment Material and the specification on its website. This is the official content and this book should be used in conjunction with it. The questions have been written to help you test your knowledge and skills. Remember: the real assessment may not look like this.

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Practice assessment 1

Answer ALL questions.
Write your answers in the spaces provided.

1 A cinema sells tickets on its website.

(a) The website has recently been a victim of a malware attack.

State **two** reasons why digital systems are attacked.

1 .....

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2 .....

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2 marks

(b) The cinema has installed anti-virus software to protect against loss of data from a further malware attack.

Explain **one** other benefit of using anti-virus software.

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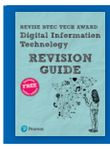
2 marks



Revision Guide pages 22 and 30

Hint

State questions expect you to recall one or more pieces of information.

Hint

When asked to **state** two reasons, write a short statement for each. You don't need to include a lot of detail.

Hint

Explain questions require you to support your point with a linked reason.

Hint

When you **explain** a benefit, give a reason why or how something will improve a situation. For example, a spam filter directs emails containing spam into a separate folder, reducing the time spent reading unwanted messages.

Watch out!

In 1(b) you are given some information and then asked to provide one other piece of information. Make sure you give different information to what's in the question.

Watch out!

Anti-virus software is often provided as part of a larger suite of security software. Make sure you do not confuse it with other types of security software, such as firewalls or anti-spam protection.

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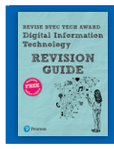

Revision Guide pages 27 and 34

Hint

Identify questions may ask you to select the correct information from a list or source.

Hint

If you are not sure which two items are correct, you could start by identifying which items you know are not correct. This will reduce the number of items from which to select your answer.

Hint

In 1(d), you need to give one feature of a strong password and explain how this feature will make the system more secure.

Prepare

It will help you to think why this password is weak and what the features of a strong password are. Adding any one of these features will make the password stronger.

(c) The cinema secures its digital systems by restricting access to its offices.

Identify **two** methods that will restrict physical access to unauthorised users.

2 marks

Tick the boxes.

- ☐ Disable autocompletion during data entry
- ☐ Door locks
- ☐ Encryption
- ☐ Anti-virus software
- ☐ Firewall
- ☐ Swipe card

(d) Suchitra has been employed by the cinema to update the website. She is asked to create a password on the system. She chooses 'secret'.

Explain how she could make the password stronger.

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2 marks

copyright material

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(e) The cinema regularly requires staff to change their passwords.

Explain **two** benefits to the cinema of staff regularly changing their passwords.

1 .....

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2 .....

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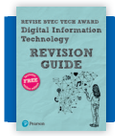
4 marks

Total for Question 1 = 12 marks



Revision Guide *page 34*

Hint

When you **explain** you need to give clear details and a reason for each benefit you select. For example, if your answer is that the data will be more secure, you need to give a reason why the benefit will help the cinema.

Hint

You are asked for **two** benefits. Do not give more than two as you will not get any more marks.

Watch out!

Make sure you read the question carefully. The benefits must be for the cinema. You will not get marks for writing about benefits to the customer.

Watch out!

The question asks for benefits. Don't give drawbacks!

Explore

According to a survey in 2018, most people do not change their passwords unless prompted. Most also use the same password on more than one account. Commonly used passwords include '123456' and 'password'!

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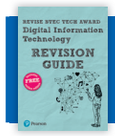

Revision Guide *page 48*

Hint

When answering this **state** question, you only need to recall two data protection principles. You do not need to go into any detail or give more than two responses.

Watch out!

There are six data protection principles, but only some of them apply to the collection of personal data. Make sure you do not state principles that apply to data storage or processing.

Explore

Health-care and biometric data are unique to each individual and can be used to identify them.

Hint

In this **explain** question, you need to identify an appropriate course of action and then explain it, giving a reason how or why it would have the intended effect.

Watch out!

In 2(b), your explanation must relate to the course of action you have stated. For example, if the action is 'Delete the file', your explanation must explain how deleting it will protect the system from harm.

2 An online clothing retailer collects personal data when customers purchase products from its website.

(a) The retailer needs to comply with data protection principles when collecting data.

State **two** data protection principles that apply to the collection of data.

1 .....

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2 .....

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2 marks

(b) An employee receives an email with an attachment from an unknown sender.

Explain what the employee should do to reduce the threat of a malware attack on the retailer's digital systems.

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2 marks

copyright material

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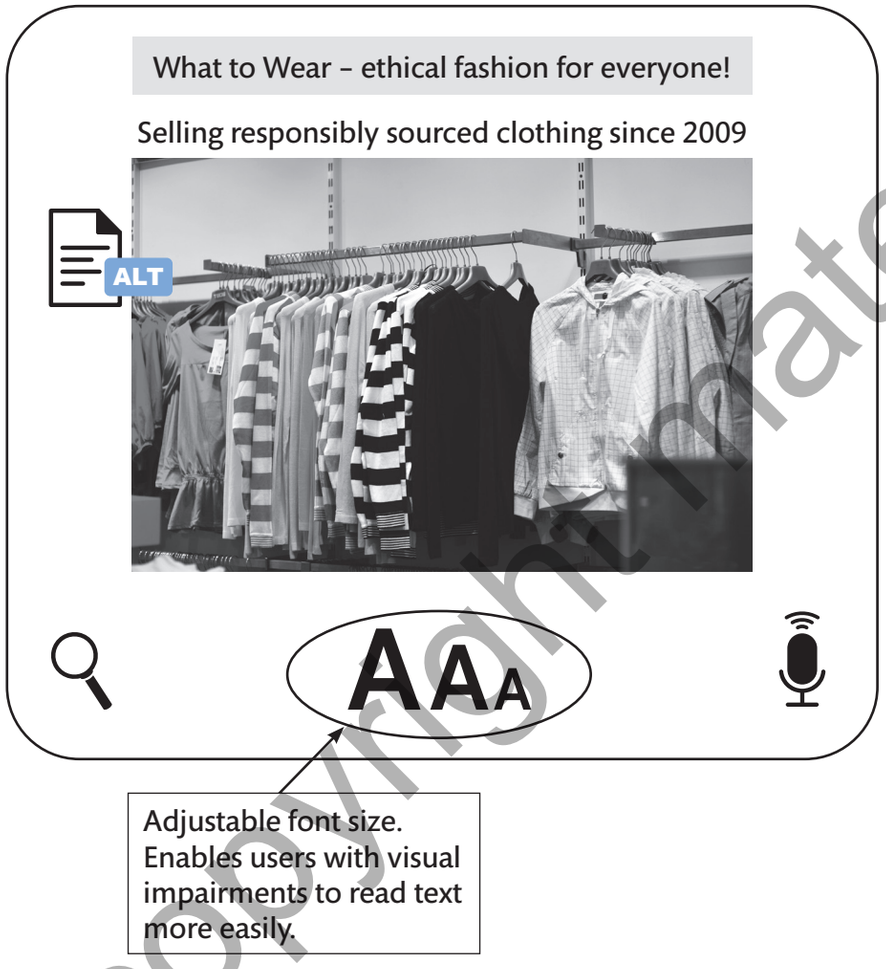
(c) The website uses features to aid accessibility.

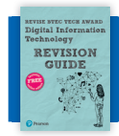
Annotate the web page by:

- identifying and labelling two different accessibility features of this website
- stating how each feature aids accessibility.

4 marks

An example has been provided.




Revision Guide page 17

Hint

Annotate questions require you to label a diagram and provide an explanation for each feature you identify, as shown in the example given.

Hint

To **annotate** you need to select a feature on the web page that will aid accessibility, then explain how it will do this, for example what the feature does and how it might benefit. Draw an arrow pointing from your explanation towards the feature.

Hint

Make sure you only add two annotations to the diagram. Do not repeat the example in the question.

Watch out!

Some parts of this web page will **not** aid accessibility, so make sure you know about the main accessibility features of web pages.

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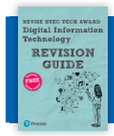

Revision Guide *page 35*

Hint

Make a list of possible benefits of having an acceptable software policy. Then think of reasons why some of them will benefit the retailer. For example, the retailer could include video games in a list of unauthorised software which may help workers to be less distracted at work.

Watch out!

An acceptable software policy is not the same as an acceptable use policy. Make sure you are clear about the differences as each will have different benefits.

Watch out!

Remember to focus on benefits to the retailer. The question is not asking you to discuss drawbacks or the impact on customers.

(d) Staff using the retailer's digital systems must follow its acceptable software policy.

Explain **two** benefits to the retailer of having an acceptable software policy.

1 .....

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2 .....

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4 marks

Total for Question 2 = 12 marks

copyright material

BTEC DIT PAP v2.1.indb 6 06/05/2022 10:53

3 A company designs and makes greetings cards which it sells through its high-street shops.

(a) The company stores its data in files on its digital systems at head office. The data in each file is encrypted.

Explain **one** way that data encryption increases the security of data stored in files.

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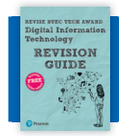
2 marks



Revision Guide *page 17*

Hint

Start by identifying a feature of data encryption. Then explain how this feature will help the business keep data secure.

Hint

You need to show that you understand what 'encryption' means by using another word with the same meaning. You do not need to explain how encryption works.

Watch out!

The question is about data that is saved on a network storage device. Avoid writing about how encryption helps data being transmitted.

LEARN IT!

Stolen data is only of use if the hacker can understand and exploit the information it contains. Encrypting a file makes it harder to read its contents. It does not, of itself, make it harder to steal the file.

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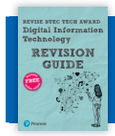

Revision Guide *page 6*

LEARN IT!

Collaborative working is when two or more people work together to produce something.

Hint

You should identify how collaborative working can be supported, then give a reason why cloud computing will help achieve this.

LEARN IT!

One type of cloud computing solution involves local devices each running downloaded software to edit files, with an online server storing the files so that multiple users can open them.

(b) The company uses cloud computing technologies to allow staff to work together on designing its greetings cards.

Explain **two** ways that cloud computing can support collaborative working.

1 .....

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2 .....

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4 marks

copyright material

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(c) The company's data security manager wants to improve the computer system's security from the threat of attack. She has employed an ethical hacker to carry out a penetration test.

Explain **two** benefits to the business of using penetration testing.

1 .....

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2 .....

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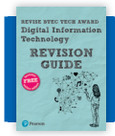
4 marks



Revision Guide page 32

Hint

First, identify two specific ways that penetration testing can help the business, then for each give a reason how or why it would do this.

Watch out!

The question does not ask for drawbacks to the business.

LEARN IT!

A penetration test is designed to test the strength of a digital system's defences in a controlled and safe way.

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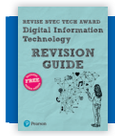

Revision Guide page 36

Hint

Draw questions expect you to produce an annotated diagram showing a process. In this case, you need to include the information contained in the question – the process used to show the cards that meet the search criteria. Make sure you show the information clearly.

Watch out!

Make sure that your annotations show how the data flows through the process. Remember to use the correct shapes and connectors in your diagram. Do not include unnecessary information or detail.

LEARN IT!

A data flow diagram will show how the entities and processes interact to enable information to flow from one part of the system to another.

(d) The company also sells its greetings cards through its website. Customers can use the website to search for different types of greetings card.

Figure 1 shows part of the process the website uses to identify which greetings cards meet the customer's search criteria.

- The guest enters the type of card they are looking for.
- The website checks which cards in the card data store meet the customer's search criteria.
- The card data store gives a list of cards matching the customer's criteria to the website.
- The website shows the customer the list of suitable cards.

Figure 1

On the next page, draw a top-level (Level 0) data flow diagram showing the process the greetings card website uses for showing suitable cards.

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6 marks

Total for Question 3 = 16 marks

Prepare

Think about your diagram before drawing it. You could do a small sketch if it will help you try out your ideas, but don't spend too much time on it. Make sure you cross out any rough work.

LEARN IT!

There are three parts to a Level 0 data flow diagram:

- the system
- the external entities which input and/or output data to or from the system
- the data flows between the entities and the system.

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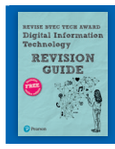

Revision Guide *pages 39 and 49*

Watch out!

Make sure you explain a benefit to the retailer. The question does not ask for drawbacks or the impact on website users.

Hint

The retailer is a business. This means it will want to have as many customers as possible spending money on its products.

LEARN IT!

First-party cookies are placed on a user's computer by the website. They include session cookies which are deleted when the user closes their browser. Third-party cookies are placed there by other organisations, such as those that manage the placing of adverts onto the web page. Advertisers are likely to pay more if they know that their advert will be seen by users with an interest in their products.

4 A food and grocery retailer has stores located around the country. It also has a website where customers can view details of products and purchase them online.

(a) The website places a cookie on the computer of each visitor who gives permission for it to do so.

Explain **one** benefit to the retailer of using cookies.

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2 marks

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(b) The website asks visitors to enable it to know their location when they are viewing the website.

Describe how the retailer could use location-based information to provide tailored services to its website customers.

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3 marks

(c) An employee wishes to connect their laptop to the internet in order to email a document to a colleague.

Explain **one** way that the employee could use a personal hotspot on their mobile phone to connect the laptop to the internet.

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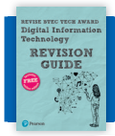
3 marks



Revision Guide *page 38*

Hint

Describe questions ask you to give two or more linked points. You do not need to include a justification or reason.

LEARN IT!

Location-based services are ones that differ depending on where the user is located.

Hint

Think about the ways that the content of the website could differ depending on where the customer is located.

Hint

This explain question requires you to identify an action the user could take, then justify and expand the answer to show how the laptop could connect to the internet.

Explore

Location-based services only work if the user gives permission for their device to track their location and share this with organisations that request it. Should users be concerned about the privacy issues involved with giving their location to other people and businesses?

LEARN IT!

Make sure you know the difference between a personal hotspot (an ad hoc Wi-Fi network) and tethering (using a wired USB connection).

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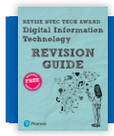

Revision Guide page 26

Hint

A discussion should include well-developed points that link together. For example, you should make a link between how customers might respond and how this impacts on the business.

Prepare

Plan your answer by thinking about the potential impacts and then how the organisation might be affected by each. This could include the impact on:

- customers
- business operations
- meeting legal requirements.

LEARN IT!

The impact on the retailer will include how many customers it has and the revenue it earns from selling products to them.

(d) The retailer recently suffered a security breach. Some customer data including usernames and passwords was stolen.

Discuss the impact of a security breach on the business.

6 marks

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(e) The retailer is considering the following measures to minimise threats to its data.

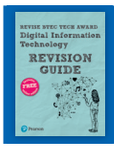
- Option 1: Locking all doors into rooms containing computer devices.
- Option 2: Facial recognition software to unlock all computer devices.

Evaluate which option would have the greatest impact.

6 marks

Total for Question 4 = 20 marks

TOTAL FOR ASSESSMENT = 60 MARKS



Revision Guide *pages 27 and 28*

Hint

Evaluate questions require you to consider different aspects of a subject, for example, its strengths and weaknesses or advantages and disadvantages. At the end of your answer you should come to an overall judgement about the issue and this should be supported by evidence.

Hint

To **evaluate**, you need to consider the strengths and weaknesses of each method, then make a judgement as to which method will improve security the most.

Hint

Make sure you give reasons for all your points. For example, why does Option 1 have drawbacks? Why have you chosen one method as being more secure than the others?

Prepare

Briefly plan your answer by making a list of strengths and weaknesses of each option. Then recommend the method you think would be the most suitable ('In conclusion, the best method to use would be… because…').

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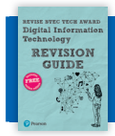

Revision Guide *page 23*

Hint

State questions expect you to recall one or more pieces of information.

Hint

When answering this **state** question, you only need to recall two types of malware. You do not need to go into any detail. Remember only to give the required number of responses.

Hint

When answering this **state** question, you need to recall two **other** methods that can be used to send phishing messages. Phone calls are mentioned in the scenario, so your response should not repeat this as a method.

LEARN IT!

Make sure you know the difference between phishing and pharming. Pharming uses fake websites rather than fake messages to trick the user into giving out information.

Explore

In 2017, over £4.6 billion was stolen from British internet users. Much of this was the result of successful phishing attempts.

Practice assessment 2

Answer ALL questions.
Write your answers in the spaces provided.

1 Jack is a journalist for an online newspaper.
He works from home and in the newspaper's office.
Jack's laptop has been attacked by malware.

(a) State **two** types of malware.

1 .....

.....

2 .....

.....

2 marks

(b) Jack knows that phone calls are used to send phishing messages.

State **two** other methods used to send phishing messages.

1 .....

.....

2 .....

.....

2 marks

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(c) Jack has a visual impairment. He uses accessibility features to help him read information.

Explain **one** accessibility feature Jack can use.

.....

.....

.....

.....

2 marks

(d) The newspaper requires all staff to protect themselves from shoulder surfing when working in a public place.

Describe **one** way that Jack could protect the newspaper's data from a shoulder surfer.

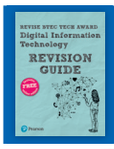
.....

.....

.....

.....

2 marks



Revision Guide pages 17 and 24

Hint

Explain questions require you to support your point with a linked reason.

Hint

In this **explain** question, you need to identify one accessibility feature that could make the information on screen more readable, then show how this will help Jack. Use linking phrases such as '… which means that…' or '… this results in…'.

Watch out!

In 1(c), make sure the feature will help Jack to read information. Do not discuss accessibility features that may help users with other needs.

Hint

Describe questions ask you to give two or more linked points that show how something might happen. You do not need to include a justification or reason.

Hint

In this **describe** question, you need to decide on one action that Jack could take and then show how this could protect the information visible on screen.

Watch out!

Make sure that the action you suggest will protect Jack's information from shoulder surfing and not from another form of data theft such as ransomware.

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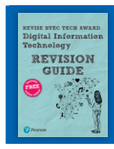

Revision Guide *pages 20 and 21*

Hint

In this **explain** question, you need to recall two impacts that technology can have on a user's well-being, then show how the technology can cause this impact.

Hint

'Well-being' usually means a person's mental or emotional health. However, you could also discuss the impact on their **physical** well-being such as the possible impact on levels of fitness.

Hint

Impacts can be either positive or negative. For example, technology can lead to social interaction or it can be a cause of social isolation.

Watch out!

Make sure your answer explains **two** different impacts on an individual's well-being. The question does not ask you about the impact on the organisation they work for.

(e) The newspaper is concerned about the impact of technology on the well-being of its staff.

Explain **two** impacts of technology on an individual's well-being.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

4 marks

Total for Question 1 = 12 marks

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2 A hospital stores confidential patient records. It has safeguards in place to protect this data.

(a) The hospital uses ethical hackers to help protect its systems.

Identify **two** types of ethical hacker.

1 .....

.....

2 .....

.....

2 marks

(b) The hospital currently replaces its computers every five years.

It is considering replacing its computers every three years.

Explain **one** impact that this change may have on the environment.

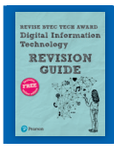
.....

.....

.....

.....

2 marks



Revision Guide pages 32, 40 and 41

Hint

Identify questions may ask you to recall a specific piece of information.

Hint

For this **identify** question, you need only name the two types of ethical hacker. You do not need to go into any detail.

Hint

To answer this **explain** question, you need to give an impact of the change on the environment, then say how or why it will have this effect.

Prepare

In 2(b), this policy will mean that the hospital buys new computers more often. It will also mean that its computers are up to date. How will this affect the environment?

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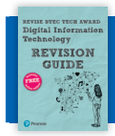


Revision Guide *page 62*

Hint

Annotate questions require you to label a diagram in the context of the question.

Hint

To **annotate** this form, you need to show a total of **two** ways it could be improved. The improvements should make it easier for users to complete the form.

Watch out!

You only need to state what the improvement is – you don't need to explain the reason for it.

Prepare

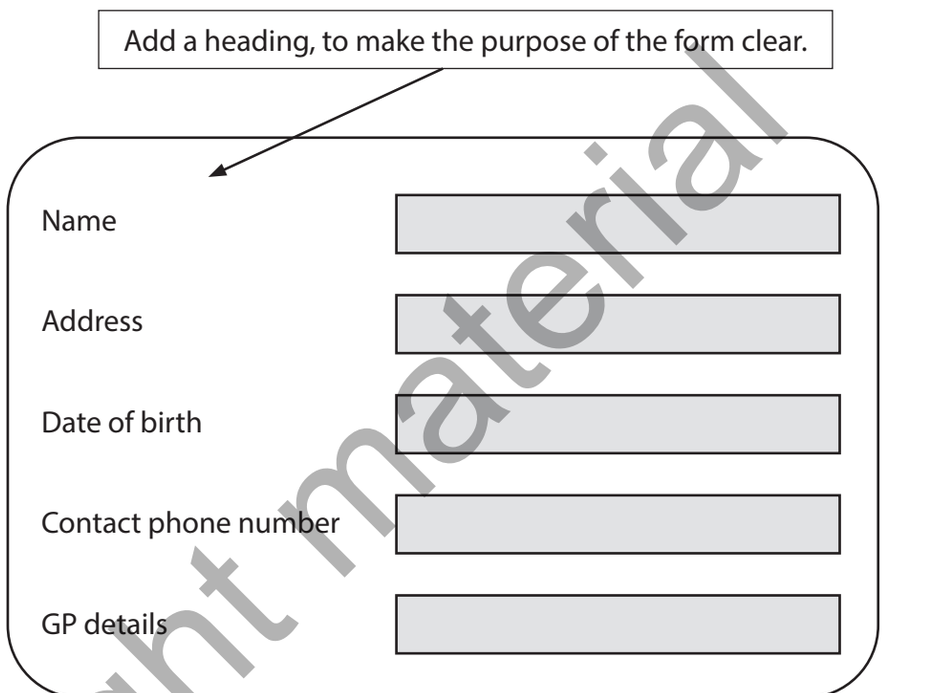
Look carefully at the form and identify areas where it isn't user friendly, for example, response boxes that are too small to fit the data. Think about how these parts of the form could be improved.

(c) Hospital reception staff enter a patient's personal details onto a form on their first visit to the hospital.

Annotate the form by:

- identifying and labelling two ways in which the form could be made more user friendly
- stating the improvements that could be made.

An example has been provided.



2 marks

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