GCSE

WJEC GCSE in DIGITAL TECHNOLOGY

APPROVED BY QUALIFICATIONS WALES

SAMPLE ASSESSMENT MATERIALS

Teaching from 2021

This Qualifications Wales regulated qualification is not available to centres in England.

For teaching from 2021
For award from 2023

WJEC GCSE
DIGITAL TECHNOLOGY

SAMPLE ASSESSMENT MATERIALS

UNIT 1

Contents

Candidate Name	Centre Number					Candidate Number				

GCSE DIGITAL TECHNOLOGY

UNIT 1

THE DIGITAL WORLD

SAMPLE ASSESSMENT MATERIALS

1 hour 30 minutes

These sample assessment materials, including the mark scheme, are shown in paper-based form.

The live assessments will be provided onscreen only, in compliance with section 11 in the subject-approval criteria for GCSE Digital Technology.

INSTRUCTIONS FOR CANDIDATES

Answer **ALL** questions.

Write your name, centre number and candidate number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this booklet.

Use black ink or black ball-point pen.

Do not use pencil or gel pen.

Do not use correction fluid.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part question. You are advised to divide your time accordingly.

The total number of marks available is 80.

You may use a calculator.

You are reminded of the need for good English and orderly, clear presentation in your answers. The quality of your written communication (QWC), including appropriate use of punctuation and grammar, will be assessed in your answer to question 10.

*Answer **all** questions.*

1. There are two main types of data – analogue and digital.

(a) Name **one** analogue device. [1]

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(b) Name **two** digital devices. [2]

(i) ……...

(ii) ……...

(c) Describe the difference between analogue and digital data. [2]

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(d) Digital systems can only store and process binary digits. Complete the gaps below. [3]

A bit is either a ……..... or a ……..…….. When 8 bits are stored as a binary number, they are called a ……..……...

(e) Complete the gaps in the following table. [3]

Measure	Name
4 bits	……
……. bytes	1 Kilobyte
1,048,576 bytes	……

2. There are many different types of Human Computer Interfaces (HCI).

(a) State the most appropriate HCI for network management software. [1]

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(b) Give a device or application that would use a Touch Sensitive Interface (TSI). [1]

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(c) Tick **(✓)** the boxes below to show which of the following statements about the advantages of a Graphical User Interface (GUI) are true. [4]

Statement	True?
Intuitive for beginners to use.	
A GUI does not take up a large amount of memory.	
A GUI is processor intensive.	
There are no complicated commands that need to be learnt.	
A GUI is easy to navigate.	
No keyboard or mouse is required.	
A GUI is suitable for every device.	
Data between different software applications is easily exchanged.	

3. Priyanka is looking to rent a holiday cottage in Wales for two weeks in July. Explain the advantages and disadvantages of booking a cottage using a Consumer to Consumer (C2C) marketplace. [4]

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4. Describe **two** advantages of a Solid State Drive (SSD) compared to a traditional Hard Disk Drive (HDD). [4]

(i) ……

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(ii) ……

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5. Every time we use the Internet, we leave a digital footprint.

(a) State what a digital footprint is. [1]

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(b) Describe the difference between an active digital footprint and a passive digital footprint. [2]

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(c) Give **two** examples of internet activities that could increase a user's active digital footprint. [2]

(i) ……...

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(ii) ……...

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(d) Describe **two** potential impacts on a user of having a digital footprint. [4]

(i) ……..

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(ii) ……..

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6. A travel agent is developing a new flight booking system and the systems analyst will follow the Systems Development Life Cycle when creating the new system.

(a) Explain **one** method of gathering information about the booking system requirements that would occur during the Systems Analysis stage. [3]

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(b) Explain **one** of the factors that the systems analyst would need to consider using the pilot method during the System Implementation Stage. [3]

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7. The World Wide Web (WWW) is a collection of resources accessible via the Internet.

(a) Other than providing internet access, identify **two** services provided by an Internet Service Provider (ISP). [2]

(i) ……...

(ii) ……...

(b) Every website has its own unique Uniform Resource Locator (URL). Give an example of each of the following. [2]

Scheme (or Protocol)	
Top level domain	

(c) Describe how a search engine works. [6]

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8. A taxi company based in Cardiff is thinking about adding autonomous vehicles to their taxi fleet. Explain the positive and negative impacts autonomous vehicles could have on the company. [6]

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9. Nick is a TV producer from Belgium. He is living in Wales for three months to work on a new TV project.

(a)

(i) Illustrate **two** digital communication methods that Nick could use to communicate with the main office in Belgium. [4]

1 ……...

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2 ……...

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(ii) Illustrate **two** different digital communication methods that Nick could use to keep in touch with his family and friends. [4]

1 ……...

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2 ……...

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(b) When using the Internet to research for the new TV project before moving to Wales, Nick had to think about the reliability of online sources. Explain **two** issues that he needed to be aware of and methods that would verify any information he found online. [4]

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10. You have been appointed as a security consultant to the Parkwood Vale Insurance Company and have been asked to update its cyber resilience controls. [12]

Explain the meaning of the term cyber resilience to the company, including the consequences of a cyber attack on the company, and any measures the company could put in place to prevent cyber attacks from occurring. [QWC]

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For continuation only

MARK SCHEME

Guidance for examiners

Positive marking

It should be remembered that candidates are writing under examination conditions and credit should be given for what the candidate writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.

For questions that are objective or points-based, the mark scheme should be applied precisely. Marks should be awarded as indicated and no further subdivision made.

Mark schemes often list points which may be included in candidates' answers. The list is not exhaustive. The inclusion of *'Credit any other valid response.*' (or similar instruction) within mark schemes allows for the possible variation in candidates' responses. Credit should be given according to the accuracy and relevance of candidates' answers.

Appropriate terminology is reflected in exemplar responses in mark schemes. However, unless there is a specific requirement within a question, candidates may be awarded marks where the answer is accurate but expressed in their own words.

Banded mark schemes

For band marked questions, mark schemes are in two parts, the indicative content and the assessment grid.

The indicative content suggests the range of points and issues which may be included in candidates' answers. It can be used to assess the quality of the candidate's response. As noted above, indicative content is not intended to be exhaustive and candidates do not have to include all the indicative content to reach the highest level of the mark scheme.

However, in order to reach the highest level of the mark scheme a candidate must meet the requirements of the highest mark band. Where a response is not creditworthy, that is, it contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

In GCSE Digital Technology, each question will address one assessment objective: from AO1 and AO2. For each assessment objective, descriptors will indicate the different skills and qualities at the appropriate level.

Candidates' responses to questions are assessed against the relevant assessment objectives.

The marking of banded mark questions should always be positive. This means that, for each candidate's response, marks are accumulated for the demonstration of relevant skills, knowledge and understanding; they are not deducted from a maximum on the basis of errors or omissions.

Examiners should first read and annotate the candidate's answer to pick out the evidence that is being assessed in that question. The mark scheme can then be applied. This is done as a two stage process.

Stage 1 – Deciding on the band

Beginning at the lowest band, examiners should look at the candidate's answer and check whether it matches the descriptors for that band. If the descriptors at the lowest band are satisfied, examiners should move up to the next band and repeat this process for each band until the descriptors match the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the candidate's response should be used to decide on the mark within the band. For instance, if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content.

Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

Stage 2 – Deciding on the mark

During standardising (the marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a candidate's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme, in order to confirm that the band and the mark allocated is appropriate to the response provided.

Question		Answer	AO1	AO2	Total Mark
1.	*There are two main types of data – analogue and digital.*				
	(a)	*Name **one** analogue device*.	1		1
		Award **one** mark for any of the following devices: • microphone • speaker • sensor • headphones • electric guitar. Credit any other valid response.	1 1 1 1 1		
	(b)	*Name **two** digital devices.*	2		2
		Award **one** mark per device for any of the following devices, up to a maximum of **two**: • computer • laptop • tablet • MP3 Player • digital camera • smart phone. Credit any other valid response.	1 1 1 1 1 1		
	(c)	*Describe the difference between analogue and digital data.*	2		2
		Award **one** mark for a brief description, for example: • digital data is ones and zeros • analogue data is a wave. Award **two** marks for a more extended description, for example: • Analogue uses values that have a smoothly changing signal whereas digital data moves from one value to the next step by step • All analogue devices use analogue data and digital devices use digital data • To use analogue values with a digital device the data needs to be converted using either an analogue to digital converter (ADC) or a digital to analogue converter (DAC). Credit any other valid response.			

<table>
<tr><td></td><td>(d)</td><td>Digital systems can only store and process binary digits. Complete the missing gaps below.</td><td>3</td><td></td><td>3</td></tr>
<tr><td></td><td></td><td>Award one mark for each correct response (in bold)
A bit is either a 0 or a 1. When 8 bits are stored as a binary number, they are called a byte.</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(e)</td><td>Complete the gaps in the following table.

<table><tr><th>Measure</th><th>Name</th></tr><tr><td>4 bits</td><td></td></tr><tr><td>bytes</td><td>1 Kilobyte</td></tr><tr><td>1,048,576 bytes</td><td></td></tr></table></td><td>3</td><td></td><td>3</td></tr>
<tr><td></td><td></td><td>Award one mark for each correct row:

<table><tr><th>Measure</th><th>Name</th></tr><tr><td>4 bits</td><td>1 Nybble</td></tr><tr><td>1024 bytes</td><td>1 Kilobyte</td></tr><tr><td>1,048,576 bytes</td><td>1 Megabyte</td></tr></table>
Condone 1000 bytes = 1 Kilobyte</td><td>1
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1</td><td></td><td></td></tr>
</table>

<table>
<tr><th colspan="2">Question</th><th>Answer</th><th>AO1</th><th>AO2</th><th>Total Mark</th></tr>
<tr><td>2.</td><td colspan="2">There are many different types of Human Computer Interfaces (HCI).</td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>State the most appropriate HCI for network management software.</td><td>1</td><td></td><td>1</td></tr>
<tr><td></td><td></td><td>Award one mark for:

Command Line Interface/CLI</td><td>

1</td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>Give a device or application that would use a Touch Sensitive Interface (TSI).</td><td>1</td><td></td><td>1</td></tr>
<tr><td></td><td></td><td>Award one mark for any one of the following devices:

• tablet
• mobile phone/smart phone
• ATM machine
• laptop.

Credit any other valid response.</td><td>

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1
1</td><td></td><td></td></tr>
<tr><td></td><td>(c)</td><td>Tick (✓) the boxes below to show which of the following statements about advantages of a Graphical User Interface (GUI) are true.</td><td>4</td><td></td><td>4</td></tr>
<tr><td></td><td></td><td>Award one mark for each correct tick:

<table>
<tr><th>Statement</th><th>True?</th></tr>
<tr><td>Intuitive for beginners to use.</td><td>✓</td></tr>
<tr><td>A GUI does not take up a large amount of memory.</td><td></td></tr>
<tr><td>A GUI is processor intensive.</td><td></td></tr>
<tr><td>There are no complicated commands that need to be learnt.</td><td>✓</td></tr>
<tr><td>A GUI is easy to navigate.</td><td>✓</td></tr>
<tr><td>No keyboard or mouse is required.</td><td></td></tr>
<tr><td>A GUI is suitable for every device.</td><td></td></tr>
<tr><td>Data between different software applications is easily exchanged.</td><td>✓</td></tr>
</table>

Award one mark for 5 ticks, even if more than one is correct
Award zero marks for 6 or more ticks.</td><td></td><td></td><td></td></tr>
</table>

Question	Answer	AO1	AO2	Total Mark
3.	*Priyanka is looking to rent a holiday cottage in Wales for two weeks in July. Explain the advantages and disadvantages of booking a cottage using a Consumer to Consumer (C2C) marketplace.*		4	4
	Award **one** mark for a limited explanation of an advantage or disadvantage, for example: • Priyanka can shop around for the best price. • Credit card payments may not be secure. Award **two** marks for a basic explanation of an advantage and disadvantage, for example: • Prices are generally lower for buyers using C2C compared to buying from a travel agent • Opportunist scams and fraud may take place where the property may not exist. Award **three** marks for a more developed explanation of an advantage and disadvantage, for example: • Priyanka can find holiday homes that may not be on a traditional holiday letting agent's website as they maybe privately owned • Priyanka can contact the owner directly, for example to ask if she can rent the cottage at a nightly rate so wouldn't necessarily need to book for the full two weeks and has greater flexibility of when she can start and finish her holiday • Credit card payments may not be secure and owners offering their holiday homes via a C2C marketplace may not have the facilities to process this type of payment. Award **four** marks for a fully developed explanation of an advantage and disadvantage, for example: • Prices are lower for consumers using C2C due to greater price savings as the owner will not need to pay business or commission fees and can pass this saving on to Priyanka • Priyanka can look at a variety of similar private properties from a range of different C2C sites to find the most competitive price and even bargain directly with the owner • It could be dangerous for Priyanka as cash payments are usually needed when consumers arrive at the property and there could be personal safety concerns when meeting to make the payment. • The lack of quality standards or a regulator may mean the holiday cottage could differ in standard to the one advertised online, it may not even be in the same location. This could severely impact on Priyanka's holiday and may result in her having to return home. Credit any other valid response.			

Question	Answer	AO1	AO2	Total Mark
4.	*Describe **two** advantages of a Solid State Drive (SSD) compared to a traditional Hard Disk Drive (HDD).*	4		4
	Award **one** mark for a basic description of each advantage, for example: • SSDs retrieve data faster • SSDs are more robust as they don't have any moving parts. Award **two** marks for a more developed description of each advantage, for example: • Access speed – A SSD would be much faster because it isn't mechanical – read and write is quicker than older hard drives • Flash memory – the older hard drives use a spinning platter therefore; it takes longer to find the data on the disk • A SSD will use less power, which can mean laptops could have longer battery lives • Can use plug and play technology to save having to manually install drivers. Credit any other valid response.			

Question		Answer	AO1	AO2	Total Mark
5.	*Every time we use the Internet, we leave a digital footprint.*				
	(a)	*State what a digital footprint is.*	1		1
		Award **one** mark for a correct definition, for example: • A digital footprint is a trail of data created when you are using the Internet • A digital footprint is data that is left behind when users have been online Credit any other valid response.			
	(b)	*Describe the difference between an active digital footprint and a passive digital footprint.*	2		2
		Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • An active digital footprint is data intentionally submitted online via blogs, apps, websites and social media actions • A passive digital footprint is data collected without a user's knowledge. Credit any other valid response.			
	(c)	*Give **two** examples of internet activities that could increase a user's active digital footprint.*	2		2
		Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • the web server logging the IP address • search history/visited websites • sending an email • posting on a social media website • publishing a blog • creating a video and uploading it online • location services being switched on. Credit any other valid response.	1 1 1 1 1 1 1		

Question		Answer	AO1	AO2	Total Mark
	(d)	*Describe **two** potential impacts on a user of leaving a digital footprint.*	4		4
		Award **one** mark for a basic description of an impact, for example: • Criminals can be found by the police • Websites can recommend similar items you have browsed or purchased. Award **two** marks for a more developed description of an impact, for example: • What you post online, even if you delete it could still be stored on a server • Employers could look up potential new candidate's social media pages and it could deter them • If employees write anything negative about the company online, they could be dismissed • Fraud could be easier to detect e.g. social media photos and posts. Credit any other valid response.			

Question		Answer	AO1	AO2	Total Mark
6.	*A travel agent is developing a new flight booking system and the systems analyst will follow the Systems Development Life Cycle when creating the new system.*				
	(a)	*Explain **one** method of gathering information about the booking system requirements that would occur during the Systems Analysis stage.*		3	3
		Candidates will be awarded one mark for identification of a method, two marks for a basic explanation and three marks for a detailed explanation. Award **one** mark for the naming of a method with no further explanation, for example: • Interview • Observation • Questionnaire Award **two** marks for a basic explanation of a method, for example: • Interviews – speaking with managers to find out how the current system works and background information on the company itself • Observations – looking at the current flight booking system and seeing how things work at the moment • Questionnaire – sending a questionnaire to staff to ask them what they would want the new system to have and any ideas that staff may have. Award **three** marks for a detailed explanation of a method, for example: • Interviews – speaking with managers to find out how the current system works and background information on the company itself. For example finding out how flights are currently booked and any problems that occur with the current system. • Observations – looking at the current flight booking system and seeing how things work at the moment. For example, the systems analyst may spend time at the travel agent investigating how the computer system works • Questionnaire – sending a questionnaire to staff to ask them what they would want the new system to have and any ideas that staff may have. For example, asking questions about speed of access to information or design of the interface. Credit any other valid response.			

	(b)	*Explain **one** of the factors that the systems analyst would need to consider using the pilot method during the System Implementation Stage.*		3	3
		Candidates will be awarded one mark for identification of a factor, two marks for a basic explanation and three marks for a detailed explanation. Award **one** mark for the naming of a factor with no further explanation, for example: • Choice of branch • Risk • Training Award **two** marks for a basic explanation of a factor, for example: • Choice of branch – the location and size of the branch will determine which one to pick • Risk - the system may be unstable and lead to the branch being out of action for a period of time • Staff training – staff would need to be trained on the new system in order to be able to use it correctly. Award **three** marks for a detailed explanation of a factor, for example: • Choice of branch – the location and size of the branch will determine which one to pick. Too small or too remote and the system will not be tested properly, too large or central the system may not cope • Risk - the system may be unstable and lead to the branch being out of action for a period of time. This would be better than the whole organisation but could lead to loss of custom at the branch • Training - this would improve for the organisation as a whole as any usage issues would be detected and written into the training. For the branch selected there may be no complete training package available. Credit any other valid response.			

Question		Answer	AO1	AO2	Total Mark
7.	*The World Wide Web (WWW) is a collection of resources accessible via the Internet.*				
	(a)	*Other than providing internet access, identify **two** services provided by an Internet Service Provider (ISP).*	2		2
		Award **one** mark for each correct example up to a maximum of **two**. • Providing email addresses • Web site building • Providing web site hosting • Supply the equipment – e.g. the router. Credit any other valid response.	1 1 1 1		
	(b)	*Every website has its own unique Uniform Resource Locator (URL). Give an example of each of the following.*	2		2
		Give **one** mark for a correct scheme and **one** mark for identifying a top level domain, for example: Scheme (accept Protocol): • HTTP • HTTPS • FTP • mailto Top level domain: • com • co.uk • org • ac.uk Credit any other valid response	1 1 1 1 1 1 1 1		
	(c)	*Describe how a search engine works.*	6		6
		Indicative content Answers may refer to the following: • A web crawler searches around the Internet looking at heavily used servers or popular webpages • The web crawler looks at significant words and notes their location on a page and where they were found • The web crawler also looks at meta tags, titles and sub-titles • This process never stops • An index is built using more than just the word and URL • A user enters key words into a search engine website making a query • The results are searched for within the index then ranked into order according to an algorithm which may promote pages to the top based on different criteria • The results are displayed on the user's computer. Credit any other valid response.			

Band	AO1
3	**5-6 marks** A very good description, which shows: • thorough knowledge and understanding of how a search engine works • a confident grasp of all relevant stages of the search engine process from start to finish.
2	**3-4 marks** A good description, which shows: • generally secure knowledge and understanding of how a search engine works • generally secure grasp of various stages of the search engine process from start to finish.
1	**1-2 marks** A basic description, which shows: • some knowledge and understanding of how a search engine works • some grasp of basic concepts related to a few stages of the search engine process from start to finish.
	0 marks Response not creditworthy or not attempted.

Question	Answer	AO1	AO2	Total Mark
8.	*A taxi company based in Cardiff is thinking about adding autonomous vehicles to their taxi fleet. Explain the positive and negative impacts autonomous vehicles could have on the company.*		6	6
	Indicative content Answers may refer to the following: • Could be safer as the technology uses sensors to judge where other vehicles are. This could lead to cheaper insurance • No human error; a frequent cause of accidents on the road. This could lead to the company being better trusted by customers • After the initial expense of purchasing the vehicles, money could be saved on the wages of taxi drivers • The risk that the vehicles could be hacked and possibly used in a criminal activity that would impact on the reputation of the business • This technology could eventually lead to taxi drivers losing their jobs • Computer malfunction could lead to an accident with blame being difficult to apportion to either the taxi company or the manufacturer • The high initial cost of purchasing the vehicles • If customers are wary of using the driverless taxi, it may not be used very much. Credit any other valid response.			

Band	AO2
3	**5-6 marks** A very good explanation, which shows: • thorough knowledge and understanding of what an autonomous vehicle is • a confident grasp of the positive and negative impacts autonomous vehicles would have on the company.
2	**3-4 marks** A good explanation, which shows: • generally secure knowledge and understanding of what an autonomous vehicle is • a generally secure grasp of the positive and/or negative impacts autonomous vehicles would have on the company.
1	**1-2 marks** A basic explanation, which shows: • some knowledge and understanding of what an autonomous vehicle is • some grasp of the positive or negative impacts autonomous vehicles would have on the company.
	0 marks Response not creditworthy or not attempted.

Question		Answer	AO1	AO2	Total Mark
9.	*Nick is a TV producer from Belgium. He is living in Wales for three months to work on a new TV project.*				
	(a)				
	(i)	*Illustrate **two** digital communication methods that Nick could use to communicate with the main office in Belgium.*		4	4
		Award **one** mark for naming a communication method, without any further detail, for example: • Video conferencing • Remote meetings Award **two** marks for each illustration of a communication method, for example: • Video conferencing/group conference calls to allow remote meetings to take place • Emailing files/attachments • Using apps and websites e.g. Microsoft Teams to hold discussions, share files, call and message between Nick and the company. Credit any other valid response.			
	(ii)	*Illustrate **two** different digital communication methods that Nick could use to keep in touch with his family and friends.*		4	4
		Award **one** mark for naming a communication method, without any further detail, for example: • Email • Instant messaging • Blogs • Video calls. Award **two** marks for each illustration of a communication method, for example: • Emailing his family and friends back home to send them photos of Wales • Instant messaging apps to chat and send photos and videos • Keeping a blog/vlog to show his friends and family back home what he has been doing • Video conferencing using an app to video call friends and family in Belgium • Using social networking platforms to update status, share photographs and videos • Location services on social media to show Nick's location in Wales. Do not credit repeated answers given in part (i). Credit any other valid response.			

Question		Answer	AO1	AO2	Total Mark
9.	(b)	*When using the Internet to research for the new TV project before moving to Wales, Nick had to think about the reliability of online sources. Explain two issues that he needed to be aware of and methods that would verify any information he found online.*		4	4
		Award **one** mark for each named issue, with no further explanation, for example: • Accuracy of information • Biased information • Out of date information Award **two** marks for each explanation of an issue including methods that would verify information, for example: • Accuracy of information – not everything Nick finds online will be correct, so he should check multiple sources • Biased information – websites could give Nick a one-sided view, so he should only use trustworthy, impartial websites • Out of date information - some of the information could have been posted some time ago, so Nick should check the date of posts. Credit any other valid response.			

Question	Answer	AO1	AO2	Total Mark
10.	*You have been appointed as a security consultant to the Parkwood Vale Insurance Company and have been asked to update its cyber resilience controls.* *Explain the meaning of the term cyber resilience to the company, including the consequences of a cyber attack on the company, and any measures the company could put in place to prevent cyber attacks from occurring. [QWC]*		12	12

	Indicative content
	Answers may refer to the following:
	
	Cyber resilience is a company's ability to prepare, survive, respond to and recover from a cyber attack. This will include making sure the company has a disaster recovery plan in place.
	
	Consequences of a cyber attack on the company:
	
	• Temporary or permanent loss of data and information Temporary may not be so much of a problem especially if backups are in place
	• Damaged or corrupted software
	• Websites taken down – this would have the consequence of not being able to reach customers
	• Loss of reputation – customers may lose trust with the company and do not want to use the insurance company again
	• Loss of competitive advantage – rival companies may be more advantageous to customers if they haven't had a cyber attack
	• Financial loss – the loss of customers and the cost of rebuilding the company may mean the company loses out on a lot of money.
	
	Specific measures the company could put in place to prevent cyber attacks:
	
	• Using a boundary firewall and internet gateway to prevent unauthorised attacks
	• By having secure system configuration including:
	
	  • admin accounts – to limit data access
	  • audit trails – who, what, when
	  • account management
	  • backup procedures
	
	• Implementing access control including restricted access to valuable data
	• Implementing malware protection
	• Having patch management to ensure the latest updates of software are applied to all machines
	• Ensuring known vulnerabilities are dealt with and the latest version of an application is being used
	• Implementing staff training to ensure staff are not putting data at risk in the future.			

Band	AO2
4	**10-12 marks** An excellent explanation, which shows: • thorough knowledge and understanding of the term cyber resilience • an excellent description of the consequences of a cyber attack on the company and strong knowledge of the specific measures the company could put in place to prevent cyber attacks. • Writing is very well structured and organised, using accurate grammar, punctuation and spelling. • A range of specialist terminology is used with accuracy.
3	**7-9 marks** A good explanation, which shows: • generally secure knowledge and understanding of the term cyber resilience • a good description of some of the consequences of a cyber attack on the company and some good knowledge of the specific measures the company could put in place to prevent cyber attacks. • Writing is generally well structured and organised, using mainly accurate grammar, punctuation and spelling. • Specialist terminology is used with accuracy.
2	**4-6marks** A basic explanation, which shows: • some knowledge and understanding of the term cyber resilience. • a basic description of the consequences of a cyber attack on the company and some basic knowledge of the measures the company could put in place to prevent cyber attacks. • Writing shows some evidence of structure though some errors in grammar, punctuation and spelling affect meaning. • Basic use of specialist terminology.
1	**1-3 marks** A limited explanation, which shows: • limited knowledge and understanding of the term cyber resilience • a limited description of the consequences of a cyber attack on the company and some basic knowledge of the measures the company could put in place to prevent cyber attacks. • Some errors in grammar, punctuation and spelling, which affect clarity of communication. • Limited use of specialist terminology.
	0 marks Response not creditworthy or not attempted.

Mapping of questions to specification content and assessment objectives

Unit 1

Question			Specification content (main focus)							Mark allocation		
			Section						Part	Total Marks	AO1 Marks	AO2 Marks
			2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6				
1	(a)		1						(a)	1	1	0
	(b)		2						(a)	2	2	0
	(c)		2						(a)	2	2	0
	(d)		3						(b)	3	3	0
	(e)		3						(b)	3	3	0
2	(a)			1					(b)	1	1	0
	(b)			1					(b)	1	1	0
	(c)			4					(b)	4	4	0
3						4			(b)	4	0	4
4			4						(b)	4	4	0
5	(a)						1		(c)	1	1	0
	(b)						2		(c)	2	2	0
	(c)						2		(c)	2	2	0
	(d)						4		(c)	4	4	0
6	(a)			3					(f)	3	0	3
	(b)			3					(f)	3	0	3
7	(a)			2					(a)	2	2	0
	(b)			2					(a)	2	2	0
	(c)			6					(a)	6	6	0
8								6	(c)	6	0	6
9	(a)	(i)			4				(a)	4	0	4
	(a)	(ii)			4				(a)	4	0	4
	(b)				4				(b)	4	0	4
10							12		(b)	12	0	12
Total marks			15	22	12	4	21	6		**80**	**40**	**40**