UNCOVER LEARNER POTENTIAL

Level 1/2 Vocational Award in

ICT
(Technical Award)

Teaching from 2022 | Award from 2024

SAMPLE ASSESSMENT MATERIALS - UNIT 1

Contents

Surname		Centre Number	Candidate Number
First names			4

WJEC LEVEL 1/2 VOCATIONAL AWARD

ICT - Unit 1

ICT in Society

1 hour 20 minutes

SAMPLE ASSESSMENT MATERIALS

Paper version of on-screen assessment

For the purpose of Submission, this draft sample assessment by examination is provided in paper-based form.

The live assessments will be provided onscreen only.

INSTRUCTIONS FOR CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Answer **all** questions.

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

Type your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	10	
2.	24	
3.	21	
4.	25	
Total	80	

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part question.

The total number of marks available is 80.

You are reminded of the need for clear and accurate written communication.

*Answer **all** questions.*

1. *Stock 'em Up Stores* is a supermarket chain with shops throughout the country. Each store has its own Local Area Network (LAN), and this connects to the central office using a Wide Area Network (WAN).

   The LAN layout of the network topology in each store is similar to the one shown below.
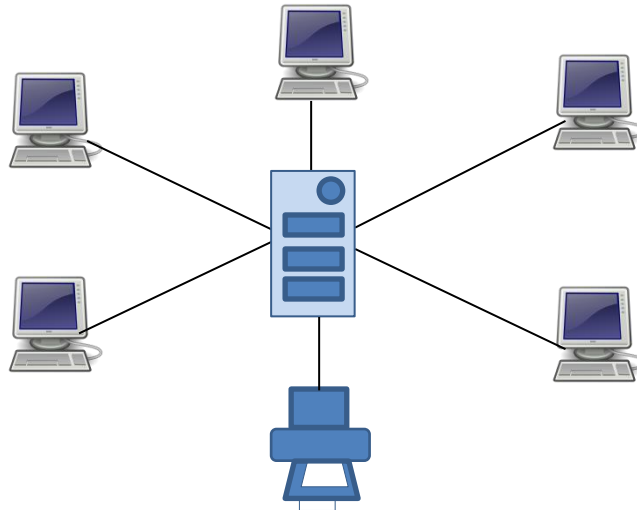
   (a)   Name this type of layout.   [1]

   ....

   (b)   Identify **two** possible differences between the store's Local Area Network (LAN)   [2]
          and the central office's Wide Area Network (WAN).

   ....

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   (c)   One of the devices of the network is a router.   [2]

          Describe the purpose of a router.

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(d) The network uses protocols when exchanging data.

(i) Identify the best definition of 'protocol' by placing a tick (✓) in **one** box below. [1]

☐ A type of web browser.

☐ A way of sending emails.

☐ A set of rules for communication between computers.

☐ A first version of a device from which other forms are developed.

(ii) Protocols have a purpose. [4]

Match each pair, by clicking each protocol then clicking the most appropriate purpose.

Protocol	Purpose
File Transfer Protocol (FTP)	Sending an email from one mail server to another
Simple Mail Transfer Protocol (SMTP)	Viewing a website using a web browser.
Hypertext transfer Protocol (HTTP)	Downloading an email to your computer
Internet Message Access Protocol (IMAP)	Transmitting a file from a client to a sever.

2   *Game IT* is a company that produces computer games that can be played on a variety of hardware devices. They have a website where customers can register to buy and download games. When they register, customers have to input personal information including their name and email address. This is so they can be sent news and updates, their preferred device, payment details and a username and password to log into Game IT's website. Gaming is a fiercely competitive industry, and it is vital that Game IT protects both their own information and that of their users.

[2]

(a)   Name **two** different types of computing devices that customers might use to play games.

Device 1

……

Device 2

……

(b)   *Game IT* have to ensure that customer data is handled correctly.
(i)   Name the legislation that protects customers' data.   [1]

……

(ii)   Identify **two** ways that this legislation would protect the data of *Game IT*'s customers.   [2]

1. ……

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2. ……

……

(iii) Explain **two** ways that data loss might impact on *Game IT.*   [4]

1. ……

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2. ....

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(iv)   Identify **three** logical protection methods that *Game IT* could use to protect   [9]
information and explain how each of these methods work.

Logical protection method 1:

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Explanation

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Logical protection method 2:

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Explanation

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Logical protection method 3:

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Explanation

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(v)   There are moral and ethical issues which can affect computer users.   [6]
      Game IT monitor their staff when they are working.
      Discuss the advantages and disadvantages of monitoring individuals in a
      working environment.

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3.   Alisha runs a dog-walking business from home. She has a PC and an all-in-one printer. Alisha lives in a small village where broadband connection is not available. As she is far away from the local town, she likes to take advantage of online services to help run her business.

(a)   Alisha uses her PC to record details of her clients.

(i)   Name **one** input device that Alisha will use.   [1]

……………………………………………………………………………………………………

(ii)   Name **one** output device that Alisha will use.   [1]

……………………………………………………………………………………………………

(b)   Alisha understands that it is important to keep information secure.   [3]
Give **three** physical protection methods that can keep information secure.

1.   …………………………………………………………………………………………………

……………………………………………………………………………………………………

2.   …………………………………………………………………………………………………

……………………………………………………………………………………………………

3.   …………………………………………………………………………………………………

……………………………………………………………………………………………………

(c)   Alisha uses various types of software on her PC.   [3]
Match each pair, by clicking each program then clicking the most appropriate type of software.

Protocol	Type of Software
Database	Utility software
Anti-virus	System software
Computer OS	Applications software

(d)   There is no broadband connection in the village where Alisha lives so she connects to the Internet using a dongle.   [1]
State the type of connectivity that the dongle uses.

……………………………………………………………………………………………………

(e)   Explain which IT services might help Alisha run her business efficiently. Give examples that are relevant to her dog walking business.   [12]

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4. *What U Think?* is a market research company that collects a vast amount of data on a variety of topics. They are contracted by other companies to research topics on their behalf. Reputation is very important to them and so they ensure they store client's data securely. This includes reports based on the findings of their research. Due to a lack of bandwidth the company do not use cloud computing.

    (a) State how collected data becomes information.   [2]

    ……………………………………………………………………………………………………

    ……………………………………………………………………………………………………

    ……………………………………………………………………………………………………

    ……………………………………………………………………………………………………

    (b) Complete the following statement: [1]

    Knowledge is derived from information by.

    ……………………………………………………………………………………………………

    (c) Give **two** characteristics of good quality data.   [2]

    1. …………………………………………………………………………………………………

    ……………………………………………………………………………………………………

    2. …………………………………………………………………………………………………

    ……………………………………………………………………………………………………

    (d) Give **two** different data capture methods that a company could use and for each   [4]
         of these give an example to show how this method might be used.

    Method 1

    ……………………………………………………………………………………………………

    Example of use

    ……………………………………………………………………………………………………

    ……………………………………………………………………………………………………

    Method 2

    ……………………………………………………………………………………………………

    Example of use

    ……………………………………………………………………………………………………

    ……………………………………………………………………………………………………

(e)   A clothes manufacturer has asked *What U Think?* to research what colours people would like to see in their new range of T-shirts which will be launched in the autumn.

(i)   Using an example, identify an advantage of *What U Think?* using encoding when storing the data collected.   [2]

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(ii)   Suggest **two** validation methods that *What U Think?* could use and justify why they are appropriate for data entry in this scenario.   [6]

Validation method 1

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Justification

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Validation method 2

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Justification

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(f)   *What U Think?* use spreadsheet software to produce graphs to include in their reports for clients.

   (i)   State the type of graphs shown below.   [2]

Graph 1   Graph 2
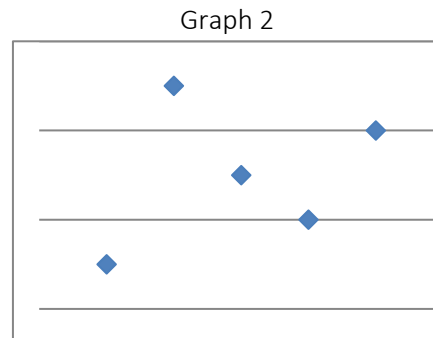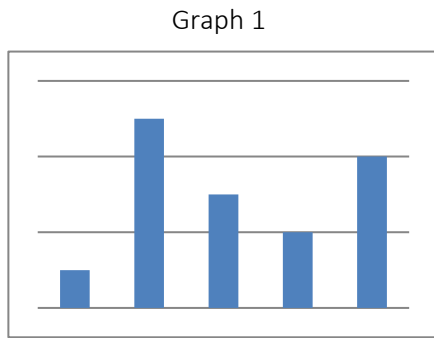
Type of graph: …………………………………   Type of graph: ………………………………

   (ii)   Select which of the graphs shown above would be the most suitable to display the research findings for the clothes manufacturer and suggest a reason for your choice.   [2]

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(g)   *What U Think?* must backup their client research reports securely. Explain how they could backup these reports.   [2]

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(h)   *What U Think?* implemented a policy of Green IT in their office two years ago. As well as the benefits to the environment, they have found that they are saving money.   [2]

   State **two** possible guidelines that could be included in this policy that would help *What U Think?* save money.

   Guideline 1

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Guideline 2

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MARK SCHEME

Guidance for examiners

Generic marking principles

- Marks awarded are always whole marks (not half marks, or other fractions).

- Answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

- Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

- Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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, 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 Level 1 / 2 Vocational Award in ICT (Technical Award), each question will address one or more assessment objectives: from AO1, AO2 or AO3. Where appropriate, the assessment grid subdivides the total mark that may be allocated for a question into individual assessment objectives. These are shown in bands in the mark scheme. 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. Where a question addresses more than one assessment objective, candidates may achieve different bands within that question. In these cases, a mark will be awarded for each assessment objective then totalled to give an overall mark for the question.

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.

Differentiation within our mark schemes
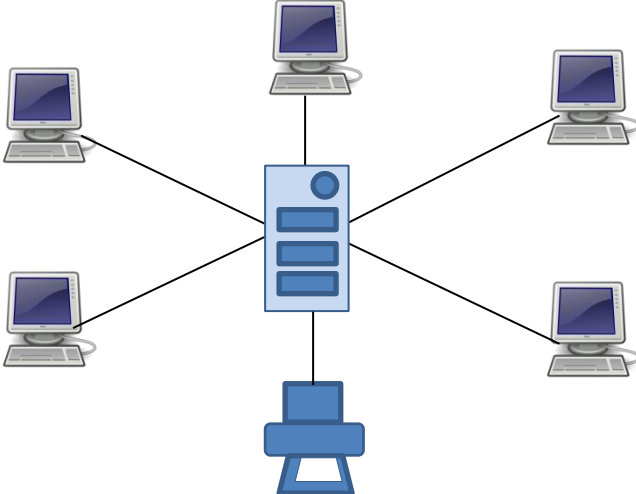
The following grid demonstrates our starting point to formulating our mark schemes. These are used in order to ensure differentiation between our bands. Mark schemes will use this table as the basis for the assessment of each question but will reflect the specific demands of the question.

Band Descriptor	AO1	AO2	AO3
Excellent / Very	• Aware of a wide range of detailed and accurate knowledge. • Demonstrates fully developed understanding that shows relevance to the demands of the question. • Effective and precise use of terminology.	• Knowledge and understanding are consistently applied to the context of the question/task. • Practical skills are consistently and effectively applied and are of a high standard. • Is able to form a fully developed and thorough interpretation that is fully accurate.	• Analysis and evaluation skills are used in a highly effective way. • Evidence is selected to construct an effective and balanced argument. • Detailed and substantiated evaluation that offers secure judgements leading to rational conclusions.
Good / Good	• Has a range of detailed and accurate knowledge. • Demonstrates well developed understanding that is relevant to the demands of the question. • Precise use of terminology.	• Knowledge and understanding are applied to the context of the question/task. • Practical skills are effectively applied and are of a high to medium standard. • Is able to form a developed interpretation that is mostly accurate.	• Analysis and evaluation skills are used in an effective way. • Evidence is selected to construct a developed argument, that may not be presented in equal measure. • Detailed evaluation that offers generally secure judgements, with some link between rational conclusions and evidence.
Satisfactory	• Includes accurate knowledge. • Demonstrates sound understanding that is relevant to the demands of the question/task. • Generally precise use of terminology.	• Knowledge and understanding are mainly applied to the context of the question/task. • Practical skills are appropriately applied and are of a medium standard. • Is able to form a sound interpretation that is generally accurate.	• Analysis and evaluation skills are used in an appropriate and sound way. • Evidence is selected to construct a sound argument. OR • Evidence is selected to construct a detailed one-sided argument. • Evaluation that offers some judgements, with some link between conclusions and evidence.

Basic	• Shows some accurate knowledge. • Demonstrates partial understanding that is relevant to the demands of the question. • Some use of appropriate terminology.	• Knowledge and understanding are partially applied to the context of the question/task. • Practical skills are of a medium to low-level standard. • Is able to form some interpretation that shows some accuracy.	• Analysis and evaluation skills are used in a suitable way with a sound level of competence but may lack precision. • Evidence is selected to construct a one-sided argument. • Evaluation that offers generalised judgements and conclusions, with minimal use of evidence.
Limited	• Limited knowledge with some relevance to the topic or question. • Little or no development seen. • Very little or no use of terminology.	• Knowledge and understanding are applied in a minimal manner to the context of the question/task. • Practical skills are of a low-level standard. • Can only form a simple interpretation, if at all, with very limited accuracy.	• Analysis and evaluation skills are used with limited competence. • Unsupported evaluation that offers simple or no judgements/conclusions.

When you look at each of our mark schemes, each band has a sequence of performance descriptors. The descriptors work like a ladder: from a bottom rung, to a top. The lower-level band 'Limited' is the simplest descriptor in terms of candidates' performance. The descriptors progress through the grid to the more challenging aspect of that assessment objective. It's important to note that not all questions will use every bullet point listed in the table above, however candidates should demonstrate **all of the requirements** that are included in the published mark schemes in order to achieve full marks at a particular level. If a candidate gets full marks at a particular level, markers should see whether they're also demonstrating any of the requirements from the next level up. Often candidates will achieve some of the descriptors at one level, but not all of them. In this case, apply a best fit principle.

Further information on how the mark schemes for our Vocational Awards have been constructed, including information on the use of the mark bands for Excellent, Very Good and Good can be found in the Vocational Awards Administration Guide.

Question		Answer	AO1	AO2	AO3	Total Mark
1.		*Stock 'em Up Stores is a supermarket chain with shops throughout the country. Each store has its own Local Area Network (LAN), and this connects to the central office using a Wide Area Network (WAN).* *The LAN layout in each store is similar to the one shown below.* 				
	(a)		*Name this type of layout.*	1			1
			Award **one** mark for: Star (network)				
	(b)		*Identify two possible differences between the store's Local Area Network (LAN) and the central office's Wide Area Network (WAN).*		2		2
			Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • Central office's WAN is over a large (geographical) area so can connect stores that are far away from each other / transmits over a large distance so stores in different towns can be connected, whereas the store's LAN is over a small (geographical) area, so it connects the computers within the individual stores. • Central office's WAN uses <u>external</u> hardware/ infrastructure/cables/network, whereas the store's LAN has its <u>own</u> infrastructure/ cables/network/hardware (due to distance/practicalities).				

(c)		*One of the devices of the network is a router.* *Describe the purpose of a router.*	2			2
		Award **one** mark for a basic description of a router, for example: • It forwards data packets between computers networks. • It is a gateway between two networks. • It receives packets/data from the network/Internet. • It has (public) IP address for LAN. Award **two** marks for a more developed description of a router, for example: • It forwards packets/data to the specific destination / directs packets/data in a network. • It forwards packets/data to other computers on the network/Internet. • It connects (different) networks together / joins home network to Internet (or another example) • It designates (private) IP addresses to network nodes. Credit any other valid response.				
(d)		*The network uses protocols when exchanging data.*				
	(i)	*Identify the best definition of 'protocol' by placing a tick (✔) in one box below.* ☐ A type of web browser. ☐ A way of sending emails. ☐ A set of rules for communication between computers. ☐ A first version of a device from which other forms are developed.	1			1
		Award **one** mark for: A set of rules for communication between computers.				

		(ii)	*Protocols have a purpose.* *Match each pair, by clicking each protocol then clicking the most appropriate purpose.*	4			4
			Award **one** mark for each correct connection:				

Protocol

Protocol
File Transfer Protocol (FTP)
Simple Mail Transfer Protocol (SMTP)
Hypertext transfer Protocol (HTTP)
Internet Message Access Protocol (IMAP)

Purpose

Purpose
Sending an email from one mail server to another
Viewing a website using a web browser
Downloading an email to your computer
Transmitting a file from a client to a sever

Question		Answer	AO1	AO2	AO3	Total Mark
2.		*Game IT is a company that produces computer games that can be played on a variety of hardware devices. They have a website where customers register to buy and download games. When they register, customers have to input personal information including their name and email address. This is so they can be sent news and updates, their preferred device, payment details and a username and password to log into Game IT's website. Gaming is a fiercely competitive industry, and it is vital that Game IT protects both their own information and that of their users.*				
	(a)		*Name two different types of computing devices that customers might use to play games.*	2			2
			Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • Games console • PC • Laptop • Mobile phone • Tablet • Any other relevant type of computing device.				
	(b)		*Game IT have to ensure that customer data is handled correctly.*				
		(i)	*Name the legislation that protects the digital rights of customers.*	1			1
			Award **one** mark for: • GDPR (General Data Protection Regulation) or • DPA (Data Protection Act).				
		(ii)	*Identify two ways that this legislation would protect the data of Game IT's customers.*		2		2
			Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • Lawfulness, fairness and transparency so the customer understands why they have to enter their email/ensure Game IT have a privacy policy that states the type of data they collect and the reason for gathering it. • Purpose limitation/Game IT only collect email addresses for a specific purpose, e.g., to contact winners in a league. • Data minimisation/Game IT only process necessary data (name, email address, preferred device)/it would not be necessary to collect information about players' religion. • Accuracy/Game IT must ensure any data kept is accurate (name, email address, preferred device)				

			• Storage limitation/Game IT must delete data when it is no longer needed e.g., when the customer ceases to be an active member/player • Integrity and confidentiality/personal data must be processed by Game IT in a way that ensures appropriate security of personal data e.g., usernames and passwords are kept secure from hackers. Credit any other valid response.				
		(iii)	*Explain two ways that data loss might impact on Game IT.*		4		4
			Award **one** mark for each basic explanation of a way that data loss might impact on Game IT for example: • financial implications, e.g., Game IT might lose customers' payment details / incur major additional costs in trying to retrieve customers' data. • moral and legal implications, e.g., Game IT hold customers' data and are obliged to protect that data of their customers. • data manipulation, e.g., a hacker could alter the scores in the gaming leagues. • loss of service as Game IT might be unable to continue to operate their gaming website. • loss of intellectual property, e.g., game ideas could be stolen from Game IT. • loss of reputation, e.g., Game IT might lose customers because gamers will feel they can't trust the company to keep their data safe. Award **two** marks for each developed explanation of a way that data loss might impact on Game IT for example: • financial implications, Game IT might lose members' payment details so they can't collect payment/ incur major additional costs in trying to retrieve user data because they have to spend a lot of time (and therefore staff wages) on getting the lost data back. • moral and legal implications, Game IT hold customers' personal data, payment information and log in details and are obliged to protect that data under GDPR legislation - they are likely to be prosecuted if they are seen to be negligent / open to blackmail by hackers that have stolen data. • data manipulation, e.g., a hacker could alter the scores in the gaming leagues, which would make the results unreliable, and this would anger and alienate customers. • loss of service as Game IT might be unable to continue to operate their gaming website until the data is				

<table>
<tr>
<td></td>
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<td>recovered and this could cause them to lose customers as they would no longer be able to play.
• loss of intellectual property, e.g., game ideas could be stolen by copyright pirates who then sell them to other companies and so Game IT will lose their unique selling points.
• loss of reputation, e.g., Game IT might lose customers because gamers will feel they can't trust the company to keep their data safe, they will be worried about identity theft and loss of financial details stored when making payments.
Credit any other valid response.</td>
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<td></td>
<td>(iv)</td>
<td>*Identify three logical protection methods that Game IT could use to protect information and explain how each of these methods work.*</td>
<td>3</td>
<td>6</td>
<td></td>
<td>9</td>
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<td>Award **one** mark for each identification of a method used in context (up to a maximum of **three** marks), for example:
• access rights
• authentication (token)
• firewalls
• anti-malware applications
• password protection
• encryption.

Award **one** mark for a basic explanation of each method, for example:
• access rights: e.g. payment information is only accessible to certain staff according to need.
• token authentication: e.g., a code is needed to access the user area each time one logs in
• firewalls: e.g., monitors traffic in and out of the network and will warn Game IT when new or unknown software is detected.
• virus/anti-malware software: e.g., Game IT will install software that protects the system from virus/malware threats.
• password protection: e.g., Game IT putting a password on files containing sensitive information to limit access.
• encryption: e.g., Game IT use encryption, when sending sensitive information, e.g., sending passwords to Game IT registered users.

Award **two** marks for a detailed explanation of a method, for example:
• access rights: e.g., payment information is only accessible to certain staff such as to managers and accounts personnel. These members of staff may have read only rights.</td>
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			• token authentication: e.g., when users input their username and password on the Game IT website, they then receive a code, by email or text, which they have to input before access is given to their user area. • firewalls: monitor traffic in and out of the network and will warn Game IT when new or unknown software is detected so they can block it and keep their data safe/refuses access to unauthorised users, if the rules set by Game IT aren't met, so hackers don't get access. • anti-virus/anti - malware software: e.g., Game IT will install anti-virus software/anti-malware software that monitors the system for virus/malware threats and will alert them to threats and/or quarantine suspicious programs, this software must be updated regularly to be effective. • password protection: e.g., Game IT put a password on a files, folders or storage device where sensitive data is held so only authorised user can access them // username and password: the combination of username and password must be correct to gain access to Game IT's systems/files storage devices so only those with the correct combination can access sensitive information such as financial details. • encryption: e.g., Game IT use encryption, when sending sensitive information, e.g., sending passwords to Game IT registered users, this uses an algorithm to scramble/mix up the data so if it's intercepted it can't be understood. Credit any other valid response.				
		(v)	*There are moral and ethical issues which can affect computer users. Game IT monitor their staff when they are working.* *Discuss the advantages and disadvantages of monitoring individuals in a working environment.*			6	6
			Indicative content Answers may refer to the following: Advantages: • individuals are less likely to go off-task if they know they are being monitored. This is an advantage because productivity will be higher. • mistakes can be spotted and corrected. This is an advantage as it will save staff wasting time on work that is not correct. • messages can be sent to all individuals as required. This is an advantage as it improves communication and keeps staff up to date. • feedback on good work can be given promptly. This is an advantage as it can give a feel-good factor, which boosts morale in the workplace.				

		• any other reasonable advantage. Disadvantages: • individuals may feel they aren't trusted. This is a disadvantage because individual members of staff may feel resentful towards the management, resulting in a poor working environment. • the monitoring system can sometimes make the screen flicker. This is a disadvantage because it could lead to symptoms such as eye fatigue, irritation or headaches. • it may limit creative freedom. This is a disadvantage because it may not allow staff to work to their full potential. • any other reasonable disadvantage. Credit any other valid response.				

Band	AO3
3	**5-6 marks** A very good response which demonstrates: • detailed and effective analysis and evaluation skills • fully developed and balanced arguments that discuss both advantages and disadvantages. • fully developed judgements, with clear links between discussion and evidence.
2	**3-4 marks** A good response which demonstrates: • detailed analysis/evaluation skills • developed and balanced discussion of both advantages and disadvantages OR • developed argument of either advantages or disadvantages. • developed judgements, with links between discussion and evidence.
1	**1-2 marks** A basic response which demonstrates: • some analysis/evaluation skills • some argument of either advantages or disadvantages • partial judgements that may not be supported.
	0 marks Not creditworthy or not attempted.

Question			Answer	AO1	AO2	AO3	Total Mark
3.			*Alisha runs a dog-walking business from home. She has a PC and an all-in-one printer. Alisha lives in a small village where broadband connection is not available. As she is far away from the local town, she likes to take advantage of online services to help run her business.*				
	(a)		*Alisha uses her PC to record details of her clients.*				
		(i)	*Name one input device that Alisha will use.*	1			1
			Award **one** mark for a correct answer, for example: • mouse • keyboard • scanner • microphone • graphics tablet • tracker ball. Credit any other valid response.				
		(ii)	*Name one output device that Alisha will use.*	1			1
			Award **one** mark for a correct answer, for example: • printer • monitor • headphones • speakers. Credit any other valid response.				
	(b)		*Alisha understands that it is important to keep information secure.* *Give three physical protection methods that can keep information secure.*	3			3
			Award **one** mark for each correct answer up to a maximum of **three** marks, for example: • locks/keypads (on PC/room) • biometrics • backup in other location • shredding un-needed paper-based records • ensuring the PC is above flood level. Credit any other valid response.				

	(c)		*Alisha uses various types of software on her PC.* *Match each pair, by clicking each program then clicking the most appropriate type of software.*	3			3
			Award **one** mark for each correct connection: Protocol Type of Software Database → System software Anti-virus → Applications software Computer OS → Utility software				
	(d)		*There is no broadband connection in the village where Alisha lives so she connects to the Internet using a dongle.* *State the type of connectivity that the dongle uses.*	1			1
			Award **one** mark for: Medium range wireless connection (3G/4G/5G). Credit any other valid response.				
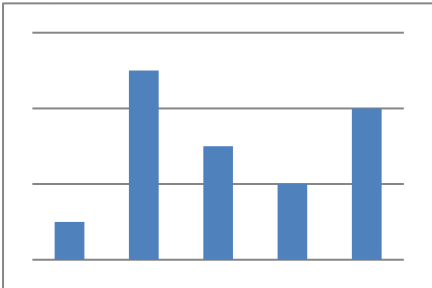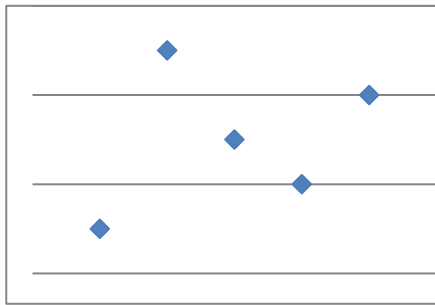
				6	6		12
(e)		*Explain which IT services might help Alisha run her business efficiently. Give examples that are relevant to her dog walking business.*		6	6		12
		Indicative content Answers may refer to the following: • image capture and manipulation, e.g., to show photographs of dogs being walked in leaflets advertising her business. • webcam services for video calls with owners for discussion about their dog's needs • social networking, such as Facebook and Twitter, to promote the business in dog interest groups. • music and sound including downloading from the Internet to accompany promotional videos showing the dog walking services she offers. • mobile phones to keep in touch with owners before, during and after walks. • online banking to take payments from dog owners. • E-commerce systems for payments for dog food and accessories needed for the business. • modern mail handling methods to communicate with customers about updates to dog walking services. • online shopping and searching for products on websites, e.g., dog leads, dog treats, etc. • online booking so clients can book their dogs in for a certain timeslot. • weather forecasting systems to plan the appropriate times for walks and ensure walkers wear suitable clothing/ensure dogs are walked in shaded areas if very hot. • remote storage technologies for client details that can be accessed when she is out walking dogs. • security systems to protect her clients' data, especially as dog thefts are increasing. • wearable technologies to monitor her step count whilst walking the dogs. Credit any other valid response.					

Band	AO1	AO2
3	**5-6 marks** A very good response which demonstrates: • a range of accurate knowledge of IT services • developed understanding that shows relevance to the dog-walking business. • relevant evidence/examples • depth and range to examples used. • precise use of terminology.	**5-6 marks** A very good response which demonstrates: • effective knowledge and understanding which is fully applied to the context of the dog-walking business. • a developed interpretation of evidence that is fully accurate.
2	**3-4 marks** A good response which demonstrates: • accurate knowledge of IT services • understanding that is relevant to the dog-walking business. • some appropriate evidence/examples • depth or range to evidence/examples used. • generally precise use of terminology.	**3-4 marks** A good response which demonstrates: • knowledge and understanding which is mainly applied to the context of the dog-walking business. • a developed interpretation of evidence that is generally accurate.
1	**1-2 marks** A basic response which demonstrates: • some knowledge of IT demonstrated. • some understanding relevant to the dog-walking business. • few relevant evidence/examples • some use of terminology.	**1-2 marks** A basic response which demonstrates: • some knowledge and understanding which is partially applied to the context of the dog-walking business. • some interpretation of evidence that shows partial accuracy.
	0 marks Response not creditworthy or not attempted.	

Question			Answer	AO1	AO2	AO3	Total Mark
4.			*What U Think? is a market research company that collects a vast amount of data on a variety of topics. They are contracted by other companies to research topics on their behalf. Reputation is very important to them and so they ensure they store client's data securely. This includes reports based on the findings of their research. Due to a lack of bandwidth the company do not use cloud computing.*				
	(a)		*State how collected data becomes information.*	2			2
			Award **one** mark for a basic statement of how data collected becomes information, for example: • data which has been processed by the computer. • data is processed into sets. Award **two** marks for a more developed statement of how data collected becomes information, for example: • data which has been processed by the computer to give it meaning/structure/context. • facts/figures/words/numbers put in order to make them meaningful. Credit any other valid response.				
	(b)		*Complete the following statement:* *Knowledge is derived from information by …*	1			1
			Award **one** mark for: applying rules to it. Credit any other valid response.				
	(c)		*Give two characteristics of good quality data.*	2			2
			Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • valid • unbiased • accurate • up to date • relevant • consistent • accessible. Credit any other valid response.				

(d)		*Give two different data capture methods that a company could use and for each of these give an example to show how this method might be used.*	4				4
		Award **one** mark for giving each data collection method (up to a maximum of **two** marks), for example: • questionnaire • online survey • focus group. • consumer panel • interview • email. Award **one** mark for an appropriate example of how the method might be used, (up to a maximum of **two** marks), for example: • Questionnaire: they could hand out questionnaires in the street/at supermarkets/in relevant places to get answers to specific questions/collect quantitative data suitable to input to a spreadsheet • Online survey: create a link to an online survey or send an email with a link/get answers to specific questions/collect quantitative data which can be automatically input to the computer. • Focus group: get the opinions of a group of people (e.g., stakeholders) by leading a discussion on the topic being researched. • Consumer panel: a group of individuals selected to provide feedback and opinion on products and services they have used. • Interview: conduct a one-to-one meeting to discuss the product/service/topic being researched • Email: send out emails asking for the opinion of the recipient on a product/service/topic. Credit any other valid response.					

	(e)		*A clothes manufacturer has asked What U Think? to research what colours people would like to see in their new range of T-shirts which will be launched in the autumn.*				
		(i)	*Using an example, explain an advantage of What U Think? using encoding when storing the data collected.*		2		2
			Award **one** mark for giving an appropriate explanation of an advantage of *What U Think?* using encoding when storing the data collected and award **one** mark for giving an appropriate example. For example: • use yel instead of yellow, blk instead of black etc. as this save's computer memory. • use a shortened form of the colour as this means less memory is needed and so saves money as hard drive could be smaller. • it is quicker to enter a code such as yel for yellow or blk for black and so will save time on data entry. • if they use only two or three letters to represent the colour, this may result in fewer errors on data entry. • if there are set codes for the colours then it's easier to apply validation rules (to help data entry). Credit any other valid response.				
		(ii)	*Suggest two validation methods that What U Think? could use and justify why they are appropriate for data entry in this scenario.*		2	4	6
			Award **one** mark for suggesting each validation method (up to a maximum of **two** marks), for example: • Look-up list/drop-down box • Presence check • Length check. Award **one** mark for a basic justification, for example: • Look-up list/drop-down box: all the colour codes/price ranges are listed. • Presence check: ensures no data is omitted. • Length check: ensures the data entered is a certain length.				

<table>
<tr><td></td><td></td><td></td><td>Award two marks for a more developed justification, for example:
• Look-up list/drop-down box: All the colour codes are listed so you only need to click on them so you can't enter a code that isn't valid.
• Presence check: ensures no data is omitted/there must be an entry for colour otherwise the database will be worthless.
• Length check: ensures the data entered is a certain length e.g., the colour code will be only 3 letters/the price will be 2 figures.

Credit any other valid response.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(f)</td><td></td><td>*What U think? use spreadsheet software to produce graphs to include in their reports for clients.*</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>(i)</td><td>*State the type of graphs shown below.*
Graph 1:

Graph 2:
</td><td>2</td><td></td><td></td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Award one mark for each graph:
• bar chart/bar graph/column chart/column graph
• scatter chart/scatter graph/scatter plot.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>(ii)</td><td>*Select which of the graphs shown above would be the most suitable to display the research findings for the clothes manufacturer and suggest a reason for your choice.*</td><td></td><td>2</td><td></td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Award one mark for:
Bar chart
Award one mark for an appropriate reason for their choice, for example:
• Bar chart because it is easy to see/compare the findings/values.</td><td></td><td></td><td></td><td></td></tr>
</table>

			• Bar chart because a scatter graph is used to graph pairs of numerical data and a line graph tracks or compares changes. Credit any other valid response.				
	(g)		*What U Think? must backup their client research reports securely. Explain how they could back-up these reports.*		2		2
			Award **one** mark for a basic explanation of how they could back-up their systems, for example: • An additional copy of What U Think?'s reports stored securely. Award **two** marks for a more developed explanation of how they could back-up their systems, for example: • a copy of What U Think?'s reports stored in a secure location from their original • a hard copy of What U Think?'s reports that are kept in a locked room or cabinet. • a copy of What U Think?'s reports stored on external hardware/magnetic tape/cloud. Credit any other valid response.				
	(h)		*What U Think? implemented a policy of Green IT in their office two years ago. As well as the benefits to the environment, they have found that they are saving money.* *State two possible guidelines that could be included in this policy that would help What U Think? save money.*		2		2
			Award **one** mark for suggesting each guideline (up to a maximum of two marks), for example: • What U Think? print only what is required, thus saving ink • What U Think? could switch off computers/equipment rather than leaving them on stand-by, thus saving electricity • What U Think? could recycle ink cartridges/paper etc., therefore saving money on purchasing new items • What U Think? could store documents centrally/on the cloud (instead of printing and storing) and so save on printing costs. Credit any other valid response.				

Mapping of questions to specification content and assessment objectives: Unit 1

Question			Topic and Section															Total Marks	AO1 Marks	AO2 Marks	AO3 Marks
			1.1			1.2				1.3											
			1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.3.3	1.3.4	1.3.5	1.3.6	1.3.7				
1	(a)							1									1	1		
	(b)							2									2		2	
	(c)							2									2	2		
	(d)	(i)						1									1	1		
		(ii)						4									4	4		
2	(a)		2														2	2		
	(b)	(i)												1			1	1		
		(ii)												2			2		2	
		(iii)									4						4		4	
		(iv)										9					9	3	6	
		(v)											6				6			6
3	(a)	(i)	1														1	1		
		(ii)	1														1	1		
	(b)											3					3	3		
	(c)			3													3	3		
	(d)								1								1	1		
	(e)				12												12	6	6	
4	(a)					2											2	2		
	(b)					1											1	1		
	(c)					2											2	2		
	(d)						4										4	4		
	(e)	(i)				2											2		2	
		(ii)					6										6		2	4
	(f)	(i)		2													2	2		
		(ii)		2													2		2	
	(g)											2					2		2	
	(h)														2		2		2	
Total section marks			4	7	12	7	10	10	1	0	4	14	6	3	2	0	80	40	30	10
Total Topic marks			23			28				29										