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# **GCSE MARKING SCHEME**

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**SUMMER 2024**

**GCSE  
DIGITAL TECHNOLOGY – UNIT 1  
3540U10-1**

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## About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

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## WJEC GCSE DIGITAL TECHNOLOGY

### SUMMER 2024 MARK SCHEME

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.	<i>There are many ways to store data digitally.</i>																			
(a)(i)	<b>Tick (✓)</b> the correct boxes to show the most suitable storage medium.	3		3																
	<p>Award <b>one</b> mark for each correct tick:</p> <table border="1"> <thead> <tr> <th>Use</th> <th>Optical</th> <th>Cloud</th> <th>Magnetic</th> </tr> </thead> <tbody> <tr> <td>This storage medium can be used to transfer media to media on a PC.</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>This would allow a user to back up a large amount of data.</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>This allows a user to retrieve their work from any device that has Internet access.</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Use	Optical	Cloud	Magnetic	This storage medium can be used to transfer media to media on a PC.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	This would allow a user to back up a large amount of data.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	This allows a user to retrieve their work from any device that has Internet access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1		
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		1																		
		1																		
(ii)	<i>Describe one disadvantage of using a Hard Disk Drive (HDD) in a laptop compared to a Solid State Drive (SSD).</i>	2		2																
	<p>Award <b>one</b> mark for a basic description of a disadvantage, for example:</p> <ul style="list-style-type: none"> <li>• HDDs retrieve data slower than SSDs</li> <li>• HDDs have moving parts</li> <li>• HDDs are not as robust as SSDs.</li> </ul> <p>Award <b>two</b> marks for a more developed description of a disadvantage, for example:</p> <ul style="list-style-type: none"> <li>• Access speed – A HDD would be much slower because it is mechanical – read/write is far slower than a newer SSD.</li> <li>• Battery life – A HDD would use more power which means devices such as a laptop would lose their power quicker than if it had a SSD.</li> <li>• Flash Memory – it uses a spinning platter so will take longer to retrieve data on the disk.</li> <li>• Cannot use plug and play and will have to manually install drivers.</li> <li>• Noise – a HDD is noisier due to the moving platters and read/write arms.</li> <li>• HDDs have moving parts while SDD is a flash storage cells so have no extra parts to damage</li> </ul>																			

Question	Answer	AO1	AO2	Total Mark												
(b)(i)	State which image type uses pixels.	1		1												
	<ul style="list-style-type: none"> <li>• Bitmap</li> <li>• Raster</li> </ul>															
(b)(ii)	State what would be the impact of storing an image at a low resolution, for example 20 DPI rather than 72 DPI.	1		1												
	<ul style="list-style-type: none"> <li>• Increases pixilation</li> <li>• Lower quality image/loss of detail</li> <li>• Less storage space/smaller file size/ability to store more images on a device</li> </ul>	1 1														
(c)(i)	<b>Tick (✓)</b> the correct boxes to show which of the following are a movie file extension.	2		2												
	<p>Award <b>one</b> mark for each correct answer:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>File Extension</th> <th></th> </tr> </thead> <tbody> <tr> <td>.JPG</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>.MOV</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>.MP3</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>.BMP</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>.WMV</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	File Extension		.JPG	<input type="checkbox"/>	.MOV	<input checked="" type="checkbox"/>	.MP3	<input type="checkbox"/>	.BMP	<input type="checkbox"/>	.WMV	<input checked="" type="checkbox"/>	1     1		
File Extension																
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.MP3	<input type="checkbox"/>															
.BMP	<input type="checkbox"/>															
.WMV	<input checked="" type="checkbox"/>															
(c)(ii)	Describe the difference between a user downloading a movie and streaming a movie on their digital device.	2		2												
	<p>Award <b>one</b> mark for each basic description of a difference, for example:</p> <ul style="list-style-type: none"> <li>• You can save a downloaded movie file to your device</li> <li>• Streaming does not take up storage space on your digital device</li> <li>• Streaming can use more data on your digital device</li> <li>• With streaming, if you are without data or Internet access you will not be able to watch the movie</li> <li>• With streaming it can cause the battery life to run down quickly as you are using mobile data / Wi-Fi</li> <li>• With downloading buffering will not occur</li> <li>• With downloading movies, they cannot be viewed until the whole movie is downloaded onto the digital device</li> </ul>															

Question	Answer	AO1	AO2	Total Mark
2.	<i>There are many ways to interact with digital devices.</i>			
(a)	<i>State one digital device that uses voice interaction.</i>	1		1
	<ul style="list-style-type: none"> <li>• Smart phone/mobile phone</li> <li>• Tablet</li> <li>• Satellite navigation system</li> <li>• Smart intelligent speaker/Digital assistant</li> <li>• Smart watch</li> <li>• Smart device/Smart remote controls</li> <li>• Accept any other valid response</li> </ul>	1 1 1 1 1 1 1		
(b)	<i>Describe how gesture interaction can be used in gaming.</i>	2		2
	<p>Award <b>one</b> mark for a basic description, for example:</p> <ul style="list-style-type: none"> <li>• Operating a device using body movements</li> </ul> <p>Award <b>two</b> marks for a more developed description, for example:</p> <ul style="list-style-type: none"> <li>• Operating a device without tapping keys on a keyboard or using a joystick or games controller, a motion sensor detects body movements and controls the game character depending on the gesture that has been made</li> </ul> <p>Credit any other valid response.</p>			
(b)(ii)	<i>Identify one advantage and one disadvantage of gesture interaction in gaming.</i>	2		2
	<p>Award <b>one</b> mark for a correct advantage</p> <ul style="list-style-type: none"> <li>• No need for additional devices</li> <li>• More fun / more interactive / entertaining than traditional input devices</li> <li>• Feels more natural</li> <li>• Intuitive controls</li> <li>• More active</li> </ul> <p>Award <b>one</b> mark for a correct disadvantage</p> <ul style="list-style-type: none"> <li>• Gesture interaction might never be 100% accurate compared to pressing a button</li> <li>• It takes a lot of practice to be able to swing arms with precision / limited precision / picks up on accidental gestures or other people</li> <li>• It can take a lot of computer processing power to process the gesture compared with clicking a button on a joystick</li> <li>• It can be tiring</li> <li>• Could damage property/items/</li> <li>• Health &amp; safety / injury</li> <li>• Larger space required</li> <li>• Can be more expensive (justified)</li> </ul> <p>Credit any other valid response.</p>			

Question	Answer	AO1	AO2	Total Mark
3.	<i>Changing working practices have had a big impact on society.</i>			
(a)	<i>State what is meant by the Digital Divide.</i>	1		1
	The digital divide is the gap between those who have access to ICT and those that don't. This can lead to many people around the world being disadvantaged.			
(b)	<i>One factor of the Digital Divide is the economic factor. Describe how this can have an effect on society.</i>	2		2
	<p>Award <b>one</b> mark for a basic description of an effect, for example:</p> <ul style="list-style-type: none"> <li>• People with good ICT skills get better paid employment</li> <li>• Wealthier countries have better access to digital technology</li> <li>• Less chance of being able to access online deals</li> <li>• Poorer countries do not have as much access to technology</li> <li>• Postcode lottery around the UK</li> </ul> <p>Award <b>two</b> marks for a more developed description of an effect, for example:</p> <ul style="list-style-type: none"> <li>• People with good ICT skills get better paid employment because many jobs need skills in digital technology and computing knowledge</li> <li>• Wealthier countries have better access to digital technology due to governments injecting large amounts of money into the education systems and employment industries</li> <li>• Less chance of being able to access online deals – without access to digital devices and Internet access</li> <li>• Poorer countries do not have as much access to technology and where they do get money they have other priorities to spend it on first such as food, water and shelter / Less access to electricity</li> <li>• Postcode lottery around the UK – different areas of the UK have different governments e.g. England and Wales and different budgets available which would mean certain areas have greater access to digital devices being given out and free Internet access</li> </ul> <p>Credit any other valid response.</p>			

Question	Answer	AO1	AO2	Total Mark
4.	<i>The Internet is used by millions of people across the world.</i>			
(a)	<i>State what the acronym URL stands for?</i>	1		1
	Universal/Uniform Resource Locator			
(b)	<i>State what is meant by the Internet.</i>	1		1
	The Internet is a global communications network which uses interconnected computers  Credit any other valid response.			
(c)	<i>Describe the role of an Internet Service Provider (ISP).</i>	2		2
	Award <b>one</b> mark for a basic description, for example: A company that provides Internet access to customers in their homes or workplace  Award <b>two</b> marks for a more developed description, for example:  A company that provides Internet access to customers in their homes or workplace for a monthly fee. The ISP will also provide other services such as providing web space, email addresses and firewall protection.  Credit any other valid response.			
(d)	<i>Describe how a web server works.</i>	2		2
	Award <b>one</b> mark for a basic description, for example:  A web server can display websites A web server can host websites  Award <b>two</b> marks for a more developed description, for example:  A web server can display websites by processing http requests A web server can host websites and deliver the content to the end user A web server can contain more than one website – many hosting companies can host thousands of websites  Credit any other valid response.			

Question	Answer	AO1	AO2	Total Mark
5.	<i>All companies need to abide by current UK legislation when working with digital devices, data and electronic communications.</i>			
(a)(i)	<i>State two principles of the Data Protection Act 2018.</i>	2		2
	<ul style="list-style-type: none"> <li>• Personal data must be fairly and lawfully processed</li> <li>• Personal data must be obtained for specified, explicit and legitimate purposes</li> <li>• Personal data must be adequate, relevant and not excessive</li> <li>• Personal data must be accurate and up to date</li> <li>• Personal data must not be kept for longer than is necessary</li> <li>• Personal data must be handled in a way that ensures security</li> <li>• Right to have data erased</li> <li>• Right to access personal data</li> </ul>			
(ii)	<i>State one penalty of breaching the Data Protection Act 2018.</i>	1		1
	<ul style="list-style-type: none"> <li>• Warnings</li> <li>• Fines</li> <li>• Ban on data processing</li> </ul>			
(b)	<i>State two crimes that the Computer Misuse Act 1990 covers.</i>	2		2
	<ul style="list-style-type: none"> <li>• Unauthorised access to data held on a computer / hacking</li> <li>• Unauthorised access to data held on a computer and using that data to commit further illegal activity such as blackmail or fraud</li> <li>• Unauthorised access to data and changing the content of the data</li> <li>• Unauthorised access to plant/installing a virus/ malware to change or damage the data</li> <li>• Unauthorised transfer of data</li> </ul> <p>Accept any other reasonable answer.</p>			

Question		Answer	AO1	AO2	Total Mark
	(c)	<i>Describe what is covered by the Investigatory Powers Act 2016.</i>	2		2
		<p>Award <b>one</b> mark for a basic description, for example:</p> <p>This allows public authorities to carry out large scale surveillance on electronic communications</p> <p>Award <b>two</b> marks for a more developed description, for example:</p> <ul style="list-style-type: none"> <li>• This allows public authorities to carry out large scale surveillance on electronic communications for the prevention of serious crimes including terrorism. Authorities can access mobile phones, laptops and all types of digital devices.</li> <li>• Authorities can check with ISPs as to what websites have been visited.</li> </ul>			

Question	Answer	AO1	AO2	Total Mark
6.	<p><i>The Parkwood Vale Insurance Company use cloud storage to store their data. Other than being able to access the cloud from any device that has access to the Internet, explain the advantages and disadvantages of using cloud storage.</i></p>		6	6
	<p><b>NOT:</b> Files can be accessed from any device with Internet access</p> <p>Advantages  Lower set up costs  Files can be accessed on the go  Access to documents at any point in time if device has internet access</p> <p>Disadvantages  If there is no Internet the insurance employees cannot access files  Downtime  The worry of poor security  Software functionality</p> <p><b>Indicative content</b></p> <p>Advantages</p> <ul style="list-style-type: none"> <li>• Lower set up costs due to the insurance company not needing to buy expensive hard drives to store their data</li> <li>• Files can be accessed on the go so if an employee is visiting a customer at home to assess damage, they can access files away from the office</li> <li>• Promotes collaboration</li> <li>• Allows for others to work on the same document at the same time</li> <li>• Automatic backups provided by the cloud storage company</li> <li>• Scalability – allows for companies to scale up/down depending on needs</li> </ul> <p>Disadvantages</p> <ul style="list-style-type: none"> <li>• If the insurance sales employee / broker is visiting a customer at home and they cannot access the Internet then the customer file cannot be accessed</li> <li>• Downtime - if the cloud storage companies' servers are down then the files cannot be accessed</li> <li>• Security can be an issue as the responsibility has been placed into the hands of a third-party hosting company / increased communication lines increasing potential for hacking</li> <li>• Software - the cloud version of software is not always up to date and also does not always have the full functionality of a desktop application</li> </ul> <p>Credit any other valid response.</p>			

Band	AO2
3	<p style="text-align: center;"><b>5-6 marks</b></p> <p>A very good explanation, which shows:</p> <ul style="list-style-type: none"> <li>• thorough knowledge and understanding of how cloud storage works</li> <li>• a confident grasp of the advantages and disadvantages of storing files in the cloud</li> </ul>
2	<p style="text-align: center;"><b>3-4 marks</b></p> <p>A good explanation, which shows:</p> <ul style="list-style-type: none"> <li>• generally secure knowledge and understanding of how cloud storage works</li> <li>• a generally secure grasp of the advantages and disadvantages of storing files in the cloud</li> </ul>
1	<p style="text-align: center;"><b>1-2 marks</b></p> <p>A basic explanation, which shows:</p> <ul style="list-style-type: none"> <li>• some knowledge and understanding of how cloud storage works</li> <li>• some grasp of the advantages and disadvantages of storing files in the cloud</li> </ul>
	<p style="text-align: center;"><b>0 marks</b></p> <p>Response not creditworthy or not attempted.</p>

Question	Answer	AO1	AO2	Total Mark
7.	<i>Saul owns a surf school based in West Wales and has decided to invest in some new digital systems for his company.</i>		6	6
	(a) <i>Explain two benefits of how he can use digital devices to promote and improve the performance of his business. Use examples.</i>			
	<p>Award marks for a detailed explanation of the following points:</p> <p><b>One mark example:</b></p> <ul style="list-style-type: none"> <li>• Investing in smart phones as a quick way to communicate with customers by text and phone call</li> <li>• Investing in an underwater camera to film underwater shots to show how exciting surfing can be</li> <li>• Investing in a tablet to video call potential new customers to the surf school</li> <li>• Investing in database software for a laptop to store customer records more efficiently</li> <li>• Investing in a movie editing software package to edit surf videos to promote the surf school</li> <li>• Wearable technology such a smart watch could be used</li> </ul> <p><b>Two mark examples:</b></p> <ul style="list-style-type: none"> <li>• Investing in smart phones as a quick way to communicate with customers by text and phone call. Photos, movies of the instructors and surfers can be taken to promote the company and also to ensure fast upload to social media sites</li> <li>• Investing in an underwater video camera e.g. a GoPro to attach to the surfboards to film underwater shots and action shots to show how exciting surfing can be. These videos can be used for teaching purposes to identify areas for improvement</li> <li>• Investing in a tablet to video call potential new customers to the surf school. Tablets could also be used to keep the social media accounts updated and promotion purposes</li> <li>• Investing in a laptop and database software for to store customer records more efficiently to stay more organised with appointments. Customer contact details could be stored and existing customers could be emailed with special promotions that are approaching</li> <li>• Investing in a digital video camera to produce a movie using an editing software package to edit surf videos to promote the surf school and once created they can be uploaded to the social media page and website</li> <li>• Wearable technology such a smart watch could be used to measure how many waves have been caught, wave speed and wave distance</li> </ul>			

Question		Answer	AO1	AO2	Total Mark
	(b)	<i>The surf school is a Business to Consumer (B2C) company and their website allows customers to book surf lessons online. Identify advantages and disadvantages of B2C to the customer and the company.</i>		4	4
		<ul style="list-style-type: none"> <li>• Customers can shop around to search for the best surf school prices online</li> <li>• The customer does not have to leave the house and go to the beach to find a surf school.</li> <li>• The surf school can attract customers from all over the world.</li> <li>• The surf school will have to pay maintenance fees for the website and will also be paying rent on their surf school building</li> <li>• Lack of personal interaction with the Saul and the potential new customers</li> <li>• Removes third party fees</li> <li>• Reduces the probability of fraud</li> <li>• Loss of reputation to the business due to lack of security</li> </ul>			

Question	Answer	AO1	AO2	Total Mark
8.	Samiyah has decided to try to promote her jewellery making business using social media.			
(a)	Explain two different types of popular social media platforms that could be used to promote Samiyah's jewellery making business and how their unique features can be used to promote her business.		6	6
	<p>Award <b>one</b> mark for a basic explanation and award <b>three</b> marks for a more developed explanation, for example:</p> <p><b>Snapchat – non permanent photo sending social media app</b>  Samiyah could take photos of her jewellery and send to followers. The photos are removed from the user's app a couple of seconds after opening – if not saved  Short videos can be created of Samiyah trialling the jewellery and sent straight to her story</p> <p><b>Instagram – photo sharing social media site</b>  Samiyah could create a dedicated page for her jewellery and take photos and add descriptions and prices to them. Samiyah could add many followers and get follows back. Followers can like Samiyah's photos</p> <p><b>Facebook</b>  Samiyah could set up a dedicated business page and recruit friends and followers to like and share her page. Stories can be added to Facebook for promotion</p> <p>Accept any other reasonable answer.</p>			

Question		Answer	AO1	AO2	Total Mark
	(b)	<i>Explain the benefits and drawbacks to Samiyah of using social media.</i>		6	6
		<p>Award <b>one</b> mark for a basic explanation and award <b>two</b> marks for a more developed explanation, for example:</p> <p>Maximum of five marks for only advantage/disadvantage</p> <p>Samiyah can reach a worldwide audience by using a number of different social media platforms and be introduced</p> <p>If Samiyah can get verified by the social media platform she will get paid promotion offers from companies who would pay her and send her free products to promote</p> <p>Trolls could write cyberbullying messages and comments on her posts which could upset her</p> <p>Lack of privacy when posting photographs – fraudulent people could steal her photos and use as a scam</p> <p>Competition is high/volume of advertising, many other companies selling similar/same products/services</p> <p>Loss of reputation due to hacking.</p> <p>Credit any other valid response.</p>			

Question	Answer	AO1	AO2	Total Mark
9.	<p>Autonomous robots are used in parcel warehouse and distribution centres to select and pack customer orders. Explain, giving examples, the advantages and disadvantages of using autonomous robots in a distribution centre.</p>	8		8
	<p><b>Indicative content:</b></p> <ul style="list-style-type: none"> <li>• Customers will receive their parcels faster – autonomous robots can find parcels in the warehouse extremely quickly using QR codes and barcodes.</li> <li>• Customers are also more like to receive their order on time as the robots make it easier to fulfil the millions of orders received each week.</li> <li>• Increase efficiency and productivity</li> <li>• For employees of the warehouse it means less walking as some of the warehouse and distribution centres can be extremely large buildings</li> <li>• Reduce error, re-work, and risk rates</li> <li>• Improve safety for employees in high-risk work environments – saves humans from heavy lifting (depending on the size of the robot)</li> <li>• Performing lower value, repetitive and tedious tasks freeing up employees to perform more meaningful tasks</li> <li>• Autonomous robots are expensive devices and would require a large capital to invest in the robots.</li> <li>• Could lead to customers being left with the wrong order if a malfunction were to occur.</li> <li>• Potential job losses or job opportunities due to warehouse jobs becoming obsolete. Although many new jobs will be created to monitor the robots.</li> <li>• There is a risk that the autonomous robots could run over a human if the special sensor were to fail.</li> </ul> <p>Credit any other valid response.</p>			

Band	AO2
3	<p style="text-align: center;"><b>6-8 marks</b></p> <p>An excellent explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Thorough knowledge and understanding of autonomous robots</li> <li>• An excellent description of the advantages and disadvantages of using autonomous robots in a distribution centre</li> </ul>
2	<p style="text-align: center;"><b>3-5 marks</b></p> <p>A good explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Good knowledge and understanding of autonomous robots</li> <li>• A good description of the advantages and disadvantages of using autonomous robots in a distribution centre</li> </ul>
1	<p style="text-align: center;"><b>1-2 marks</b></p> <p>A limited explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Limited knowledge and understanding of autonomous robots</li> <li>• A limited description of the advantages and disadvantages of using autonomous robots in a distribution centre</li> </ul>
	<p style="text-align: center;"><b>0 marks</b></p> <p>Response not creditworthy or not attempted.</p>

Question	Answer	AO1	AO2	Total Mark
10.	<p><i>You have been appointed as the Project Manager to the Parkwood Vale Insurance Company who are upgrading their existing computer system.</i></p> <p><i>You will need to use the systems development life cycle to plan this project. The System Investigation and System Analysis stages have already been completed and the new system has been given the go-ahead. Explain, including examples, the next steps that could take place at each remaining stage. [QWC]</i></p>		12	12
	<p><b>Indicative content</b></p> <p><b>System Design Stage</b></p> <p>The documents collected at the analysis stage will be used to design the new system based on the user requirements  The hardware and software design spec would be created – the insurance sales employees use laptops when conducting home visits.  The software that is designed may include AI machine learning software for the claims management department to be used in the different stages of the claim handling process  The network would be designed including the topology and protocols  As this is an insurance company it is essential the security systems are designed thoroughly as a lot of confidential financial and customer data is held on the system.</p> <p><b>System Implementation Stage</b></p> <p>The hardware and software will be installed</p> <p>Changeover methods</p> <p>Pilot  Choice of branch – the location and size will determine which insurance branch to trial the new system at. Too small or too remote and the system will not receive the correct amount of testing  Risk – The insurance company cannot afford for the branch to be out of action for a long period of time  Staff training – staff would need to be trained on how to use the new system and this will improve the usage issues to the whole company</p> <p>Phased  Parts of the new system will be introduced at different intervals and the old system will continue to be used until the whole system has been replaced part by part.  This is extremely time consuming, however a lower risk as the old system is still in use.</p>			

Question	Answer	AO1	AO2	Total Mark
	<p>Parallel This is where the old system will run alongside the new system to iron out any issues that may occur. There are increased costs to the insurance company of running the new system side by side.</p> <p>Big Bang (Direct) The new system for the insurance company will be implemented and the old system will immediately stop. Quite high risk as the old system is not there to revert to. This is a cheap method of installation</p> <p><b>System Maintenance Stage</b> Testing the new system User guides for the new system will be created including any new accounting software for the insurance company that has been installed. Technical manuals will be created – on screen documentation for insurance employees who are out and about visiting customers and cannot get hold of any paper documentation. Error checking</p> <p><b>System Evaluation Stage</b> To determine if the new system meets the initial requirements of the insurance company</p> <p>Credit any other valid response.</p>			

Band	AO2
4	<p style="text-align: center;"><b>11-12 marks</b></p> <p>An excellent explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Thorough knowledge and understanding of the systems development lifecycle and the stages involved</li> <li>• Writing is very well structured and organised, using accurate grammar, punctuation and spelling</li> <li>• A range of specialist terminology is used with accuracy</li> </ul>
3	<p style="text-align: center;"><b>8-10 marks</b></p> <p>A good explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Generally secure knowledge and understanding of the systems development lifecycle and the stages involved</li> <li>• Writing is generally well structured and organised, using mainly accurate grammar, punctuation and spelling</li> <li>• Specialist terminology is used with accuracy</li> </ul>
2	<p style="text-align: center;"><b>4-7marks</b></p> <p>A basic explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Some knowledge and understanding of the systems development lifecycle and the stages involved</li> <li>• Writing shows some evidence of structure though some errors in grammar, punctuation and spelling affect meaning</li> <li>• Basic use of specialist terminology</li> </ul>
1	<p style="text-align: center;"><b>1-3 marks</b></p> <p>A limited explanation, which shows:</p> <ul style="list-style-type: none"> <li>• Limited knowledge and understanding of the systems development lifecycle and the stages involved.</li> <li>• Writing shows little evidence of structure though some errors in grammar, punctuation and spelling affect meaning</li> <li>• Limited use of specialist terminology</li> </ul>
	<p style="text-align: center;"><b>0 marks</b></p> <p>Response not creditworthy or not attempted.</p>

## 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)	5							5		
	(b)	2							2		
	(c)	4							4		
2	(a)		1						1		
	(b)		4						4		
3	(a)				3				3		
4	(a)				1				1		
	(b)				1				1		
	(c)				2				2		
	(d)				2				2		
5	(a)					3			3		
	(b)					2			2		
	(c)					2			2		
6		6								6	
7	(a)			6							6
	(b)			4							4
8	(a)			6							6
	(b)			6							6
9							8		8		
10							12				12
Total marks		11	11	22	9	7	20	80		40	40