



Mark Scheme

February 2021

Pearson BTEC Level 1/Level 2 Tech
Award in Digital Information
Technology

Component 3 (21193L)

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- All marks on the mark scheme should be used appropriately.
- All marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if a candidate's response is not worthy of credit according to the mark scheme.
- Where some judgment is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt about applying the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed-out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Phonetic spelling should be accepted.

Question Number	Answer	Mark
1(a)	<p>Any two from the following:</p> <ul style="list-style-type: none"> • Physical security measures • Levels of access settings • Biometrics • Two-factor authentication • Usernames • PIN <p>Accept types of physical security measures e.g. locks, guards but only once</p> <p>Accept types of biometrics e.g. fingerprint, iris scan but only once</p> <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
1(b)	<p>Any two from the following:</p> <ul style="list-style-type: none"> • Anti-virus • Obscuring data entry • (Disable) Autocomplete • Tick off 'stay logged in' option • Device hardening • Backup • Encryption <p>Do not accept Firewall</p> <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
1(c)	<p>Any two from the following:</p> <ul style="list-style-type: none"> • Available 24/7 • Accessible on different devices • Cheaper than physical storage • Good security • Automatic backup • Can share data • Scalability • Synchronise with other devices <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
1(d)	<p>Any two from the following:</p> <ul style="list-style-type: none"> • Limited features • Need external technical support • If the service is down, no access to the software • Relying on provider security <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
1(e)	<p style="color: red;">Award one mark for the reason and one mark for a linked explanation of that reason (reason and explanation may be reversed)</p> <p>Any two explanations from the following:</p> <ul style="list-style-type: none"> • It can reach a wider audience (1) because the company would have global reach (1) • It could increase sales (1) because it can add new content quickly/add videos/add images (1) • Use analytics (1) so that it can determine effectiveness of ads/posts (1) • The company can tailor its posts/target specific demographic (1) so that it can promote upcoming sales to certain customers (1) • Management tools (1) so they can set-up budget/time scales (1) <p>Accept any other appropriate response</p>	4

Question Number	Answer	Mark
2(a)	<p>Any two from the following:</p> <ul style="list-style-type: none"> • The company would have no control over Mina’s working hours • Hard to monitor Mina’s work • Difficult to arrange meetings • Computer/internet connection costs • Communication difficulties <p>Answers must relate to the company, not Mina</p> <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
2(b)	<p>Award one mark for the benefit and one mark for a linked explanation of that benefit (benefit and explanation may be reversed):</p> <p>Any two explanations from the following:</p> <ul style="list-style-type: none"> • Save the company time (1) because projects would be completed more efficiently (1) • Save the company money (1) as staff will not need to travel to meet up (1) • Management of projects is more efficient (1) as the company/staff will be able to track the work being done (1) • Staff can access the same information (1) because all work is kept in a central location (1) <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
2(c)	<p>Award one mark for the feature and one mark for a linked explanation of that feature. Up to a maximum of four marks. The feature can be mentioned or indicated on the diagram.</p> <p>Any two from the following:</p> <ul style="list-style-type: none"> • Carbon Copy (CC) (1) so Mina can send a copy of the same email to other members of staff (1) • Blind Carbon Copy (1) so Mina’s recipients cannot see/confidential recipients (1) • Attachments (1) so Mina can attach files to the email he is sending (1) <p>Allow circling/highlighting of correct items on image for the identification mark</p> <p>Accept any other appropriate response</p>	4

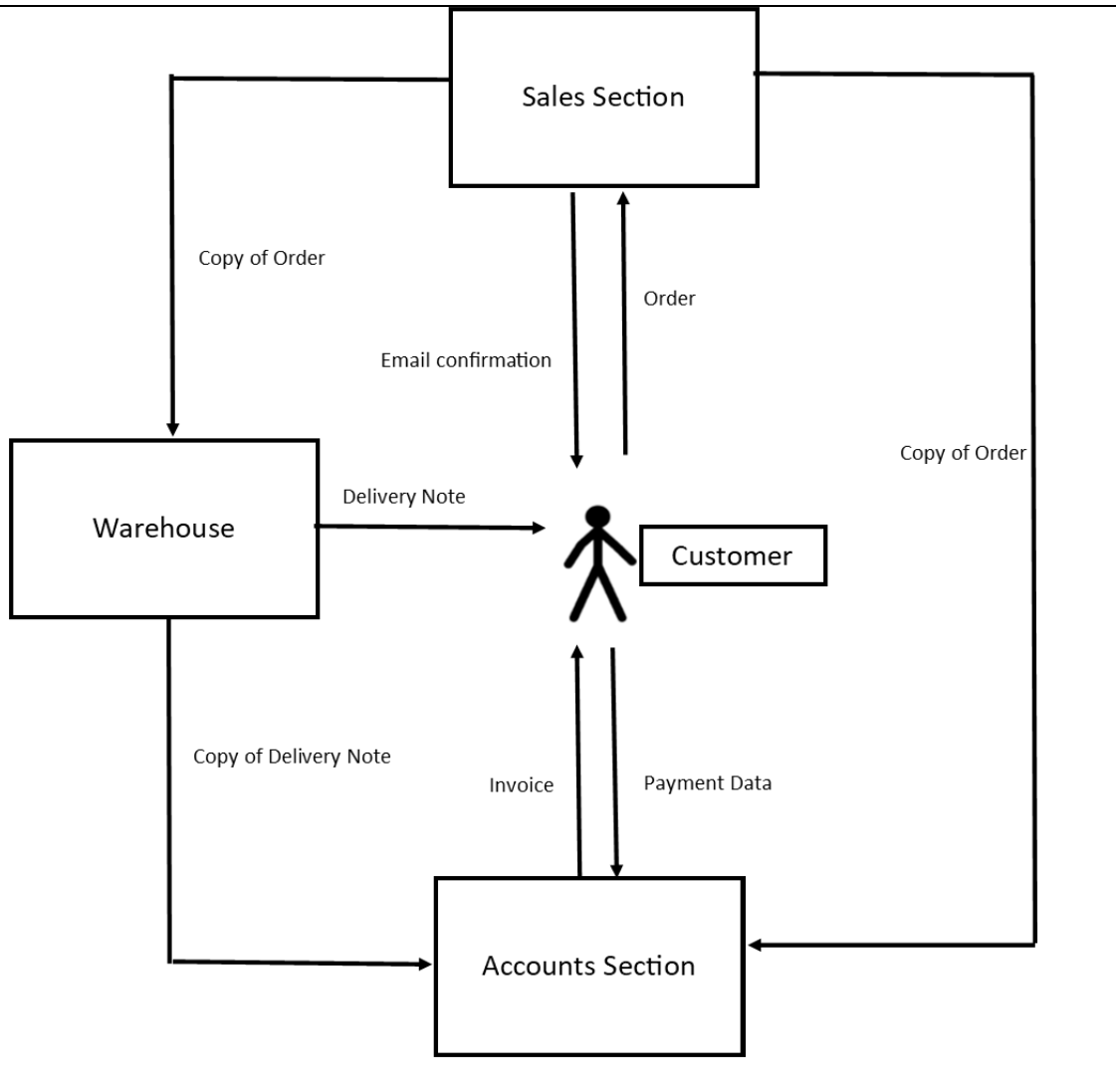
Question Number	Answer	Mark
2(d)	<p>Award one mark for the threat and one mark for a linked explanation of that threat (threat and explanation may be reversed):</p> <p>Any two explanations from:</p> <ul style="list-style-type: none"><li>• Man-in-the-middle attack (1) because his connection is unsecured/has no protection (1)<li>• Someone could snoop/sniff his connection (1) so cybercriminals could then eavesdrop on his communications (1)<li>• He could connect to a malicious hotspot (1) which could gather Mina's and his company's personal/confidential information (1) <p>Accept any other appropriate response</p>	4

Question Number	Answer	Mark
3(a)	<p>Award one mark for the example and one mark for a linked explanation of that example (example and explanation may be reversed):</p> <p>An explanation such as:</p> <ul style="list-style-type: none"> • The data subject has a right to be informed (1) so that they know what is being collected and how it is going to be used (1) • The data subject has a right to access (1) because customers can ask for / have copies of all their information (1) • The data subject has a right to have data amended (1) so that all their information is accurate (1) • The data subject has a right to be forgotten (1) so that any data that is no longer required must be deleted (1) <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
3(b)	<p>Award one mark for a description up to a maximum of four marks:</p> <p>A description to contain four of the following:</p> <ul style="list-style-type: none"> • Monitors all traffic • Uses whitelist/blacklist • Looks at the packets of data for unknown/suspicious IP addresses • Identifies suspicious traffic • Blocks suspicious traffic • Allows unsuspecting traffic • Notifies user of suspicious traffic 	4

Question Number	Answer	Mark
3(c)	<p>Award one mark for the way and one mark for a linked explanation of that way (way and explanation may be reversed):</p> <p>Any two explanations from:</p> <ul style="list-style-type: none"> • It stops anyone sharing/changing/using the designs (1) because Buyable Crafts can take legal action (1) • The copyright is automatic (1) because the company created the original designs/work it owns the copyright (1) • Copyright lasts a long time (1) because the company's designs would be protected for 70 years after the death of whoever created the original designs (1) <p>Accept any other appropriate response</p>	4

3(d)



6

Notes:

- Need notes to support the marking of the diagram

This is not a checklist – the diagram must make sense. Marks are awarded for using best fit for the band.

Mark Scheme (award up to 6 marks) refer to the guidance on the cover of this document for how to apply level-based mark schemes*.

Level	Mark	Descriptor
Level 0	0	No rewardable content
Level 1	1-2	<ul style="list-style-type: none">• Limited use of appropriate notation• Limited use of appropriate connections and directions of data/ information flow• Limited coverage of scenario requirements
Level 2	3-4	<ul style="list-style-type: none">• Some use of appropriate notation• Some use of appropriate connections and directions of data/ information flow• Some coverage of scenario requirements
Level 3	5-6	<ul style="list-style-type: none">• Mostly accurate use of appropriate notation• Mostly accurate use of appropriate connections and directions of data/ information flow• Mostly accurate use of scenario requirements

Question Number	Answer	Mark
4(a)	<p>Award one mark for the feature and two marks for a linked description of that feature (feature and description may be reversed):</p> <p>Any description to contain three from:</p> <ul style="list-style-type: none"> • Screen reader support/text to speech (1) which interprets the website content (1) and outputs this as speech to the user (1) • Alt text (1) this is an invisible description of the images on the website (1) which are read aloud to the user (1) • Magnifier/adjustable font size (1) this allows the user to increase the size of the typeface/screen (1) to suit their individual needs (1) • High contrast option (1) which sets fonts and background to contrasting colours (1) so text is clearer (1) <p>Accept any other appropriate response</p>	2

Question Number	Answer	Mark
4(b)	<p>Award one mark for the rule and two marks for a linked description of that rule (rule and description may be reversed):</p> <p>An explanation such as:</p> <ul style="list-style-type: none"> • Let the user know that they are using cookies (1) by having a cookie policy shown on their website (1) • What cookies will be set/will do (1) so the user knows what the company will do with their data (1) • User must agree to the cookie (1) so that the company can store the cookie on the user's device (1) <p>Accept any other appropriate response</p>	3

Question Number	Indicative content	Mark
4(c)	<p>Answers will be credited according to the learner’s demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>A discussion about the implications of using an ethical hacker to identify weaknesses in a security system - may include:</p> <p>Positives:</p> <ul style="list-style-type: none"> • Company can improve their security – based on the outcomes • Company will know the impact of a security breach – hacker can inform the company what could happen if there was an attack • Help the company stay ahead of threats – as the ethical hacker uses the same techniques as malicious hackers <p>Negatives:</p> <ul style="list-style-type: none"> • The company must trust an outsider with all the company security information – could use this to access the system without the company’s permission • The hacker could pass on the security information – meaning criminals could access the system • The hacker could plant a virus/malware – as they know the weaknesses of the system • The hacker would have access to confidential data – like personal details of staff, financial information <p>Accept any other appropriate response</p>	6

Level	Mark	
	0	No rewardable material
1	1-2	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding, with major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic assertions rather than considering different aspects and the relationship between them
2	3-4	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding, with only minor gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects and some consideration of how they interrelate, but not always in a sustained way
3	5-6	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects and considers how they interrelate, in a sustained way

Question Number	Indicative content	Mark
4(d)	<p>Answers will be credited according to the learner’s demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>An evaluation on how replacing PCs could affect the environment - may include:</p> <p>Alternatives to replacement:</p> <ul style="list-style-type: none"> • Upgrade instead – less environmental impact, only replace what you need • Keep the system for longer – most systems are replaced every 3 – 5 years, will reduce carbon footprint • Buy recycled parts if possible – keeps costs low and better for the environment than going to landfill <p>Disposal factors:</p> <ul style="list-style-type: none"> • Reuse any parts for the old system that could be used for the replacement system – saves money and waste • Need to take parts to a registered recycle site for safe disposal – so that the company will know it has been disposed of in an environmentally friendly way • Sell/donate the old equipment – saves waste and better for the environment • Return the equipment to the original supplier for disposal • Very hard to recycle some computer some parts – many contain harmful materials e.g. lead, mercury <p>Replacement factors:</p> <ul style="list-style-type: none"> • New hardware needs damaging resources – metals and plastics are used • Manufacturing is harmful – pollutants from the process enter the atmosphere/seas/rivers • Transport emission from the vehicles distributing the new equipment – unhealthy CO2 entering the atmosphere <p>Energy is used in the manufacture of products – gas and electricity using up valuable resources</p>	

Level	Mark	
	0	No rewardable material
1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated knowledge and understanding, there be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited evaluation which contains generic assertions rather than considering the factors or events and their relative importance, leading to a conclusion which is superficial or unsupported
2	4-6	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding, with few minor omissions/any gaps or omissions are minor • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed evaluation which considers some of the factors or events and their relative importance leading to a partially supported conclusion.
3	7-9	<ul style="list-style-type: none"> • Demonstrates mostly accurate and thorough/detailed knowledge and understanding • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical evaluation which clearly considers the factors or events and their relative importance, leading to a supported conclusion.