

Cambridge Technicals

IT

Unit 1: Fundamentals of IT

Level 3 Cambridge Technical in IT

05838 – 05842 & 05877

Mark Scheme for January 2025

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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MARKING INSTRUCTIONS**PREPARATION FOR MARKING****RM ASSESSOR**

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM Assessor Online Training: OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are available in RM Assessor
3. Log-in to RM Assessor and mark the **required number** of practice responses (“scripts”) and the **required number** of standardisation responses.

MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the RM Assessor messaging system.

5. Crossed-Out Responses

Where a candidate has crossed out a response and provided a clear alternative then the crossed-out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed-out response where legible.

Rubric Error Responses – Optional Questions

Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM Assessor, which will select the highest mark from those awarded. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

Multiple-Choice Question Responses

When a multiple-choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate). *When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.*

Contradictory Responses

When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions (requiring only a list by way of a response, usually worth only one mark per response)

Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

Short Answer Questions (requiring a more developed response, worth two or more marks)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space).

Longer Answer Questions (requiring a developed response)

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there, then add the annotation 'SEEN' to confirm that the work has been seen and mark any responses using the annotations in section 11.
7. There is a NR (**No Response**) option. Award NR (No Response):
 - if there is nothing written at all in the answer space
 - OR if there is a comment which does not in any way relate to the question (e.g., 'can't do', 'don't know')
 - OR if there is a mark (e.g., a dash, a question mark) which is not an attempt at the question.

Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).

8. The RM Assessor **comments box** is used by your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
9. *Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.*

10. For answers marked by levels of response:

To determine the level – start at the highest level and work down until you reach the level that matches the answer

To determine the mark within the level, consider the following

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

11. Annotations

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
	Level 1
	Level 2
	Level 3
	Benefit of doubt (This does count as a mark – so do not ‘tick’ as well)
	Benefit of doubt not given
	Blank Page
	Highlight
	Too vague
	Not answered question
	Repeat
 or 	Noted but no credit given

12. Subject-specific Marking Instructions

INTRODUCTION

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. This material includes:

- the specification, especially the assessment objectives
- the question paper
- the mark scheme.

You should ensure that you have copies of these materials.

You should ensure also that you are familiar with the administrative procedures related to the marking process. These are set out in the OCR booklet **Instructions for Examiners**. If you are examining for the first time, please read carefully **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

Question			Answer	Marks	Guidance
Section A					
1		B	Flash	1	
2		D	Widely available in rural areas	1	
3		D	Shareware	1	
4		C	Off-the-shelf	1	
5		A	ICMP (Internet Control Message Protocol)	1	
6		A	Are directly connected to each other	1	
7		B	Hypervisor	1	
8		B	Ethernet	1	
9		D	Provide a system to store and manage business	1	
10		C	Group Discussion	1	
11		A	Body language	1	
12		D	Improved networking	1	
13		C	Radio Frequency Identification	1	
14		C	Environmental Protection Act	1	
15		C	Scalable	1	

Question		Answer	Marks	Guidance
Section B				
16	(a)	<p>Up to two marks for each input device e.g.:</p> <ul style="list-style-type: none"> • Mouse (1st) e.g. <ul style="list-style-type: none"> ○ tracks user movement on screen (1) ○ to select icons on the screen (1) ○ use tracker wheel to scroll through options (1) ○ Any other valid suggestion • Keyboard (1st) e.g. <ul style="list-style-type: none"> ○ to enter/type/input details into system (1) ○ select the bios options on start up (1) ○ navigates windows/options on screen (1) ○ Any other valid suggestion • Webcam (1st) e.g. <ul style="list-style-type: none"> ○ To record security of room (1) ○ Scan face for access (1) ○ For video call with remote support (1) ○ Any other valid suggestion • Biometric scanner (1st) e.g. <ul style="list-style-type: none"> ○ Scans fingerprint and allows access (1) ○ Any other valid suggestion • Barcode scanner (1st) e.g. <ul style="list-style-type: none"> ○ Scans barcodes (hardware) into system (1) ○ Any other valid suggestion • Touchscreen (1st) e.g. <ul style="list-style-type: none"> ○ Scroll/Select options (1) ○ Any other valid suggestion • Any other valid suggestion 	4	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • 1st mark for each input device identified, • 2nd mark for description of use <p><i>Device must be identified for any credit to be awarded</i></p> <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

Question		Answer	Marks	Guidance
Section B				
16	(b)	<p>Up to two marks for one benefit of using a touchscreen monitor e.g.:</p> <ul style="list-style-type: none"> • Direct interaction can be faster • Intuitive interaction • No need for flat surfaces • Reduced cost • Reduced physical hardware • Reduces space • Any other valid suggestion <p>e.g.</p> <ul style="list-style-type: none"> • Reduces need for space (1) as the screen replaces the need for a mouse (1) • Allows more intuitive interaction/ easier to enter information (1) as user can touch screen (1) • Increased speed to enter data (1) as do not need to switch between mouse / keyboard (1) • Saves costs replacing equipment (1) as not buying extra mouse/keyboards as well (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for benefit of touchscreen • One mark for expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

Question		Answer	Marks	Guidance
Section B				
17	(a)	<p>Up to two marks for one advantage of using a tablet computer e.g.:</p> <ul style="list-style-type: none"> • App Ecosystem • Portability • Space saving/ All in one • Touchscreen Interface • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Portable (1) providing more flexible working locations than a PC (1) • Does not require separate devices to be connected (1) so takes up less space in server room (1) • Can be carried with you (1) allowing device/network monitoring to take place in different locations (1) • Wireless connectivity (1) allows monitoring of network in different locations (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for advantage of tablet • One mark for expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p> <p><i>Do not accept</i></p> <ul style="list-style-type: none"> • anywhere alone - must be qualified in context of school/ network

Question		Answer	Marks	Guidance
17	(b)	<p>Up to two marks for one disadvantage of using a tablet computer e.g.:</p> <ul style="list-style-type: none"> • Accidental touches • Battery lifespan • Fragility • Lack of touch precision • Limited processing • Limited storage • On-screen keyboards • Screen <u>size</u> • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Can be easily damaged (1) which could prevent access to the network (1) • Screen can be small in <u>size</u> (1) meaning commands may be difficult to see (1) • Touchscreen keyboards can be unresponsive (1) leading to mistakes being made when entering commands to the server (1) • Touching the screen is not always accurate (1) so the correct option may not be selected (1) • Less processing power (1) which reduces the ability for multitasking when working (1) • If there is no wireless connection (1) network cannot be monitored (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for disadvantage of tablet • One mark for expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

Question		Answer	Marks	Guidance
18	(a)	<p>Up to two marks for explanation of a byte e.g.:</p> <ul style="list-style-type: none"> • A group of 8 bits (1) used to store the data of one letter (1) • A unit of measurement/storage (1) that represents 8 bits (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage</p> <ul style="list-style-type: none"> • One mark for size • One mark for use <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>
18	(b)	<p>Up to two marks for one explanation of a kilobyte e.g.</p> <ul style="list-style-type: none"> • A group of 1000 bytes (1) used to store a series of commands (1) • A unit of measurement/storage (1) that represents 1000 bytes (1) • Metric system value (1) of 1000 bytes (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for correct size • One mark for use/ system <p>Do not accept</p> <ul style="list-style-type: none"> • 1024 as size as this is a kibibyte- (base-2) <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

19		<p>Up to two marks for each description of a server.</p> <p>Web server e.g.:</p> <ul style="list-style-type: none"> • Hosting websites • Handling website access • Store/retrieve data • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Stores the pages and content (1) needed for a website (1) • Provides 24/7 access to a website (1) allowing a developer's computer to be switched off (1) • Responds to requests (1) loading/displaying webpages (1) • Any other valid suggestion <p>Mail server e.g.:</p> <ul style="list-style-type: none"> • Send/receive/forward email • Store emails • Manage email accounts • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Manages the sending/receiving of emails (1) from multiple people (1) • Connects to the internet (1) to provide ability to send / receive emails (1) • Any other valid suggestion <p>Print server e.g.:</p> <ul style="list-style-type: none"> • Centralised print management • Print driver management • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Stores the files and data (1) that needs to be sent to a printer (1) • Manages a list of documents (1) that are waiting to be printed (1) • Any other valid suggestion 	6	<p>Read whole response and mark to candidates' advantage.</p> <ul style="list-style-type: none"> • One mark for use • One mark for suitable expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>
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20	(a)*	<p>Indicative Content In Question 20 the location of the servers is not stipulated (unlike Q19) and while it is implied that they are locally based/in school due to Q19 it cannot be assumed. As a result, concepts applicable to server virtualisation offsite/cloud based are acceptable responses.</p> <p>Benefits</p> <ul style="list-style-type: none"> • Reduced physical space needed to store the equipment <ul style="list-style-type: none"> ○ Can downsize room • Reduced hardware requirement as fewer physical devices need to be bought/maintained/replaced • Reduced costs <ul style="list-style-type: none"> ○ Less equipment needed ○ Lower power consumption as fewer devices ○ Less cooling needed ○ Less specialised staff ○ Can be managed by 3rd party • Improved disaster recovery <ul style="list-style-type: none"> ○ Backups/snapshots of virtual machines ○ Quick restoration • Scalability is easier by allocating/deallocation resources quickly • Resource Efficiency: <ul style="list-style-type: none"> ○ Maximises the use of server resources (CPU, memory, storage) by allocating them to multiple virtual machines (VMs), reducing waste. • Isolated/Secure development/test server • Accept any other valid suggestion <p>Limitations</p> <ul style="list-style-type: none"> • Requires specialist training/knowledge to set up manage 	10	<p>Level 3 [7-10 marks] At the top of the level a thorough discussion, which shows detailed understanding:</p> <ul style="list-style-type: none"> • Explained at least one benefit and one limitation of using server virtualisation • Made some judgements within the context provided • Subject specific terminology and knowledge are clearly used to support and inform the explanations. • There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. <p>Level 2 [4-6 marks] At the top of the level an adequate discussion, which shows sound understanding:</p> <ul style="list-style-type: none"> • Described at least one benefit and/or limitation of using server virtualisation • Made some judgements within the context provided although these may be superficial in nature. • Some subject specific terminology and knowledge has been used. • There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence. <p>Level 1 [1-3 marks] At the top of the level a basic justification, which shows limited understanding:</p> <ul style="list-style-type: none"> • Identified generic points server virtualisation • At the bottom of the mark band, a single point may have been simply provided.
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		<ul style="list-style-type: none"> • Increased complexity of system <ul style="list-style-type: none"> ○ Increased monitoring required ○ Ensure resource allocation correct ○ Competing resource demands ○ Maintain system stability • Requirement of more powerful machine • Resource-intensive applications may perform better on dedicated physical hardware. • Initial expense of purchase • Hardware compatibility <ul style="list-style-type: none"> ○ Not all hardware and applications work well in virtualised environments. Legacy systems or those requiring direct hardware access may need to remain on physical servers. • Resource contention <ul style="list-style-type: none"> ○ When multiple VMs compete for the same physical resources, performance can become unpredictable. Careful capacity planning is needed to avoid oversubscription. • Single point vulnerability <ul style="list-style-type: none"> ○ If hypervisor fails, whole system may be unavailable ○ Attack/hack/ hypervisor all VMs vulnerable • Accept any other valid suggestion 		<ul style="list-style-type: none"> • Subject specific terminology may be limited or missing. • Information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear <p>0 marks = Nothing worthy of credit.</p>
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20	(b)	<p>Up to two marks for each explanation</p> <p>Advantages e.g.:</p> <ul style="list-style-type: none"> • Collaboration • Organisation • Resource/technician allocation • Risk management • Time management • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Can easily track progression (1) of project on a timeline (1) • Can assign tasks and activities (1) to members of the team (1) • Can report issues and bugs (1) so that adjustments can be made (1) • Any other valid suggestion <p>Disadvantage e.g.:</p> <ul style="list-style-type: none"> • Cost • Data security • Learning curve • Overcomplication • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Can be complex to use (1) leading to delays understanding how to use the software (1) • Can be expensive to purchase (1) which the school budget may not be able to afford (1) • Software may need customising (1) for use in the education sector/school setting (1) • Any other valid suggestion 	6	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for each advantage of project management software • One mark for each expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p> <p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for disadvantage of project management software • One mark for expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>
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		Answer	Marks	Guidance
21		<p>Up to two marks for each explanation</p> <p>Logs e.g.:</p> <ul style="list-style-type: none"> • Historical analysis/solutions • Identify patterns • Monitor performance • Trace errors • Any other valid suggestion <p>e.g.</p> <ul style="list-style-type: none"> • Can record <u>what happened/when</u> (1) so can trace when issue occurred (1) • Can identify what devices had issues (1) and see when they occurred to trace back from (1) • can show performance metrics (1) helping to identify any degradation over time (1) • Any other valid suggestion <p>Baselines e.g.:</p> <ul style="list-style-type: none"> • Capacity planning • Configuration monitoring • Performance comparison/metrics • Trend analysis • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Allows a performance comparison (1) to take place against original levels (1) • Differences in set up/ results (1) can be checked against original scores to find issue (1) • inform you about the typical resource usage (1) helping to identify when a system is under unusual strain (1) • Any other valid suggestion 	4	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for use of tool • One mark for expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

		Answer	Marks	Guidance
22	(a)	<p>Up to three marks for identified and described technology e.g.:</p> <p>Presentation software (1st)</p> <ul style="list-style-type: none"> • Can be used to provide details on slides/display (1) in a meeting (1) • Any other valid suggestion <p>Word processing software (1st)</p> <ul style="list-style-type: none"> • Written report explaining/outlining the upgrades (1) that can be read by the governors (1) • Any other valid suggestion <p>Email (1st)</p> <ul style="list-style-type: none"> • To send updates/attachments/write in detail explaining the updates (1) to the governors so that they can read it at the own pace (1) • Any other valid suggestion <p>Blog/Vlog (1st)</p> <ul style="list-style-type: none"> • Can post updates on system upgrade (1) so that the governors can keep up to date (1) • Video could show each step (1) and explain how this improves the school system (1) • Any other valid suggestion <p>Instant messaging (1st)</p> <ul style="list-style-type: none"> • Can create a group chat with the governors (1) to video call/ explain the upgrade (1) • Use of notifications (1) to inform the governors when stages are completed (1) • Any other valid suggestion <ul style="list-style-type: none"> • Any other valid suggestion 	3	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • 1st mark for communication technology identified, • One mark for description of feature • One mark link to context (governors /school system/ update) <p><i>Communication Technology must be identified for any credit to be awarded</i></p> <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p> <p><i>Accept brand names</i></p>

22	(b)*	<p>Indicative content</p> <ul style="list-style-type: none"> • Technical terms should be translated into everyday language <ul style="list-style-type: none"> ○ e.g. upgrading the network system will improve connection speeds. • Avoid technical jargon that may not be understood by all governors. <ul style="list-style-type: none"> ○ Use simple and clear explanations ○ e.g. don't say scalable say expandable, • Formal language <ul style="list-style-type: none"> ○ may get in way of clarity ○ Should be used in work setting to address others/school governors • Informal language <ul style="list-style-type: none"> ○ inappropriate words ○ slang • Focus on the benefits and impact of the upgraded system for the school <ul style="list-style-type: none"> ○ e.g. reduced downtime means that the staff and students can use the resources more consistently, education standards will improve. • Emphasise the cost-effectiveness of the improvements <ul style="list-style-type: none"> ○ e.g. the upgrade will save money in the long run by reducing maintenance costs and increasing efficiency. • Use of informal terminology can cause confusion <ul style="list-style-type: none"> ○ e.g. don't say BYOD say students can use their own laptops or phones. • Any other valid suggestion 	10	<p>Level 3 [7-10 marks] At the top of the level a thorough discussion, which shows detailed understanding:</p> <ul style="list-style-type: none"> • Explained more than one use of appropriate language by the network manager • Made some judgements within the context provided • Subject specific terminology and knowledge are clearly used to support and inform the explanations. • There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. <p>Level 2 [4-6 marks] At the top of the level an adequate discussion, which shows sound understanding:</p> <ul style="list-style-type: none"> • Described at least one use of appropriate language by the network manager • Made some judgements within the context provided although these may be superficial in nature. • Some subject specific terminology and knowledge has been used. • There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence. <p>Level 1 [1-3 marks] At the top of the level a basic justification, which shows limited understanding:</p> <ul style="list-style-type: none"> • Identified generic points about the appropriate use of language • At the bottom of the mark band, a single point may have been simply provided.
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			Answer	Marks	Guidance
					<ul style="list-style-type: none">• Subject specific terminology may be limited or missing.• Information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear 0 marks = Nothing worthy of credit.

		Answer	Marks	Guidance
22	(c)	<p>Up to two marks for explanation of technical skill required e.g.:</p> <ul style="list-style-type: none"> • Documentation and reporting • Network installation • Network maintenance/management • Operating system maintenance/managing/updating • Router/Switch management • Scripting • Security management • Troubleshooting/issue diagnostics • Wi-Fi configuration/maintenance • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Understanding of servers/ set up/configuration (1) so that the virtualisation can be set up (1) • Knowledge of operating systems (1) so that they can manage the system upgrade (1) • Understand networks/ set up/configuration (1) to integrate the new servers correctly onto the network (1) • Understanding of hardware requirements (1) so that other devices (PC, Laptops, projectors etc) can be added to the network (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for technical skill • One mark for application to context/expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p> <p>Do not accept personal attributes (specification 4.3)</p>

Question	Answer	Marks	Guidance
23	<p>Up to three marks for detailed appropriate explanation e.g.:</p> <ul style="list-style-type: none"> • Budget • Business continuity/ recovery • Change in business needs • Change in working practices • Competition • Legislation • Security risks • Technological advancement • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • Budget (1st) can require that equipment replacements need to be reduced (1) which with less hardware will happen (1) • Old technology (1st) that needs to be replaced (1) will be better replaced using newer systems that are more efficient (1) • Remote working (1st) means that some of the other equipment may not be able to deal with extra cloud-based requirements (1) so needs replacing (1) • Faulty hardware (1st) causes loss of data/work (1) so the virtual servers installed to store the data/work (1) • Any other valid suggestion 	3	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • 1st mark for driver of change, • One reason for change • One mark application to context/expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

Question		Answer	Marks	Guidance
24	(a)	<p>Three from:</p> <ul style="list-style-type: none"> • Data destruction (1) • Data manipulation (1) • Data loss/leak /theft of the (1) • DDoS/DoS attacks (1) • Hacking/Unauthorised access (1) • Interception/Man in the Middle/ Packet sniffing (1) • Ransomware (1) • Social engineering/Pharming/Phishing (1) • Spyware/keylogging (1) • Trojan/ Worm (1) 	3	<p>Do not accept</p> <ul style="list-style-type: none"> • unpatched software – scenario is based on new upgraded system • virus- in the question
24	(b)	<p>Up to two marks for explanation e.g.:</p> <ul style="list-style-type: none"> • Data security • Prevent data loss • Protection from malware • System maintenance • Any other valid suggestion <p>e.g.:</p> <ul style="list-style-type: none"> • To protect the system from viruses (1) being installed on the system and deleting the data (1) • To identify harmful software (1) that could lock/encrypt the system/data (1) • Prevent viruses entering a system (1) so that expensive repairs are not needed (1) • Any other valid suggestion 	2	<p>Read whole response and mark to candidates' advantage:</p> <ul style="list-style-type: none"> • One mark for role of antivirus software • One mark for expansion <p><i>Accept answers written in reverse order</i></p> <p><i>Accept equivalent terminology</i></p>

25	(c)	Two from: <ul style="list-style-type: none">• Anti-spyware• Encryption• Firewall• Permission levels• Username <u>and</u> Password• Two-factor authentication / 2FA	2	Do not accept <ul style="list-style-type: none">• Anti-virus- previous question and excluded from these responses <i>Accept equivalent terminology</i>
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