

**Cambridge Technicals
IT**

Unit 1: Fundamentals of IT

Level 3 Cambridge Technical in IT

Mark Scheme for June 2018

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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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Annotations

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
L1	Level 1
L2	Level 2
L3	Level 3
BOD	Benefit of doubt (This does count as a mark – so do not ‘tick’ as well)
NBOD	No benefit of doubt. (No need to cross as well)
TV	Too vague
REP	Repeat
SEEN or 	Noted but no credit given

Question		Answer	Marks	Guidance
1	D	For one mark: Hypervisor (1).	1	
2	D	For one mark: Storing a movie on a drive from multiple network storage devices (1).	1	
3	C	For one mark: Resources can be shared without a dedicated server (1).	1	
4	C	For one mark: Ring (1).	1	
5	B	For one mark: A city-wide network of computers (1).	1	
6	B	For one mark: ISDN (1).	1	
7	D	For one mark: To inform staff that they have been made redundant (1).	1	
8	C	For one mark: Ability to working independently (1).	1	
9	C	For one mark: The staff perform different job roles (1).	1	
10	B	For one mark: To organise industrial action (1).	1	
11	B	For one mark: Regularly changing passwords (1).	1	
12	D	For one mark: Using an external hard drive as the sole storage area (1).	1	
13	C	For one mark: Eavesdropping (1).	1	
14	C	For one mark: Permissions (1).	1	
15	C	For one mark: Username and password combinations being guessed is a low risk (1).	1	

Question	Answer	Marks	Guidance
16	<p>Possible reasons why staff must agree to the AMEC Leisure Code of Conduct include:</p> <ul style="list-style-type: none"> • So staff can be clear (1) on what they can and can't be expected to do (1). • So AMEC Leisure is able to discipline staff (1) who don't comply (with the code of conduct) (1). • To set expectations (1) of the staff (1). • To make it clear (1) of the company's expectations (1). • So staff are aware (1) of the benchmarks against which their performance (and that of the organisation) can be measured (1) • So staff can use it as a central guide/point of reference (1) to support their day to day decision making (1) • Any other valid suggestion. 	4	<p>Up to two marks for each of two explanations</p> <p>Allow answers relating to: Security Legal implications</p> <p>Relevant examples can be used for the second mark.</p>
17	<p>(a)*</p> <p>Indicative content:</p> <p>Possible reasons why IT staff use SOP to maintain the 'corrected' fitness equipment include:</p> <ul style="list-style-type: none"> • Set of rules to follow. • Each engineer could do things differently. 	10	<p>Mark Band 3 (7-10 marks)</p> <p>The learner has explained why IT staff would use SOP to maintain the 'connected' fitness equipment.</p> <p>Subject specific terminology and knowledge will be clearly used to support and inform the explanations.</p> <p><i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</i></p>

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> • SOP ensures that different engineers do things the same. • Ensure consistency of maintenance. • Prevents errors due to misconfiguration. • Allows for maintenance to be undone easily. • Less chance of errors as everyone following SOP. • Any other valid suggestion. 		<p>Mark Band 2 (4-6 marks) The learner has described how IT staff could use SOP to maintain the 'connected' fitness equipment.</p> <p>At the bottom of the mark band, the learner may describe a single way that SOP could be used. <i>There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.</i></p> <p>Mark Band 1 (1-3 marks) The learner has identified generic points in relation to SOP.</p> <p>Subject specific terminology may be limited or missing.</p> <p><i>The 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.</i></p> <p>0 marks = Nothing worthy of credit.</p>
(b)	<ul style="list-style-type: none"> • One mark for each character (1+1). • One mark for working out. • F in first position (1) • 4 in second position (1) • Evidence of working out shows process of calculating the answer (even if answer incorrect) (1). 	3	<p>For three marks: Candidate may convert directly to decimal or may first convert to binary and then on to decimal.</p> <p>Maximum two marks if no working out.</p> <p>Do not award second mark if there is another character in between.</p> <p>E.g. F04 = 1 mark</p>

Question	Answer	Marks	Guidance
(c)	<ul style="list-style-type: none"> • A mebibyte is 1024^2 bytes (1) and a megabyte is 1000^2 bytes (1). Mebibytes are used so the size of the storage is accurate (1). • A mebibyte is larger than a megabyte/ a megabyte is smaller than a mebibyte (2) Mebibytes are used so the size of the storage is accurate (1) • Any other valid suggestion. 	3	<p>For three marks:</p> <p>One mark for describing a mebibyte One mark for describing a megabyte One mark for the reason why mebibytes are used</p>
(d)*	<p>Indicative content:</p> <p>Discussion of the use of wireless technologies for uploading data to and from the ‘connected’ fitness equipment include:</p> <ul style="list-style-type: none"> • No wires needed. • Trip hazard. • Bluetooth/Wifi more suitable as don’t need line of site. • Bluetooth short range, better of use from body sensors. • Wifi for connectivity to AMEC Leisure network. • Wifi can be more easily intercepted, so security important. • Could encrypt wireless traffic. • Ease of interception to wireless traffic. <p>Any other valid suggestion.</p>	10	<p>Mark Band 3 (7-10 marks)</p> <p>The learner has explained how wireless technologies can be used for uploading data to and from the ‘connected’ fitness equipment. Consideration will be given to the appropriateness of using wireless technologies within the context provided. Answer may discuss different wireless technologies or wired and wireless technologies.</p> <p>Subject specific terminology and knowledge will be clearly used to support and inform the explanations.</p> <p><i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</i></p> <p>Mark Band 2 (4-6 marks)</p> <p>The learner has described how wireless technologies can be used for uploading data to and from the ‘connected’ fitness equipment. There may be limited consideration of different wireless technologies or wired connectivity.</p> <p>At the bottom of the mark band, the learner may describe a single use of wireless technology.</p>

Question			Answer	Marks	Guidance
					<p><i>There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.</i></p> <p>Mark Band 1 (1-3 marks) The learner has identified generic points in relation to wireless technologies. There is little attempt to consider their use within the context provided.</p> <p>Subject specific terminology may be limited or missing.</p> <p><i>The 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.</i></p> <p>0 marks = Nothing worthy of credit.</p>
18	(a)		<p>Social media channels that could be used by AMEC Leisure include:</p> <ul style="list-style-type: none"> Accept any suitable social media channel 	1	For one mark:
	(b)		<p>Possible barriers to communication that could be encountered when receiving a complaint via social media include:</p> <ul style="list-style-type: none"> Not able to see body language (1) so can't tell if the user is upset/angry/calm (1) so will be unable to respond appropriately (1) 	6	<p>Up to three marks for each of two explanations:</p> <p>Allow mix and match for expansions</p>

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none">• Limited amount of content that can be included (1) so complaint isn't fully described (1) which would make it difficult to ensure the complaint is addressed (1)• Staff member could be dealing with more than one complaint (1) so not concentrating properly (1) which may make the customer more angry (1)• Any other valid suggestion.		

Question			Answer	Marks	Guidance
19	(a)	(i)	<p>Possible methods that could be used to remove data from equipment before disposal include:</p> <ul style="list-style-type: none"> • Overwrite data (1) • Electromagnetic wipe (1) • Physical destruction (1) • Reset to factory settings (1) • Any other valid suggestion. 	1	<p>For one mark:</p> <p>Suggestions about copying data to an alternative location are acceptable</p>
		(ii)	<p><u>Overwrite data</u> Advantages:</p> <ul style="list-style-type: none"> • Can be certain that the data is gone (1) as it has been overwritten many times (1). • System hasn't been physically destroyed (1) so could be donated to charity (1). • Any other valid suggestion. <p>Disadvantage:</p> <ul style="list-style-type: none"> • Can be time consuming (1) so would take up staff resource whilst overwrite is occurring (1). • Any other valid suggestion. 	6	<p>Up to two marks for each of three explanations. Four marks for advantages and two marks for disadvantage.</p> <p>If answers can be applied to any form of data removal methods then marks should be awarded.</p>

Question	Answer	Marks	Guidance
	<p><u>Electromagnetic wipe</u> Advantages:</p> <ul style="list-style-type: none"> • Can be certain that the data is gone (1) as the storage device has been electromagnetically wiped (1). • System hasn't been physically destroyed (1) so could be (donated to charity (1)). • Any other valid suggestion. <p>Disadvantage:</p> <ul style="list-style-type: none"> • Equipment can be expensive (1) and difficult to get hold of (1). • Any other valid suggestion. <p><u>Physical destruction</u> Advantages:</p> <ul style="list-style-type: none"> • Can be certain that the data is gone (1) as the storage device has been physically destroyed (1). • No chance of the data being stolen (1) as the storage device no longer exists (1). • Any other valid suggestion. <p>Disadvantage:</p> <ul style="list-style-type: none"> • Equipment can't be donated to charity (1) so not environmentally friendly (1). • Any other valid suggestion. 		

Question		Answer	Marks	Guidance
20	(a)	<p>Possible benefits to AMEC Leisure of using a bespoke operating system include:</p> <ul style="list-style-type: none"> • Only the features that AMEC Leisure needs (1) will be included in the operating system (1). • Un-needed features (1) can be removed from the operating system (1). • Can customise the look of the operating system (1) so it fits in the AMEC Leisure's way of working (1). • Any other valid suggestion. 	2	<i>Up to two marks for explanation.</i>
	(b)	<p>Possible functions that a tablet computer's operating system will perform include:</p> <ul style="list-style-type: none"> • Provides a user interface (1) that the end user can interact with (1). • Manages hardware (1) such as display adaptor/sound card (1). • Manages resources (1) such as memory allocation (1). • Dealing with interrupts (1) from other system resources (1). • Any other valid suggestion. 	6	<i>Up to two marks for each of three descriptions.</i>

Question	Answer	Marks	Guidance
(c)	<p>Possible troubleshooting tools that could be used to investigate faults with the tablet computers include:</p> <ul style="list-style-type: none"> • Logs (1) which display details of what the system has been doing (1) e.g. event viewer (1). • Baselines (1) to compare system now to how it used to be (1). • Installable tools (1) to interrogate system (1). • Memory dump (1) displays contents of memory (1) • Anti-virus (1) to check for malicious software (1) • Any other valid suggestion. 	4	<i>Up to two marks for each of two descriptions.</i>
(d)	<p>For three marks:</p> <ul style="list-style-type: none"> • IP address (1). • Subnet mask (1). • Default gateway (1). 	3	Correct answer only.
(e)	<p>Possible benefits of not using automated methods to configure the addressing information include:</p> <ul style="list-style-type: none"> • If an unauthorised device connects to the network (1) they won't be able to get an IP address (1). 	2	<i>Up to two marks for explanation.</i>

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> • It increases security (1) as the address must be configured before device can be used (1). • Any other valid suggestion. 		
(f)	<p>Possible responses may include:</p> <ul style="list-style-type: none"> • Backup (1st) which takes a copy of files and stores in another location (1). • Imaging (1st) takes an exact copy of the hard drive and stores in an alternate location (1). • Any other valid suggestion. 	2	<i>One mark for identification of utility software type and one mark for description of type.</i>
(g)	<p>Possible responses may include:</p> <ul style="list-style-type: none"> • Disk defragmentation (1st) to arrange data in continuous clusters (1). • Disk cleaner (1st) to remove addresses of deleted data (1). • System monitor (1st) to manage the computers resources (1). • Any other valid suggestion. 	2	<i>One mark for identification of utility software type and one mark for description of type.</i>

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