



# **Cambridge Technicals IT**

**Unit 1: Fundamentals of IT**

Level 3 Cambridge Technical in IT

**Mark Scheme for June 2017**

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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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<b>A</b>	<b>1</b>	<b>d</b>	To encourage users to purchase the full version	1	
	<b>2</b>	<b>a</b>	Spreadsheet software cannot store atomised data in related tables	1	
	<b>3</b>	<b>b</b>	To allow the user to maintain the compute	1	
	<b>4</b>	<b>b</b>	To distribute a new social media policy amongst staff	1	
	<b>5</b>	<b>b</b>	Hypertext Transfer Protocol (HTTP)	1	
	<b>6</b>	<b>d</b>	The owner of the website	1	
	<b>7</b>	<b>b</b>	Client server	1	
	<b>8</b>	<b>a</b>	To allow secure communication between different branches	1	
	<b>9</b>	<b>c</b>	A secure telephone network in a military base	1	
	<b>10</b>	<b>b</b>	To play a real-time strategy game	1	
	<b>11</b>	<b>c</b>	Increased customer complaints	1	
	<b>12</b>	<b>c</b>	Answers are more concise that can be easily analysed	1	
	<b>13</b>	<b>a</b>	Data sorting	1	
	<b>14</b>	<b>b</b>	A business suit	1	
	<b>15</b>	<b>a</b>	Certification is available to anyone	1	

B	16	(a)	<p>Up to <b>two</b> marks for each of <b>three</b> explanations.</p> <p>e.g.</p> <p><b>RAM</b></p> <ul style="list-style-type: none"> <li>• Stores parts of the operating system/<u>running</u> programs (1) for access by the CPU/so data can be processed (1)</li> <li>• Store data from programs (that are open) (1) providing fast access to data (1)</li> <li>• Any other valid suggestion</li> </ul> <p><b>ROM</b></p> <ul style="list-style-type: none"> <li>• Holds the boot program/BIOS (1) that is used to start the server/that executes before OS loads (1)</li> <li>• Any other valid suggestion</li> </ul> <p><b>Cache</b></p> <ul style="list-style-type: none"> <li>• Stores data that is accessed frequently (1) to allow faster access to the data (1)</li> <li>• Any other valid suggestion</li> </ul>	[6]	<p>1 mark for each memory type (max 3) for describing the characteristic of the memory type.</p> <p>Do not accept a definition (e.g. Ram is Random Access Memory – 0 marks)</p> <p>Reference to web cache should not be credited.</p>
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		<p><b>(b)</b> Two marks per description (max 4)</p> <ul style="list-style-type: none"> <li>• High bandwidth/100MB/1GB/10GB (1) so data will be transferred quickly (1)</li> <li>• Dedicated bandwidth (1) between server and switch (1)</li> <li>• Different connection types (1) to support fibre/copper (1)</li> <li>• Uses cables (1) so more difficult to intercept (1)</li> <li>• Any other valid answer</li> </ul>	<b>[4]</b>	Do not accept answers relating to cost or reliability								
<b>17</b>		<p>Indicative Content</p> <ul style="list-style-type: none"> <li>• Router used to route/transfer data</li> <li>• Standalone router has more complex functions</li> <li>• More suitable for a business environment</li> <li>• If router fails, other features (switch, wifi etc.) still available</li> <li>• Not so much down time if needs to be replaced</li> <li>• Increased performance from standalone device</li> <li>• Additional features such as VPN support etc.</li> </ul>	<b>[7]</b>	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">5-7</td> <td>Explained more than one reason why a router would be used (or a hybrid device would <b>not</b> be used) At the bottom of the mark band, one of the reasons may not be fully explained.</td> </tr> <tr> <td style="text-align: center;">3-4</td> <td>Described reason(s) a router would be used (or a hybrid device would <b>not</b> be used)</td> </tr> <tr> <td style="text-align: center;">1-2</td> <td>Identified reason(s) a router would be used (or a hybrid device would <b>not</b> be used)</td> </tr> <tr> <td style="text-align: center;">0</td> <td>Nothing worthy of credit</td> </tr> </table>	5-7	Explained more than one reason why a router would be used (or a hybrid device would <b>not</b> be used) At the bottom of the mark band, one of the reasons may not be fully explained.	3-4	Described reason(s) a router would be used (or a hybrid device would <b>not</b> be used)	1-2	Identified reason(s) a router would be used (or a hybrid device would <b>not</b> be used)	0	Nothing worthy of credit
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1-2	Identified reason(s) a router would be used (or a hybrid device would <b>not</b> be used)											
0	Nothing worthy of credit											

18	<p>Up to <b>two</b> marks for each of <b>three</b> explanations.</p> <p>e.g.</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"><li>• Support widely available (1) as used by most organisations (1)</li><li>• Should have been tested thoroughly (1) so know features will work (1)</li><li>• Documentation widely available (1) to help with setup/maintenance (1)</li><li>• End users are familiar with the system (1) which means they are more likely to use/buy (1)</li><li>• Cost to purchase can be lower than bespoke software (1) as it is not customised for each organisation (1)</li><li>• Any other valid suggestion</li></ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"><li>• Cost to purchase/ongoing maintenance cost can be high (1) which the company may not be able to afford/which may be passed on to the customer (1)</li><li>• Can contained additional features that the company doesn't need (1) which can reduce the performance of the system (1)</li><li>• Any other valid suggestion</li></ul>	[6]	Answers could be disadvantages of open source/bespoke software
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19	<p>Answers may include</p> <ul style="list-style-type: none"> <li>• Whistle blowing and the companies response to whistle blowers</li> <li>• Employer/employee expectations in disability</li> <li>• Employer/employee expectations in gender</li> <li>• Employer/employee expectations in sexual discrimination</li> <li>• Use of information within the organisation</li> <li>• Codes of practice and the company's expectations</li> <li>• On-line safety</li> <li>• Avoiding bias</li> </ul>	[10]	7-10	3	<p>The learner has explained <b>more than one</b> ethical issue that RGIS should include in its documents. Answers will be in context and will consider <b>more than one</b> viewpoint.</p> <p>At the bottom of the mark band, a single ethical issue/viewpoint may be explained in detail.</p> <p>Subject specific terminology and knowledge will be clearly used to support and inform the explanations.</p>
			4-6	2	<p>The learner has described ethical issue(s) that RGIS should include in its documents. Answers may only consider one viewpoint.</p> <p>At the bottom of the mark band, answers may not be in context and a single ethical issue may be described.</p> <p>Some subject specific terminology and knowledge will be used.</p>
			1-3	1	<p>The learner has identified points about ethical issues that RGIS should include in its documents. The answer may not be in context.</p> <p>Subject specific terminology may be limited or missing.</p>
			0		Nothing worthy of credit

20	(a)	<p>Two marks for a description</p> <p>e.g.</p> <ul style="list-style-type: none"><li>• Full desktop environment (1) where the processing happens remotely(1)</li><li>• Operating system is managed/hosted centrally (1) and is displayed locally on a dumb client (1)</li><li>• Any other valid response</li></ul>	[2]	
20	(b)	<p>Two marks per limitation, max 4</p> <p>e.g.</p> <ul style="list-style-type: none"><li>• If internet/network connectivity is lost (1) then users are unable to work (1)</li><li>• Increased server load (1) can cause poor performance for all customers (1)</li><li>• Cost (of servers) is high (1) as they need to be able to run many instances of the client operating system (1)</li><li>• Expertise needed to install the client (1) requires training (1)</li><li>• Any other valid response</li></ul>	[4]	

<b>21</b>	<p>Answers may include</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Ability to keep track of issues/requests for support</li> <li>• Ability to monitor performance of helpdesk personnel</li> <li>• Audit log of actions taken by support personnel</li> <li>• Ease of communication about problem with end user</li> <li>• Call history so common issues can be identified/fixed pro-actively</li> </ul> <p><b>Limitations</b></p> <ul style="list-style-type: none"> <li>• Administrative burden of keeping tickets/job numbers up to date</li> <li>• Staff feeling like they are being monitored</li> <li>• Rigid structure for support</li> <li>• Time taken to deal with ‘quick’ issues</li> <li>• Knowledge base takes time to build up/can go out of date quickly</li> </ul>	<b>[10]</b>			
			7-10	3	<p>The learner has explained <b>both</b> benefits and limitations of RGIS’ use of helpdesk software. Answers will be in context.</p> <p>Subject specific terminology and knowledge will be clearly used to support and inform the explanations.</p>
			4-6	2	<p>The learner has described benefit(s) and/or limitation(s) of RGIS use of helpdesk software. At the top of the mark band, the answer will be in context.</p> <p>At the bottom of the mark band, a single benefit/limitation may be described.</p> <p>Some subject specific terminology and knowledge will be used.</p>
			1-3	1	<p>The learner has identified points about RGIS use of helpdesk software. The answer may not be in context.</p> <p>At the bottom of the mark band, a single point may be identified. Subject specific terminology may be limited or missing.</p>
			0		Nothing worthy of credit

	22	<p><b>(a)</b> One mark per attribute identified (max 2) two marks per description (max 4)</p> <p>e.g.</p> <p>Self-motivated (1st)</p> <ul style="list-style-type: none"> <li>• RGIS needs someone productive (1) who will keep on track with tasks on their own (1)</li> </ul> <p>Dependable (1st)</p> <ul style="list-style-type: none"> <li>• RGIS needs to be able to give someone a task (1) and know that it will get done (1)</li> </ul> <p>Punctual (1st)</p> <ul style="list-style-type: none"> <li>• RGIS expects staff to be on time (1) so tasks can be completed on time (1)</li> </ul> <p>Time management (1st)</p> <ul style="list-style-type: none"> <li>• RGIS expects staff to manage their time effectively (1) so that all tasks get completed (1)</li> </ul> <p>Problem solving (1st)</p> <ul style="list-style-type: none"> <li>• RGIS needs staff to be able to troubleshoot to identify (1) and rectify issues with the system (1)</li> </ul> <p>Communication Skills (1st)</p> <ul style="list-style-type: none"> <li>• Ability to communicate effectively with colleagues (1) to explain/understand instructions (1)</li> <li>• Remain calm (1) when dealing with difficult customers (1)</li> </ul> <p>Any other valid response</p>	[6]	<p>If attribute not identified, then do not award why important.</p> <p>Do not accept numerical skills</p>
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22	(b)	<p>Two marks per explanation (max 4)</p> <p>e.g.</p> <ul style="list-style-type: none"><li>• People who want to work for the company may already be following them (1) so the advert will target the right audience (1)</li><li>• Advert can get wider viewing (1) than just publishing it on their own web site (1)</li><li>• Clever advertising could make the advert go viral (1) which will significantly increase views (1)</li><li>• Any other valid response</li></ul>	[4]	
23	(a)	<p>Two marks per description (max 4)</p> <p>e.g.</p> <ul style="list-style-type: none"><li>• Locks on the door (1) to prevent people getting in (1)</li><li>• Biometrics (1) so only authorised users could gain access/log on (1)</li><li>• Token (1) for two factor authentication (1)</li><li>• Bars on windows (1) to prevent intruders from accessing data centre (1)</li><li>• Any other valid response</li></ul>	[4]	

	23	(b)	Up to <b>two</b> marks for an explanation  e.g. <ul style="list-style-type: none"><li>• So RGIS can be sure that their data is no longer on the devices (1) and it can't be accessed by a third party (1)</li><li>• So that the device can be used again (1) as it is not physically damaged (1)</li><li>• Any other valid response</li></ul>	[2]	
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