



Cambridge Technicals

IT

Unit 2: Global information

Level 3 Cambridge Technical Certificate/Diploma in IT
05838-05842, 05877

Mark Scheme for January 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 - These are the annotations to be used when marking Unit 2:

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
	Plus – use for positives
	Minus – use for negatives
	Level 1
	Level 2
	Level 3
	Benefit of doubt (This does count as a mark – so do not ‘tick’ as well)
	Omission mark
	Too vague
	Repeat
 or 	Noted but no credit given

Question			Answer	Marks	Guidance
1	a		<ul style="list-style-type: none"> • dog name (1) • airline (1) • destination (1) 	1 (2.1)	1 from list For 1 mark
1	b	i	<ul style="list-style-type: none"> • numerical / number / integer (1) 	1 (2.1)	For 1 mark Correct answer only
1	b	ii	<ul style="list-style-type: none"> • The field is a calculated field (1) using date of flight and date of rabies fields (1) the answer must be in number of days (1). • Shows number of days (1) • Any other valid suggestion. 	3 (2.1)	Points marking approach: Can be: 3 individual points 1 complete explanation for 3 marks Allow example from table Marks can be awarded if 0 marks awarded for b(i) BUT must be in context of case study.
2	a		<ul style="list-style-type: none"> • Secondary/ quantative (1st) <p>3 from:</p> <ul style="list-style-type: none"> • The data has been collected by someone other than PDT (1). • The data was originally collected as part of the dog's vaccination record (1). • The data has been transferred to the paperwork to be used at the destination (1). • the data has been provided by the vet who gave the rabies injection (1). • Shows dates (1) • Any other valid suggestion. 	4 (5.1)	Points marking approach The data type must be correct to enable marks for the justification to be awarded.

Question		Answer	Marks	Guidance
2	b	<ul style="list-style-type: none"> communication/location dependant / planning (1) 	1 (3.2)	For 1 mark Correct answer only
2	c	<ul style="list-style-type: none"> All relevant information should be included with no omissions (1) to meet the requirements of the destination country (1). The information on the paperwork must enable the matching (1) of the microchip number to that shown when the dog is scanned (1). If any of the information is of poor quality (1) then the dog may be refused entry to its destination / have to go into quarantine (1). There will be no issues (1) when the dog arrives / departs a country (1) as the data / information is accurate (1) and can be relied on (1) Any other valid suggestion. 	4 (2.3)	Points marking approach Read the whole answer and mark to the candidates advantages
2	d	<ul style="list-style-type: none"> Extra costs may be incurred if information is missing / not correct (1) as PDT will have to be contacted to supply the missing / incorrect information (1). The dog may be 'put to sleep' (1) if the information / microchip number on the paperwork does not match with the scanned results (1). The dog may be refused entry / have to stay in quarantine longer (1) If any of the information held on the paperwork is missing / incorrect (1). The dog may not be able to fly (1) meaning the owner may not be able to emigrate on the given date (1) Any other valid suggestion. 	4 (2.3)	Max 2 consequences Max 2 marks per consequence (2x2) Consequence can be to the dog or the owner or a mixture

Question	Answer	Marks	Guidance								
3*	<p>Indicative content</p> <p>General Points</p> <ul style="list-style-type: none"> • A data controller must be appointed and register with the Information Commissioner. This person is responsible for ensuring the PDT complies with the DPA. • The 8 principles of the DPA must be adhered to when processing the personal information. • PDT must be clear on what information about the dog & owner they are collecting, why it is being collected and what the data will be used for, • PDT must inform the Information Commissioner as to what information is going to be held and what is to be done with it. PDT can only collect & process information which meets these specified requirements. • PDT should only request information which is relevant to the dog's travel arrangements. No excessive / irrelevant information should be asked for, • Information held must be checked to ensure that it is up to date and accurate. PDT should check this prior to the dog travelling. • When the dog has travelled and is reunited with its owners the information should be deleted. • If information held by PDT is incorrect then the owners have a right to have this corrected. • Security measures should be put in place by PDT to prevent the information from being deleted or stolen. • PDT should ensure that backups of the information / database are taken regularly. • If the country the dog is travelling to is outside the EU or to a country that does not have adequate levels of protection PDT must get the consent of the owner to transfer the information to the destination country. • Any other valid suggestion. 	10 (4.1)	<p>Levels of response marking approach</p> <table border="1"> <tbody> <tr> <td data-bbox="1370 277 1563 341">H 7 - 10 marks</td> <td data-bbox="1574 277 2069 676"> <p>Has shown a detailed level of understanding by discussing the impacts of the DPA. The learner provides a clear discussion of more than one clear impact which is fully applied to PDT.</p> <p>Relevant examples will be used to support discussion and ideas will be expressed clearly and fluently.</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> </td> </tr> <tr> <td data-bbox="1370 684 1563 748">M 4 - 6 marks</td> <td data-bbox="1574 684 2069 1083"> <p>Has shown a good level of understanding by explaining the impact(s) of the DPA. Explanations may concentrate on one impact. At the lower end of the mark band, response may be limited in depth or descriptive.. Some examples used to support discussion may not be relevant and may at times detract from fluency of narrative.</p> <p><i>There is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.</i></p> </td> </tr> <tr> <td data-bbox="1370 1091 1563 1155">L 1 - 3 marks</td> <td data-bbox="1574 1091 2069 1362"> <p>Has identified points relevant to the use of DPA. Limited use of examples to accompany description and ideas will be poorly expressed.</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> </td> </tr> <tr> <td data-bbox="1370 1370 1563 1394">0 marks</td> <td data-bbox="1574 1370 2069 1394">Nothing worthy of credit.</td> </tr> </tbody> </table>	H 7 - 10 marks	<p>Has shown a detailed level of understanding by discussing the impacts of the DPA. The learner provides a clear discussion of more than one clear impact which is fully applied to PDT.</p> <p>Relevant examples will be used to support discussion and ideas will be expressed clearly and fluently.</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>	M 4 - 6 marks	<p>Has shown a good level of understanding by explaining the impact(s) of the DPA. Explanations may concentrate on one impact. At the lower end of the mark band, response may be limited in depth or descriptive.. Some examples used to support discussion may not be relevant and may at times detract from fluency of narrative.</p> <p><i>There is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.</i></p>	L 1 - 3 marks	<p>Has identified points relevant to the use of DPA. Limited use of examples to accompany description and ideas will be poorly expressed.</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>	0 marks	Nothing worthy of credit.
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Question	Answer	Marks	Guidance
4	<ul style="list-style-type: none"> • (User names and) Passwords (1st) When combined with user names secures the on-line areas (1) as only those with the correct / matching user name / password (1) can access the secure location of the storage area / documents (1). • Encryption (1st) Uses an algorithm to convert the text to an unreadable format (1) Documents can be encrypted so only these with the correct key (1) will be able to read the documents (1). • Document password (1st) provides 2nd level security (1) if unauthorised persons accessed the on-line storage area (1) the document password would stop them accessing the actual document / the contents of the document would be secure (1). • Any other valid suggestion. 	4 (6.1)	<p>Points marking approach</p> <p>The method must be correct and appropriate to PDT to be awarded the justification marks.</p>

Question	Answer	Marks	Guidance									
5*	<p>Indicative content</p> <ul style="list-style-type: none"> • Limited internet access - leading to the possibility of a dog arriving at the destination but the paperwork cannot be downloaded due to a lack of service. • Slow download speeds – the speed of download may lead to the paperwork taking a long time to access. If the file size is large, then this may cause the download to ‘hang’ with the paperwork not being completely downloaded. • Interrupted downloads – internet access may be intermittent, due to location, which may mean that only part of the paperwork is downloaded and the process may have to be started again. • No internet access – when the dog arrives at the destination there may be no internet access meaning the dog cannot be given back to their owners or move to quarantine as the identity cannot be confirmed. • Limited access to paperwork may occur as internet access may fail when accessing the on-line storage area. • Country may have Internet access but destination in the country may not / be limited. • Some countries do not have strict regulations relating to security and so documents may be more susceptible to hacking • Any other valid suggestion. 	10 (1.1)	<p>Levels of response marking approach</p> <table border="1" data-bbox="1370 268 2089 1430"> <tbody> <tr> <td data-bbox="1370 268 1576 643">H 7 - 10 marks</td> <td data-bbox="1576 268 2089 643"> <p>Has shown a detailed level of understanding by discussing the issues of remote locations and accessing paperwork. The learner provides a clear discussion of more than one clear issue. Relevant examples will be used to support discussion and ideas will be expressed clearly and fluently. <i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</i></p> </td> </tr> <tr> <td data-bbox="1370 643 1576 1075">M 4 – 6 marks</td> <td data-bbox="1576 643 2089 1075"> <p>Has shown a good level of understanding by explaining the issue(s) of remote locations and accessing paperwork. Explanations may concentrate on one issue. At the lower end of the mark band, limited depth or descriptive. Some examples used to support discussion may not be relevant and may at times detract from fluency of narrative. <i>There is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.</i></p> </td> </tr> <tr> <td data-bbox="1370 1075 1576 1394">L 1 – 3 marks</td> <td data-bbox="1576 1075 2089 1394"> <p>Has identified points relevant to the issue(s) of remote locations and accessing paperwork. Limited use of examples to accompany description and ideas will be poorly expressed. <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> </td> </tr> <tr> <td data-bbox="1370 1394 1576 1430">0 marks</td> <td data-bbox="1576 1394 2089 1430">Nothing worthy of credit.</td> </tr> </tbody> </table>		H 7 - 10 marks	<p>Has shown a detailed level of understanding by discussing the issues of remote locations and accessing paperwork. The learner provides a clear discussion of more than one clear issue. Relevant examples will be used to support discussion and ideas will be expressed clearly and fluently. <i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</i></p>	M 4 – 6 marks	<p>Has shown a good level of understanding by explaining the issue(s) of remote locations and accessing paperwork. Explanations may concentrate on one issue. At the lower end of the mark band, limited depth or descriptive. Some examples used to support discussion may not be relevant and may at times detract from fluency of narrative. <i>There is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.</i></p>	L 1 – 3 marks	<p>Has identified points relevant to the issue(s) of remote locations and accessing paperwork. Limited use of examples to accompany description and ideas will be poorly expressed. <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>	0 marks	Nothing worthy of credit.
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Section B				
Question		Answer	Marks	Guidance
6	a	<ul style="list-style-type: none"> Data cleaning (1st) <p>Justification</p> <ul style="list-style-type: none"> Is the process of removing data from the database (1) usually done when data is found to be inaccurate / out of date / corrupt (1) borrowers who have not used the library for 3 or more years are classed as out of date data (1). Required by the DPA (1) to remove old data (1) as data must not be kept longer than required (1). Data tables (1st) <p>Justification</p> <ul style="list-style-type: none"> A query / filter can be created (1) to search for borrowers who have not borrowed a book for 3 or more years (1) The results can be deleted from the database in a single action. (1) Required by the DPA (1) to remove old data (1) as data must not be kept longer than required (1). 	4 (3.5)	<p>Points marking approach</p> <p>The data analysis tool must be correct to enable marks for the justification to be awarded.</p>
6	b	<ul style="list-style-type: none"> Data could be accessed by hackers / unauthorised users (1) leading to identity theft (1). Data could be accessed by unethical organisations / fraudsters (1) and used to spam / target the borrower (1). Any other valid suggestion. 	2 (1.8)	<p>Points marking approach</p> <p>One disadvantage from list</p>

Question			Answer	Marks	Guidance
7	a		<ul style="list-style-type: none"> Increased reputation (1) as a trustworthy organisation (1). Increased customer base (1) as customers move from organisations who have had data security breaches (1). Data subjects will be more willing to provide their data (1) as they know it will be kept secure (1). Business will operate smoothly / efficiently (1) as all data required will be available (1) Increased costs (1) for investing in security (1) Increase business partners (1) as perceived to be a reputable company (1) Any other valid suggestion. 	4 (2.4)	<p>Points marking approach</p> <p>2 from list</p> <p>Accept responses relating to the impact of not keeping data / information secure</p>
7	b		<ul style="list-style-type: none"> Virus (1st) a type of malicious software code that can reproduce itself (1) destroying / infecting data files or programs (1). Hacking / Hacker (1st) finding a weakness in a system (1) to access sensitive / confidential / personal information (1). Electromagnetically wiped (1st) all data from a storage device is wiped (1) so cannot be accessed (1) Physical destruction (1st) of storage device (1) to ensure data cannot be accessed (1) Burning / shredding (1st) physical data (1) to remove any trace of data (1) Any other valid suggestion. 	6 (6.2)	<p>Points marking approach</p> <p>2 from list for up to 3 marks each</p> <p>Method (1) Process (1) Result (1)</p> <p>The method must be correct to enable marks for the description to be awarded.</p>
7	c		<ul style="list-style-type: none"> If computer system is hacked (1) it will be unreadable without the encryption key (1). Any other valid suggestion. 	2 (6.6)	Points marking approach
7	d	i	<ul style="list-style-type: none"> Part of the data (1) is replaced by a symbol / example of symbol (1). 	2 (2.2)	<p>Correct answer only</p> <p>Points marking approach</p>

Question			Answer	Marks	Guidance								
7	d	ii	<ul style="list-style-type: none"> Data Partially anonymised (1). Example Addition of symbols which partially anonymise the data/ part of original data still present but some has been replaced by symbols. 	1 (2.2)	Points marking approach To be awarded the mark for anonymised data this must be identifiable as the original data								
8			Braille text <ul style="list-style-type: none"> is used for documents (1). generated through the use of a braille printer (1) Is a series of dots (1). Tactile images <ul style="list-style-type: none"> used for photographs / maps / images (1). generated through the use of software which creates raised lines (1). Makes a 'feeleable' image (1) Any other valid suggestion. 	4 (2.1)	<table border="1"> <tr> <td>4 marks</td> <td>2 complete comparisons</td> </tr> <tr> <td>3 marks</td> <td>1 comparison + 1 point about either side</td> </tr> <tr> <td>2 marks</td> <td>1 complete comparison</td> </tr> <tr> <td>1 marks</td> <td>1 point about either side</td> </tr> </table>	4 marks	2 complete comparisons	3 marks	1 comparison + 1 point about either side	2 marks	1 complete comparison	1 marks	1 point about either side
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9	a		<ul style="list-style-type: none"> Data Protection Act / DPA (1). 	1 (4.1)	Correct answer only								
9	b		<ul style="list-style-type: none"> The (data controller of the) organisation should be written to (1) detailing what information is required (1) An administrative charge (1) should be paid to the organisation (1). The information requested should be provided (1) within a reasonable amount of time / within 40 days (1). Verify / confirm (1) the identity of the applicant (1) Any other valid suggestion. 	4 (4.1)	Points marking approach 2 from list								

Question		Answer	Marks	Guidance
10	a	<ul style="list-style-type: none"> • Web conferencing (1) • Document sharing / collaborative areas(1) • Video messages (1) • Instant messages (1) • Shared diaries (1) • Project planning (1) • Email (1) • Any other valid suggestion 	2 (3.2)	Points marking approach 2 from list
10	b	<ul style="list-style-type: none"> • Security will be high (1) as only people who have access credentials (1) can access the online area (1) • if employees are logged into the secure area (1) instant communication can take place (1) as secure online messages can be used (1) • Real time conversations (1) can take place when employees are logged on (1) which is better than trying to explain an issue / task in words via email (1) • Documents / plans (1) can be shared via the area (1) so that they can be used during web conferences / video calls (1) • Meetings can be scheduled (1) as diaries (1) can be shared amongst all employees (1) • Any other valid suggestion 	6 (3.2)	Points marking approach 2 from list

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