Cambridge Technicals
IT

Unit 2C: Essentials of cyber security

Level 2 Cambridge Technical in IT
05883 - 05884

Mark Scheme for January 2024

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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

TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

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 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 or by email.

5. Work crossed out:
   a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
   if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.

6. Always check the pages (and additional lined pages 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 an annotation to confirm that the work has been seen.

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 anyway 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 isn't an attempt at the question

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

8. Assistant Examiners will email a brief report on the performance of candidates to your Team Leader (Supervisor) by the end of the marking period. Your report should contain notes on particular strength displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

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Question			Answer	Marks	Guidance
1	(a)		• Financial gain (1) • Publicity (1) • Espionage (1)	2 LO1.5.2	Two from list Do not accept fraud as this is given in the question These are taken from the unit specification
	(b)		• Individuals • Equipment • Organisations • Network	1 LO1.3	One from list Do not accept data / information as these are given in the question
	(c)		• Data Protection Act / DPA (1)	1 LO1.6	Correct Answer Only (CAO) Accept GDPR as a BOD
	(d)		• Data theft (1)	1 LO1.4	CAO
2	(a)		• To protect (1) the information / data stored on it (1) as this data is personal (1) • To comply/meet (1) legal requirements/GDPR (1) as it has personal data (1) • Any other valid suggestion	3 LO1.2.2	Up to 3 marks for an explanation of how why the laptop should have cyber security. Allow reverse – because it has none this can happen…
	(b)		• Physical (1) • System (1) • No/weak password (1) • No anti-virus (1) • Laptop left unattended (1) • Any other valid suggestion	2 LO2.3.2	2 vulnerabilities identified for 1 mark each. Accept examples of vulnerability for marks, e.g. physical could be theft. No protection methods is TV

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Question			Answer	Marks	Guidance
	(c)		• Data destruction/destroy (1st) data is removed/deleted (1) by overwriting / physical destruction / shredding (1) • Data manipulation / modification (1st) edited/changed (1) to meet the needs of the attacker (1) • Data theft (1st) transfer/copy/removal of data (1) digitally or physically (1) • Any other valid suggestion	6 LO1.4	For 2 incidents 1st mark for identification 2nd / 3rd marks for descriptions
	(d)		• Scans are taken of characteristics / example (1) and stored as digitised records (1) these are matched to the records of authorised users (1) a match enables access (1) • Only allows those whose are registered (1) access to the laptop (1) by face/fingerprint (1) • If their face/finger (1) is not registered (1) they are not allowed access (1) • Any other valid suggestion	3 LO3.2	Up to 3 marks for a complete explanation of how a biometric device increases security
	(e)		• Device lock (1) • Locking it away when not in use (1) • Alarm (1) • Guard (1) • Any other valid suggestion	1 LO3.2	1 from list for 1 mark DNA biometric device

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Question			Answer	Marks	Guidance
3	(a)		• Phishing (1) click a link (1) that downloads a virus (1) • Brute force (1) guessing the password (1) and then install virus (1) • Downloaded malware (1) • Any other valid suggestion	3 LO2.2.1	Award up to 2 marks for 'how' 1 mark for example.
	(b)		• Hacker (1) • Cyber criminal (1)	1 LO1.5.1	
	(c)		• Computer Misuse Act / CMA (1)	1 LO 1.6	
	(d)		• To secure (1) a network from a cyber attack (1) protecting the data (1) • To protect data and information (1) only allowing those who need access (1) into the system (1) • To prevent another attack (1) by securing the system (1) from unauthorised access (1) • To meet legislation/GDPR (1) which requires security (1) on personal data(1) and prevent fines (1) • Any other valid suggestion	3 LO3.1.11	Up to 3 marks for an explanation of the purpose of logical protection measures. Allow mix and match
	(e)		• Real time (1) updating of virus checking software (1) • Can scan for viruses (1) and quarantine/delete them (1) • Checks against library (1) of virus signatures (1) • Any other valid suggestion	2 LO3.1.2	Up to 2 marks for a description of a characteristic of anti-virus software. Detect/ find (1) Delete /remove (1)

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Question			Answer	Marks	Guidance
	(f)		• When a customer logs into the booking webpage/account (1) • A code is generated (1st) Sent to them by email / by an app (1) and entered within a time limit (1) • The code must then be input to gain access (1st) within a certain time (1) • Any other valid suggestion	3 LO3.1.7	Up to 3 marks for a complete explanation of the process of token authentication. Answers relating to physical token authentication are acceptable Allow text message / phone call
	(g)		• Fake / hoax/ phishing emails (1) • Which appear to be from a trusted source / PHC (1) but are from a cyber attacker (1) with a link (1) • Any other valid suggestion	3 LO2.1.9	Not scamming

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Question			Answer	Marks	Guidance
	(h)		**Indicative content** • Customers may suffer Identity theft • Fraudulent loans / credit cards meaning customer may run up debt without knowing about it • Loss of trust in PHC leading to fewer customers • Less profit due to fewer customers • PHC may have to pay fines leading to financial issues • Increased cost in updated / new cyber security	9 LO2.4.1b	Levels of response marking approach **7-9 marks** Learner has shown a detailed level of understanding by explaining more than one impact of data loss on customers **and** PHC Relevant and appropriate examples are provided. Specialist terms will be used correctly and appropriately. **4-6 marks** Learner has shown a good level of understanding by describing at least one impact of data loas on customers and / or PHC Descriptions may be limited in depth in the expansion(s). Some relevant examples are provided although these may not always be appropriate. Specialist terms will be used appropriately and for the most part correctly. **1-3 marks** Learner has identified points relevant to the impact of data loss. This may take the form of a bulleted list. Examples, if used, may lack relevance. There will be little, if any, use of specialist terms. **0 marks** Nothing worthy of credit.

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