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| **Q** | **Answer/Indicative content** | **Marks** | **Guidance** |
| 1a | Any two from:   * Suspicious email address (doesn’t appear to be from Amazon) * Impersonal/generic address (Hello from Amazon) * A link to click to secure account (could contain a virus) * Aggressive tone (Action required) | 2 |  |
| 1b | 1 mark per bullet  Blagging   * Create/invent a scenario (1) in order to extract personal information (1)   Shouldering   * Looking over someone’s shoulder (1) to gain access to personal information (1)   Scareware   * Malicious computer programs (1) designed to trick a user into buying and downloading unnecessary and potentially dangerous software (1) (such as fake antivirus protection.)   Dumpster diving   * An unwanted party going through the bin (1) at a company whether it be inside or outside the building. (1) | 4 | Do not accept names only.  Accept other reasonable examples such as baiting, pharming. |
| 2a | * 1 C * 2 D * 3 A * 4 B | 4 |  |
| 2b | Any two from:   * Avoid opening emails and attachments from unknown sources. * Ensure that the operating system is up to date. * Ensure that the anti-virus can scan emails. * Install the latest security updates. * Install anti-virus software and ensure that it is constantly updated. * Install anti-spyware protection software that removes or blocks spyware. * Install a firewall to ensure that software is not downloaded without your knowledge. * Use adware removal software. | 2 |  |
| 2c | 1 mark per bullet for each type  Trojan   * These are installed by users (1) who believe it to be legitimate software (1). Deleting files/changing data/keylogging (1)   Bots   * Software programs created to automatically perform specific operations. (1) * Commonly used for DDOS attacks (1) //distributing malware disguised as popular search items on download sites.(1)   Ransomware   * Holds a computer system captive while demanding a ransom (1). The ransom usually being the demand of a fee (1) in return for their computer to be decrypted. ( 1)   Rootkit   * Designed to remotely access or control a computer (1)…without being detected by users or security programs. (1)//Actions can then be performed against that computer from a remote location.(1) | 4 |  |
| 3a | * 1 B * 2 C * 3 A | 3 |  |
| 3b | 1 mark per bullet (2 max for description, 1 mark for prevention)   * Automated software (1)… * …uses a trial and error method/generates different password combinations (1) * …in order to gain unauthorised access to data (1)   Prevention   * Strong passwords (1) | 3 |  |
| 3c | Any two from:   * Firewalls * Encryption * Network policy * Penetration testing * User access levels * Network forensics/audit trails * Physical security * Patch management | 2 | Do not accept strong passwords as question clearly *states two other* ways. |
| 3d | Any two from:   * accidentally overwriting a file or deleting a folder. * leaving a laptop on in a public place (i.e. train) * natural disasters e.g. flooding and fire. | 2 |  |
| 3e | Any two from:   * temporary or permanent loss of data and information * damaged or corrupted software * websites taken down * loss of reputation * loss of competitive advantage * financial loss. | 2 |  |
| 4 | |  |  |  |  | | --- | --- | --- | --- | | **Action** | **Student** | **Tutor** | **Network manager** | | Change system settings |  |  | **** | | Access a shared area for students | **** |  |  | | Add or delete network users |  |  | **** | | Access the student’s file and make changes to it | **** |  |  | | Access a shared area for tutors |  | **** |  | | Install software |  |  | **** | | 6 | 1 mark per row` |

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| 5a | * 1 B * 2 C * 3 A | 3 |  |
| 5b | Any three from:   * Lawfulness, Fairness and Transparency * Purpose limitation * Data minimisation * Accuracy * Storage limitation * Integrity and Confidentiality * Accountability | 3 |  |
| 5c | Any three from:   * Brute force attack * Hacking * Ransomware * Trojan * Sypware * Shouldering * Phishing * Blagging | 3 | Any other reasonable example |
| 6 | 1 mark for type, 1 mark for description, 1 mark for example   * Passive * ….data collected without user’s knowledge * …. users IP address/users search history data. * Active * ….data intentionally submitted * …. sharing locations on apps/online shopping data/sending emails/instant messages | 6 |  |
| 7a | * They save personal preferences so that you do not have to re-enter data. * They help websites to make more accurate suggestions about what you want to buy or view based on your browsing history. | 2 |  |
| 7b | 1 mark per bullet:   * Mobile phone location * Loyalty cards * Credit/debit cards * Passports * GPS tracking * Bluetooth |  |  |
| 7c | **Band 4 (7-8 marks)**  An excellent explanation, which shows:  • thorough knowledge and understanding of the term facial recognition  • an excellent balanced discussion with regards to the impact this will have on individual privacy and wider society.  • Writing is very well structured and organised, using accurate grammar, punctuation and spelling.  • A range of specialist terminology is used with accuracy.  **Band 3 (5-6 marks)**  A good explanation, which shows:  • generally secure knowledge and understanding of the term facial recognition  • a good balanced discussion with regards to the impact this will have on individual privacy and wider society.  • Writing is generally well structured and organised, using mainly accurate grammar, punctuation and spelling.  • Specialist terminology is used with accuracy.  **Band 2 (3-4 marks)**  A basic explanation, which shows:  • some knowledge and understanding of the term facial recognition.  • a basic discussion with regards to the impact this will have on individual privacy and wider society. Discussion might be one-sided.  • Writing shows some evidence of structure though some errors in grammar, punctuation and spelling affect meaning.  • Basic use of specialist terminology.  **Band 1 (1-2 marks)**  A limited explanation, which shows:  • limited knowledge and understanding of the term facial recognition  • a limited description with regards to the impact this will have on individual privacy and wider society.  • Some errors in grammar, punctuation and spelling, which affect clarity of communication.  • Limited use of specialist terminology.  **0 marks**  Response not creditworthy or not attempted | 8 | 4 marks for positive (2 per point)  4 mark for negative (2 per point)  **Positives**   * Police are taking advantage of new technology to keep people safe. * Could be used to identify wanted criminals that currently appear on the police database. * Could be used to identify vulnerable children or missing adults. * Can be used for counter terrorism. * Increase confidence within the general public on how crime is being dealt with.   **Negatives**   * Accuracy has been questioned as most matches produced by the cameras are false alarms. * A serious threat to ‘civil liberties’ by creating a ‘Big Brother’ like environment. * System bias - Will it be accurate enough to identify a person based on their ethic origin, gender? * GDPR – is the data collected being used fairfully and lawfully. |
| 8a | Encryption | 1 |  |
| 8b | |  |  |  | | --- | --- | --- | | **Statement** | **True** | **False** | | The Caesar cipher is an example of a substitution cipher. | **** |  | | A private key can be made available to everyone. |  | **** | | Advanced Encryption Standard uses 128-bit, 192-bit or 256-bit keys. | **** |  | | 3 | 1 mark per row |
| 9a | 1 mark per bullet   * Could use a fingerprint scanner (1)… * …reads a persons fingerprint and checks… (1) * …whether a file or account in the system is linked to that fingerprint (1) | 2 | Accept other examples, but must be a description. |
| 9b | **Band 4 (10-12 marks)**  An excellent explanation, which shows:  • thorough knowledge and understanding of the term security measures  • an excellent description into the security measures DataPro can put in place.  • Writing is very well structured and organised, using accurate grammar, punctuation and spelling.  • A range of specialist terminology is used with accuracy.  **Band 3 (7-9 marks)**  A good explanation, which shows:  • generally secure knowledge and understanding of the term security measures  • a good description into some of the security measures DataPro can put in place.  • Writing is generally well structured and organised, using mainly accurate grammar, punctuation and spelling.  • Specialist terminology is used with accuracy.  **Band 2 (4-6 marks)**  A basic explanation, which shows:  • some knowledge and understanding of the term security measures  • a basic description into some of the security measures DataPro can put in place.  • Writing shows some evidence of structure, through some errors in grammar, punctuation and spelling affect meaning.  • Basic use of specialist terminology.  **Band 1 (1-3 marks)**  A limited explanation, which shows:  • limited knowledge and understanding of the term security measures  • a limited description into some of the security measures DataPro can put in place.  • Some errors in grammar, punctuation and spelling affect meaning.  • Limited use of specialist terminology.  **0 marks**  Response not creditworthy or not attempted | 12 |  |