

8(a)	1 mark for each correct explanation, max 2 marks Virus: Malicious program/software that replicates/copies itself and deletes/alters files/data stored on a computer Pharming: Malicious code/software installed on a computer which redirects user to a fake website to obtain personal data
8(b)	1 mark per bullet point, max 3 marks e. g. - Students should consider privacy issues - Students should not make inappropriate use of social networking // Students should not engage in cyberbullying - Students should not copy work that is not their own - Students should abide by the school rules/guidelines for accessing the network - Students should only use the school network for legitimate purposes - Students should not hack / crack other computers
8(c)	1 mark per bullet point, max 4 marks e. g. Negative Impacts - If students use AI to shortcut learning, they may miss out on developing reasoning and problem-solving skills // Students may not be learning anything // It could lead to a decline in specific skills - It could have negative impacts on student communication // heavy reliance on AI may limit opportunities for collaboration, teamwork, and face-to-face communication - Emphasises the digital divide// some students may not have access to the technology - The AI answer might not be correct leading to mis-information - Increased screen time and isolation could contribute to anxiety or loneliness Positive Impacts - Students given additional support may do better - Pupils who struggle in traditional settings may gain self-esteem through AI-assisted learning at their own pace Long-Term Impacts - Protection of intellectual property // ethical issues and considerations - Schools may need to redesign curricula and/or assessment to integrate AI

2(a)	1 mark for each correct row, max 4 marks <table border="1"> <thead> <tr> <th>Term</th><th>Description</th></tr> </thead> <tbody> <tr> <td>Copyright</td><td>Gives the holder the legal right of ownership of intellectual property</td></tr> <tr> <td>Open Source (Initiative)</td><td>Software can be freely copied, distributed or adapted</td></tr> <tr> <td>Shareware</td><td>Gives the user a trial period / limited functionality before a payment/sign up may be required</td></tr> <tr> <td>Software Licence</td><td>A (legal) agreement that defines the rights and terms of usage for the software</td></tr> </tbody> </table>	Term	Description	Copyright	Gives the holder the legal right of ownership of intellectual property	Open Source (Initiative)	Software can be freely copied, distributed or adapted	Shareware	Gives the user a trial period / limited functionality before a payment/sign up may be required	Software Licence	A (legal) agreement that defines the rights and terms of usage for the software
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2(b)	1 mark per bullet point, max 2 marks e.g. - to create a safe, respectable and professional working environment for all employees - to ensure that employees understand the expectations ... and the consequences of their actions - to provide a clear outline of what is considered good practice - so there are clear rules to follow in certain situations - to protect the reputation of the organisation // maintain public trust										

3(a)	1 mark each to max 4 e.g. • Uses image recognition // optical character recognition • to analyse a photograph/pixels to identify the location of characters within an image • in order to convert the pattern of pixels into individual characters • Uses natural language • to combine the characters into words • and compare the words to database to identify a match in the language of the writing • it may also predict what is missing / incomplete / from what has been read • then compare the words to a database of the user's chosen language to find a match and translate • Uses text-to-speech • to generate the audio waveforms corresponding to the words
3(b)	1 mark each to max 2 e.g. • It can help people with visual impairment to identify which products to purchase • It can help people who cannot understand the language • It can help to overcome learning / reading difficulties
3(c)(i)	1 mark each to max 3 • The program is usually sold for a fee • Users have no access to source code • It protects the intellectual rights of the programmer / developer • Users cannot legally alter or share the program • There are limitations on the use of the software e.g. number of times it can be installed • Support and maintenance is usually provided e.g. updates, bug fixes etc.
3(c)(ii)	1 mark each to max 3 e.g. • The source code would be accessible therefore it could be changed • which might lead to the program outputting an incorrect response • so people could purchase the wrong item • which might have serious consequences // by example e.g. allergies

7(a)	1 mark for each bullet point (max 2) • The user can test/trial the program before purchasing to see whether it meets needs • There is no initial cost • Users who try the software may spread the word so the developer gets more custom • The developer can get feedback to improve the program
7(b)	1 mark for each bullet point (max 2) • The owner/developer can earn a fee • Comprehensive support is usually offered so problems can be easily solved • The software is usually well tested so few bugs

5(a)	1 mark for each bullet point max 2 for public max 2 for colleagues e.g. Colleagues: The programmer should: • Treat colleagues fairly and avoid acts of discrimination • Be prepared to accept / offer critique • ... so that technical work can be improved • Credit the contributions of colleagues • ... so that they feel valued / respected • Help / train colleagues etc. e.g. The public: The programmer should: • Maintain the health, safety and welfare of the public • ... so as not to endanger anyone • Be honest / realistic in making claims about the software • ... so that public trust is maintained • Maintain the security of the public's data etc.
5(b)(i)	Type of software licence 1 mark for • Open Source Initiative // Free Software Foundation Reason for choice: 1 mark for each bullet point (max 2) • Allows program source code to be examined • ... so that the business can adapt/modify the program to meet their needs • Allows the programmer to earn money for the software and updates
5(b)(ii)	1 mark for each bullet point (max 2) • To identify themselves as the owner/author // To gain formal recognition of ownership • To allow for legal consequences if anyone steals/copies it • To restrict competition

5(a)	1 mark for each correct licence <table border="1"> <thead> <tr> <th data-bbox="280 153 786 196">Statement</th><th data-bbox="786 153 978 196">Software Licence</th></tr> </thead> <tbody> <tr> <td data-bbox="280 196 786 264">A fee is charged for the software. The source code cannot be accessed. Users do not get a free trial.</td><td data-bbox="786 196 978 264">Commercial</td></tr> <tr> <td data-bbox="280 264 786 333">Users can try the software before buying it. Users may not be able to access all features during the trial.</td><td data-bbox="786 264 978 333">Shareware</td></tr> <tr> <td data-bbox="280 333 786 402">Software is usually free of charge. Users can access the source code and alter the program to their needs.</td><td data-bbox="786 333 978 402">Open Source // Free software</td></tr> </tbody> </table>	Statement	Software Licence	A fee is charged for the software. The source code cannot be accessed. Users do not get a free trial.	Commercial	Users can try the software before buying it. Users may not be able to access all features during the trial.	Shareware	Software is usually free of charge. Users can access the source code and alter the program to their needs.	Open Source // Free software
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5(b)	1 mark for each bullet point (max 3) e.g. • The professional ethical body has ethical guidelines to follow • ... so clients/other staff know the standards being applied • ... so the computer programmer does not have to decide what is ethical it's written down • Clients/staff know the computer programmer is reputable • ... there may be a test/requirement for entry • ... giving recognition of the computer programmer's skills/knowledge • The professional ethical body provides help and support • ... for example, if the computer programmer needs legal advice • The professional ethical body runs training courses • ... to keep the computer programmer's skills up to date								