

Questions

Q1.

Claersons is a small business with a head office based in the north east of England and offices in other parts of the UK.

It has a network that is used to access all software and data.

Claersons has decided to update its computer systems.

Claersons is considering moving to using a Software as a Service (SaaS) cloud-based software and storage system, rather than replacing the existing systems with 'like for like' systems.

The company believes that this change will bring benefits for both the company and the staff.

Analyse the benefits to Claersons and its staff of a move to a SaaS cloud-based software and storage system.

(Total for question = 10 marks)

Q2.

Sebourne Community Centre has a main office and meeting rooms used by members of the community for a wide variety of activities.

There is a Local Area Network (LAN) serving all areas of the centre. There is a mix of both PCs and laptop computers and they are all connected to the LAN using Ethernet cables.

The computers vary in age and specification, many having been donated by members over the years.

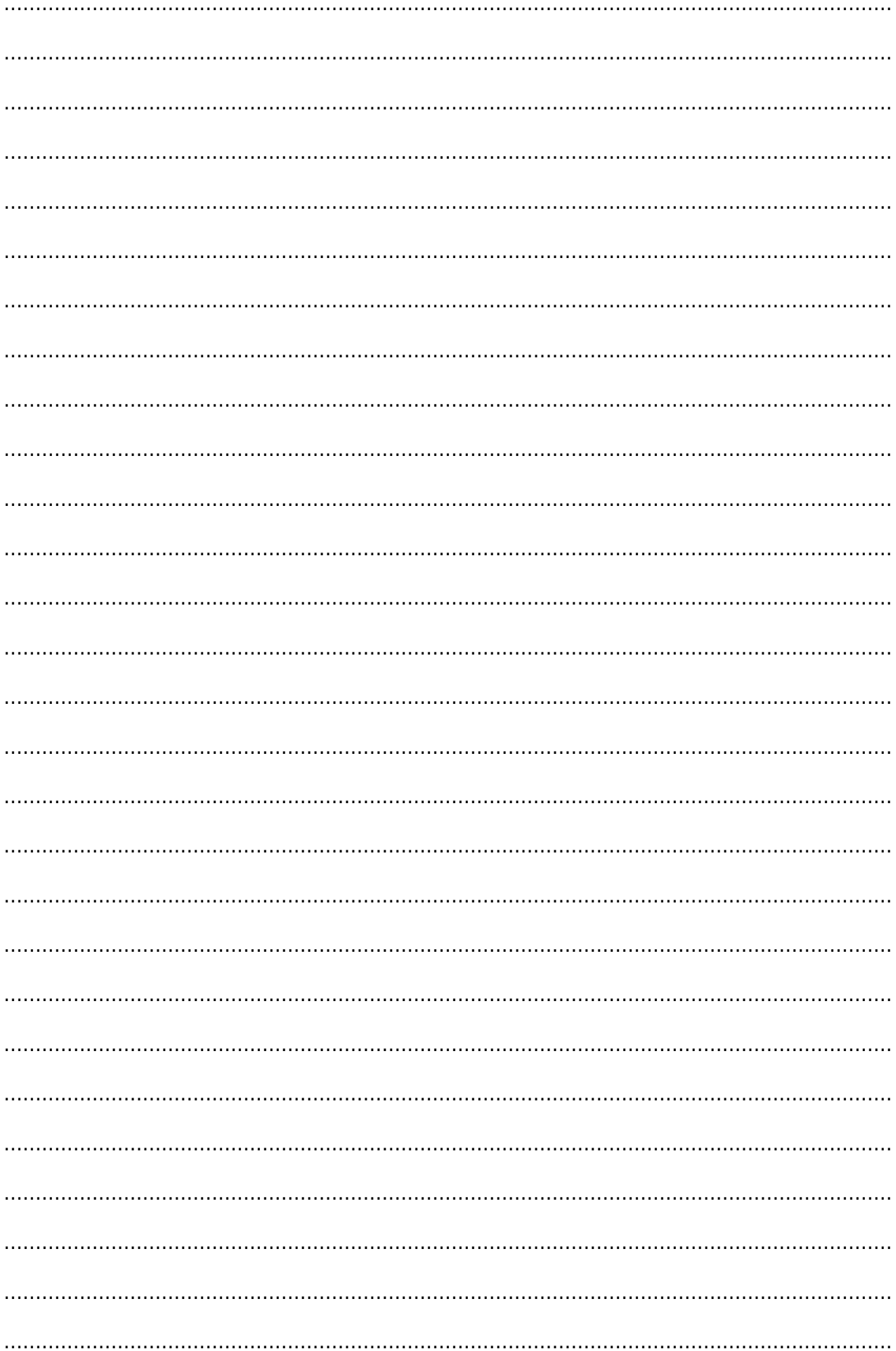
The centre has been given a grant to replace the computer system.

It is considering replacing the system with wireless enabled laptops.

Analyse the implications of replacing the existing computers with wireless enabled laptops.

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(Total for question = 10 marks)

Q3.

Josie is a student on a graphics design course at Swindhone College.

As part of her course she has to manipulate and edit high resolution images.

Josie uses a range of devices to complete her assignments.

Tablet devices use solid state drives (SSD) rather than traditional hard disk drives (HDD).

Assess how the features of solid state drives (SSD) make them suitable for use in tablet devices.

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(Total for question = 6 marks)

Q4.

Joe runs a small company. The company is moving to a purpose-built office.

(Total for question = 6 marks)

Q5.

Josie is a student on a graphics design course at Swindhone College.

As part of her course she has to manipulate and edit high resolution images.

Josie uses a range of devices to complete her assignments.

Josie is considering installing open source software on her new laptop as it is generally free to download and use.

Discuss the advantages and disadvantages of using open source rather than proprietary software.

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(Total for question = 6 marks)

Q6.

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(Total for question = 8 marks)

Q7.

Grangeholme College is based on a large campus with access to a local area network in all areas.

There are several dedicated computer rooms equipped with personal computers that have a wired connection to the network server.

Remote access to the network is provided via a virtual private network (VPN).

The network server is located in a dedicated server room with secure access.

The network is used by IT technicians, administrative staff, teaching staff and students.

Harry is undertaking a digital photography course at the college and wants to complete and submit an assignment from home.

His assignment will include documents and photographs that are currently stored on his laptop, smartphone and digital camera.

He will submit his work using the college VPN. His tutor will download and assess the work.

Draw a diagram to show the integration of systems that could be used in this process.

The diagram should include:

- devices and systems that can be used
- devices to be connected and the connection type(s) used
- the flow of data through the system
- annotations indicating the information and data to be passed between the systems/devices.

(Total for question = 10 marks)

Q8.

Students in developing countries may have unequal access to information technology compared to students in more developed countries.

Shayan runs a charity that supports these students.

Unequal access may be due to a lack of:

- communication networks
- up-to-date technologies
- educational resources.

Unequal access to information technology can have immediate and long-term impacts on these students.

Shayan's charity provides a number of services including:

- recycling and repurposing old computers
- access to educational materials stored on the charity's server.

Shayan has decided that access to the educational materials will be by use of a Command Line Interface rather than a Graphical User Interface.

Evaluate Shayan's decision to use a Command Line Interface.

(Total for question = 12 marks)

Q9.

Richard is a football trainer. He has set up a company offering training and competitions for footballers of all abilities, aged 16 and over.

He would like to create a website that will:

- advertise training facilities
- advertise competitions
- collect personal details of players
- allow players to book training events and enter competitions.

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(Total for question = 8 marks)

Q10.

Claersons is a small business with a head office based in the north east of England and offices in other parts of the UK.

It has a network that is used to access all software and data.

Claersons has decided to update its computer systems.

Claersons has decided to close the regional office in the north west of England.

It will need to decommission the computer systems used in this office.

Discuss the factors that should be considered when decommissioning the computer system.

(Total for question = 8 marks)

Mark Scheme

Q1.

Question number	Indicative content
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners analyse the benefits to <i>Claersons</i> of a move to a cloud-based software and storage system.</p> <p>Using a 'Software as a Service' (SaaS) as an alternative to the current system will bring advantages to <i>Claersons</i>. In the traditional current system <i>Claersons</i> had to build the server, install the application and configure it.</p>

	<p>Using SaaS <i>Claersons</i> don't physically buy a server but access a part of a much larger server, which is off-site away from the business.</p> <ul style="list-style-type: none"> • Reduction in initial capital expenditure as there are no upfront costs for expensive hardware. • No need to pay for technical staff, either in-house or on a consultancy basis to design, install or configure the system. • No need to pay for technical staff to maintain the system/ deal with user issues, etc. • <i>Claersons</i> will not need to buy the software, instead it can use a subscription-based/pay as you go model. This will give it authorisation to use the software for a period of time and pay only for the software that is used. • Server capacity can be scaled up and down to fit the needs of the business. This has the added benefit of being better for the environment than running a server with excess capacity. • <u>Claersons</u> can become more competitive as it has access to up-to-date technology (without having to make huge investments). • SaaS will give <i>Claersons</i> robust disaster recovery, which would otherwise be unlikely due to lack of finance and expertise.
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	<p>Additional benefits arise because <i>Claersons</i> uses software provided by the suppliers.</p> <ul style="list-style-type: none"> ● The suppliers will take care of software updates for <i>Claersons</i>, reducing the need for staff to do it. This in turn can lead to a reduction in staffing costs as highly qualified technicians won't be needed. ● Ensures that software is up to date for all users of the system. ● Security updates are included in this and this ensures that all security software is as up to date as possible, overcoming new threats to data. ● Cloud business applications are offered by suppliers much cheaper than bespoke packages or other commercially available software.
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	<p>Benefits to staff.</p> <ul style="list-style-type: none"> ● Because the system can be used anywhere with an internet connection, staff will be able to access the files/folders/software when they are out of the office. ● Many suppliers provide mobile apps that will allow staff to access data on a range of devices. ● Some staff, e.g. office staff, may be able to take advantage of the system and work from home. ● Because all files are stored centrally everyone sees the latest/same version leading to improved collaboration. Reducing the problems of conflicting file content, formats and titles. <p>Reduces the implications/security risks of lost or stolen laptops and other mobile devices. Data stored on the cloud is automatically backed up and therefore instantly retrievable. Suppliers offer a remote 'wiping' system to remove sensitive data from devices.</p> <p>Improved security arises from the reduction in the need to send files via external methods such as email.</p>
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Mark scheme (award up to 10 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-3	<p>Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.</p> <p>Issues are identified but chains of reasoning are not made, leading to a superficial understanding of the relative importance of issues to the scenario.</p>
Level 2	4-7	<p>Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question.</p> <p>There is consideration of relevant issues using logical chains of reasoning, but does not reflect on their relative importance to the given scenario.</p>
Level 3	8-10	<p>Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question.</p> <p>There is a balanced and wide ranging consideration of relevant issues, using coherent and logical chains of reasoning, that shows a full awareness of their relative importance to the given scenario.</p> <p>Various elements of the question are carefully considered and arguments are clearly linked to the given scenario.</p>

Q2.

Question Number	Indicative content	
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners analyse the implications of replacing old computers with wireless enabled laptops.</p> <p>Background/starting point</p> <p>Old/ varying ages of computers will have caused problems e.g. hardware and software incompatibility, limited storage capacity, slow processors. Problems also due to using a 'mix' of outdated hardware and software. Will hope that new will overcome these types of problems.</p> <p>Similarly using all wireless rather than all wired will hopefully reduce issues.</p> <p>Wired v Wireless</p> <p>Wired networks provide a more secure connection. Wired connections give agency full control of who can access the network/data. As the admin offices will be dealing with a great deal of personal/sensitive data this is of paramount importance. Will need to increase security if move (admin offices) to wireless.</p> <p>Wired connection are generally more reliable / faster, wireless connections are subject to interference from a variety of sources.</p> <p>Range is generally not an issue with wired connections which may be able to be placed further away from the server than wireless machines.</p>	10

	<p>Hardware</p> <p>Positioning of PCs is currently restricted by the wired connection points. Laptops:</p> <ul style="list-style-type: none"> • users will have more flexibility to move around within the office/rearrange office • can take laptops around the building • disposal of old PCs <p>Users may not like using laptops / ergonomics should be considered – with a PC have more choice in terms of hardware e.g. larger screens, different types of keyboard / ergonomic etc (with/without number pad)</p> <p>Cost</p> <p>Will have to work within the budget provided by the grant and will need to consider:</p> <p>Initial cost of purchasing the hardware / new laptops / spec for spec laptops more expensive than PCs.</p> <p>May be costs of updating software, existing software on 'old' PCs may be out of date and incompatible with new laptops and modern operating systems</p> <p>May be some increased costs for software licences depending on any new software purchased. However in most instances site licences will have been purchased and the licences can be transferred from PCs to laptops.</p> <p>Unlikely to be any/minimal retraining costs (unless new software is necessary).</p> <p>May be increase in ongoing costs as wireless networks are generally require more maintenance.</p>	
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	<p>Implementation timescale/testing/downtime</p> <p>Will be very little downtime when replacing computers. Data from PCs is stored on / transferred to server.</p> <p>However will need to test system to ensure that system can cope with the wireless traffic. Need to do this to minimise disruption – schedule appropriately.</p> <p>Changes/extension to network in future - moving to a wireless provide the agency with more flexibility in the future if there is an increased need for computers.</p> <p>Security</p> <p>Portability of laptops will lead to need for increased security measures, both physical and software.</p> <ul style="list-style-type: none"> • who will be responsible for the laptops • what happens at the end of the day/when office is unoccupied – will laptops be locked away • need to review/set up security policy 	
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Mark scheme (award up to 10 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-4	<ul style="list-style-type: none"> • Demonstrates isolated knowledge and understanding, there be major gaps or omissions • Breaks the situation down into component parts and a few of the points made will be relevant to the context in the question • Limited analysis which contains generic assertions rather than interrelationships or linkages
Level 2	5-7	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding, with few minor omissions/any gaps or omissions are minor • Breaks the situation down into component parts and some of the points made will be relevant to the context in the question • Displays a partially developed analysis which considers some interrelationships or linkages but not always sustained.
Level 3	8-10	<ul style="list-style-type: none"> • Demonstrates mostly accurate and thorough/detailed knowledge and understanding • Breaks the situation down into component parts and most of the points made will be relevant to the context in the question • Displays a well-developed and logical analysis which clearly considers interrelationships or linkages in a sustained manner

Q3.

Question Number	Answer	Mark
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners analyse how the features of SSDs make them suitable for use in tablet devices.</p> <p>Flash storage has no moving parts so suitable for portable devices because they:</p> <ul style="list-style-type: none"> • are more robust • are lighter • are quieter • generate less heat. <p>HDDs rely on spinning platters and read/write heads, etc. limiting how small they can be manufactured.</p>	6

	<p>SSDs rely on a system of interconnected flash memory chips that can be built on to the motherboard/main board, which means that:</p> <ul style="list-style-type: none"> • tablets can manufactured in a smaller form • there is more space within a tablet for other components that will improve the ways the device can be used (GPS sensor, camera/image sensor, larger battery). <p>Shock proof</p> <ul style="list-style-type: none"> • Data is written electronically so data can be accessed while the device is being moved without risk of interruption or corruption. • No mechanical parts mean the data on the drive will not be corrupted if the device is dropped (which is more likely in a handheld device than a desktop computer). <p>Cooling</p> <ul style="list-style-type: none"> • Generate very little heat (compared to traditional HDDs) so device does not require additional cooling methods, which allows for smaller and lighter devices. <p>Power consumption</p> <ul style="list-style-type: none"> • Use less power than traditional HDDs as read/write operations do not require the system to run motors to drive HDD spindles, read heads, etc. 	
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Mark scheme (award up to 6 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-2	<p>Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.</p> <p>Issues are identified but chains of reasoning are not made, leading to a superficial understanding of the relative importance of issues to the scenario.</p>
Level 2	3-4	<p>Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question.</p> <p>There is consideration of relevant issues using logical chains of reasoning, but does not reflect on their relative importance to the given scenario.</p>
Level 3	5-6	<p>Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question.</p> <p>There is a balanced and wide ranging consideration of relevant issues, using coherent and logical chains of reasoning, that shows a full awareness of their relative importance to the given scenario.</p>

Q4.

Question Number	Answer	Mark
	<p>Award up to three marks for each of two descriptions:</p> <p>Networking (1) Manages communication (protocols) within the network and externally (1) to govern and control data transmission (1) as well as managing and maintaining the network using utility programmes (1)</p> <p>Memory management (1) Allocates space/memory to files/programs/clipboard items that are running/open (1) decides how much each process will get process will get memory and at what time (1) monitors each memory locations status i.e. free/allocated (1)</p> <p>Multi-tasking (1) Allocates each task a slice of processor time (1) keeps a track of where the user is in each task (1) and goes from one to the other without losing information (1)</p> <p>Device drivers (1) Driver receives signals from/ communicates with hardware (1) translates signals so software (OS & applications) can understand (1) when a signal is received from hardware OS it is held by a buffer / instruction put into a queue until resources available (1)</p>	6

Q5.

Question Number	Answer	Mark
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners discuss the advantages and disadvantages of using open source rather than proprietary software.</p>	6

	<p>Advantages of open source:</p> <ul style="list-style-type: none">● simpler licensing requirements/no pirating or copyright issues● code is visible/released so it can be checked for errors/adapted to needs● has a faster update/bugfix cycle● developers/authors respond faster to user requests for changes● uses open standards so better compatibility● developed by a community/group who work together to deal with problems/questions● continually evolving. <p>Disadvantages of open source:</p> <ul style="list-style-type: none">● may be abandoned by the author/developer leaving users without support/with an obsolete product – author has no responsibility to keep software updated● documentation – support may be poor● may be expensive to hire specialist support if required● security issues with external support/no controlled support channels● software that mimics commercial products will lag behind them● faster update cycle can mean more work for administrators● source code may branch, creating multiple versions.	
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Mark scheme (award up to 6 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-2	Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question. Issues are identified but chains of reasoning are not made, leading to a superficial understanding of the relative importance of issues to the scenario. Does not link arguments to the given scenario.
Level 2	3-4	Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question. There is consideration of relevant issues using logical chains of reasoning, but does not reflect on their relative importance to the given scenario. Considers the various elements of the question and but does not always link arguments to the given scenario.
Level 3	5-6	Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question. There is a balanced and wide ranging consideration of relevant issues, using coherent and logical chains of reasoning, that shows a full awareness of their relative importance to the given scenario. Carefully considers the various elements of the question and links arguments to the given scenario.

Q6.

Question Number	Indicative content
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners discuss the implications, of purchasing a suite of office productivity applications for the laptop rather than purchasing individual applications.</p> <p>Advantages</p> <ul style="list-style-type: none"> • Generally a suite will be cheaper than buying individual application packages • Commonality between terminology/layout/menu systems, makes it easier to learn/use subsequent programs in the suite • The 'Help' function will be common to all applications • Ability to share data/link objects between programs, which improves efficiency • Customised settings can be applied to all products in the suite/instead of to each individual program, saving time/improving efficiency • Integration of features between programs in the suite which will improve efficiency • Software update only need to be applied once which will save time • Updates are less likely to cause issues with other programs in the suite as the update is tested within the suite and not just on a standalone product • Once the correct version is purchased, there will be no compatibility issues with the laptop and individual apps <p>Disadvantages</p> <ul style="list-style-type: none"> • Each component is likely to have less features than a stand-alone program which may limit what Edie can do and this may cause problems when collaborating with others • May have components that are not required but are included in the price, may be cheaper to buy only the necessary ones • Storage space may be an issue. If the suite includes unwanted applications does this take up more space than if only required applications are purchased • May not be fully compatible with the college/other students software which may cause problems when collaborating

Mark scheme (award up to 8 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding • There will be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic points • Little or no consideration of different aspects
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding • There will be some gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects • There will be some consideration of how they interrelate
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • There will be minor gaps or omissions • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects • Clearly shows how they interrelate

Q7.

Question number	Indicative content
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and levels descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but learners should be rewarded for other relevant answers.</p> <p>A diagram of a potential system/integration of IT systems and connections used to meet the requirements of the scenario.</p> <p>Diagram may include:</p> <p>devices:</p> <ul style="list-style-type: none"> • laptops (teachers and/or student) • personal computer (teachers and/or student) • peripheral devices, e.g. mouse, keyboard, graphics tablet • smartphone • digital camera • router • modem • switches <p>storage/data sharing:</p> <ul style="list-style-type: none"> • network server • USB/SD card • external hard drive

	<p>connections:</p> <ul style="list-style-type: none"> • personal computer connected to server using Ethernet • laptop (teacher) connected to server using WiFi • mouse connected to desktop/laptop using USB/Bluetooth • smartphone connected to laptop using USB/WiFi/Bluetooth • USB/eSATA to connect to portable hard drive • home broadband connection for VPN • (home) WiFi connection for laptop <p>data flow:</p> <p>The diagram should show descriptions of the data flow between components and show the direction in which data is exchanged.</p>	
<p>Mark scheme (award up to 10 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.</p>		
Level	Mark	Descriptor
Level 0	0	No rewardable material.

Level 1	1-3	<p>Diagram provides partial coverage of appropriate devices. Storage/Data sharing and connection types are used to meet some of the requirements of the scenario, with limited efficiency.</p> <p>Annotations of the data that will be shared between the components of the system are incomplete or contain inaccuracies.</p>
Level 2	4-7	<p>Diagram provides coverage of mostly appropriate devices. Storage/data sharing and connection types are used to meet the majority of the requirements of the scenario, but these may not always be the most efficient.</p> <p>Diagram includes mostly accurate annotations of the data that will be shared among the components of the system</p>
Level 3	8-10	<p>Diagram provides thorough coverage of appropriate device. Storage/data sharing and connection types are used to fully meet the requirements of the scenario.</p> <p>Diagram includes detailed and accurate annotations of the data that will be shared among the components of the system.</p>

Q8.

Question number	Indicative content
	<p>An evaluation of how a decision to use Command Line Interface (CLI) rather than Graphical User Interface (GUI).</p> <p>Discussion points should be make use of the given scenario and provide specific examples where appropriate.</p> <p>The initial discussion may include consideration of benefits and drawbacks of CLI as an interface:</p> <p>Benefits of CLI</p> <ul style="list-style-type: none"> • Lower resources required so suitable for older equipment PU may not have high processing speeds or advanced GPUs • Server and client will require less bandwidth to communicate (as not transmitting graphical data) so makes it suitable for poorer/mobile internet connections • Usually accessed using a 'terminal' window so likely to reduce potential problems with compatibility • Only requires keyboard to interact/does not need additional peripheral such as mouse. <p>Drawbacks of CLI</p> <ul style="list-style-type: none"> • A less intuitive interface than GUI as commands are specific to each system where as there are common structures and conventions used in GUI (e.g. a house icon for 'home') • Users will have to learn specific commands, if they have limited experience with IT this may prove difficult to use • The language of the commands may be a barrier. E.g. the system command may be in English which may not be the user's first language • Not suitable for access on some devices that use onscreen keyboards or alternative inputs • Limited in adaptability for users with additional needs • Limits the type of product/service that can be offered via the system. E.g. most materials will need be downloaded and used/run locally

	<p>The discussion should draw comparison to GUI which may cover:</p> <ul style="list-style-type: none"> • Performance • Ease of use • Accessibility • User needs <p>The learners should present a conclusion about Shayan's decision to choose CLI over GUI which should be supported by evidence from their discussion</p>
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Mark scheme (award up to 12 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.

Level	Mark	
	0	No rewardable material
1	1-4	<p>Technical vocabulary is used but is not used appropriately to support arguments in relation to the issues of the question.</p> <p>Issues are identified but chains of reasoning are not made leading to a superficial understanding of the relative importance of issues to the scenario</p> <p>No conclusion is presented or is generic</p>
2	5-8	<p>Accurate technical vocabulary is used to support arguments but not all are relevant to the issues of the question</p> <p>A consideration of relevant issues using logical chains of reasoning but does not reflect upon their relative importance to the given scenario</p> <p>An attempt at a conclusion is presented that links arguments to the given scenario but is not justified in that it does not reflect the careful consideration of both sides of the argument.</p>
3	9-12	<p>Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question</p> <p>A balanced and wide ranging consideration of relevant issues using coherent and logical chains of reasoning that shows a full awareness of their relative importance to the given scenario</p> <p>A fully justified conclusion is presented that links arguments to the given scenario and that reflects the careful consideration of both sides of the argument leading to a reasoned decision</p>

Q9.

Question Number	Indicative content
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners discuss the factors that Richard should consider when creating the online booking system.</p> <p>Specifications/compatibility</p> <ul style="list-style-type: none"> • compatibility with database of players (yet to be created) • compatibility with tablet/mobile devices/apps • compatibility with different web browsers <p>Connectivity</p> <ul style="list-style-type: none"> • to host server • bandwidth available • performance <p>Cost</p> <ul style="list-style-type: none"> • development cost • hardware costs • ongoing/running costs • training costs <p>Efficiency/productivity</p> <ul style="list-style-type: none"> • system availability <p>Implementation</p> <ul style="list-style-type: none"> • timescales • testing <p>Security</p> <ul style="list-style-type: none"> • data protection • encryption of data when booking via online service <p>Payment systems</p>

Mark scheme (award up to 8 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding • There will be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic points • Little or no consideration of different aspects
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding • There will be some gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects • There will be some consideration of how they interrelate
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • There will be minor gaps or omissions • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects • Clearly shows how they interrelate

Q10.

Question number	Indicative content
	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Discuss the factors that should be considered when decommissioning an organisation's existing computer system.</p> <p><u>Backup</u> Must ensure that all data is backed up. Need to determine backup procedures. Data may be on central storage, e.g. network/server, or on individual devices, e.g. PCs/laptops/tablets.</p> <p><u>Data deletion</u> The company will need to ensure secure data disposal from all digital devices. May include:</p> <ul style="list-style-type: none">▪ sensitive company private/confidential/financial information▪ customer/staff personal data – i.e. data that needs to comply with the Data Protection Act. <p>Data deletion methods</p> <p>Deletion of files/reformatting a hard disk:</p> <ul style="list-style-type: none">● data is NOT permanently deleted/files will still exist on the hard disk● only the file location information is deleted/files will not be detected by the operating system● could potentially be restored using specialised data recovery software.

Data destruction software:

- overwrites the entire hard disk with random data
- original data can no longer be recovered
- hard drive could potentially be reused/sold/donated to charity
- no impact on the environment.

Physical destruction:

- specialist companies crush/shred hard disks to ensure that they are unusable
- ensures that the data on it cannot be accessed
- disadvantage is hardware is now worthless, will impact on the environment as it goes to landfill.

Equipment disposal and recycling

Recycling:

- sale or donation to other organisations or individuals, need time and resources to organise/pay for professional services to do it
- recycling parts of the equipment
- minimises environmental impact
- can the equipment be used in other regional offices.

Disposal:

- safely disposing of hazardous waste
- minimising the amount of equipment wasted.

Legal requirements

Data Protection Act
WEEE EU Directive
Environment Act
Waste Acceptance Criteria (WAC)

Other considerations

Who is going to carry out the work?

IT department?

- increase data security (only people from the company would be involved)
- cheaper
- would staff have the required skills?

Specialist data destruction contractor?

Mark scheme (award up to 8 marks)		
Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-2	<p>Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.</p> <p>Issues are identified but chains of reasoning are not made, leading to a superficial understanding of the relative importance of issues to the scenario.</p> <p>Does not link arguments to the given scenario.</p>
Level 2	3-5	<p>Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question.</p> <p>There is consideration of relevant issues using logical chains of reasoning, but does not reflect on their relative importance to the given scenario.</p> <p>Considers the various elements of the question and but does not always link arguments to the given scenario.</p>
Level 3	6-8	<p>Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question.</p> <p>There is a balanced and wide ranging consideration of relevant issues, using coherent and logical chains of reasoning, that shows a full awareness of their relative importance to the given scenario.</p> <p>Carefully considers the various elements of the question and links arguments to the given scenario.</p>