OCR
Oxford Cambridge and RSA

Cambridge National

ICT

Unit **R001/01:** Understanding Computer Systems

Level 1/2 Cambridge National Certificate/Award/Diploma in ICT

Mark Scheme for June 2018

Oxford Cambridge and RSA Examinations

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

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.

© OCR 2018

Question			Answer/Indicative content	Mark	Guidance
1	a		One from: • (Video) camera/webcam (1) • Microphone (1)	1	
1	b	i	One from: e.g. • Monitor (1) • Laptop (1) • Smart Phone (1) • Desktop/personal <u>computer</u> (1)	1	As the question is "device" and not "output device", can accept any suitable answer. Phone - TV DO NOT accept "mobile device"
1	b	ii	Up to **two** marks for a full description of a suitable feature: e.g. • Monitors are large (1) so that the user is able to see the information without eye strain (1) • Monitors present information in colour (1) so that any emphasis (or other suitable example) can be seen (1) • Monitors displays an image (1) in pixels (1) • Monitors have aspect ratios (or example) (1) which are suited for applications (or example) (1) • Laptops include specific software to watch videos (1) which show videos at a life like pace/in a MP4 (for example) format(1) • Laptops are portable (1) therefore can be watched anywhere(1) • Computers have large screens (1) so the video can be seen clearly (1) • Computers have screens (1) that show movement (1) • Device has wifi connection/access to the internet (1) to get the video from the website (1)	2	**Only award if 1bi awarded UNLESS "Phone" has been marked TV for 1bi, in which case you CAN mark 1bii** Only consider first attempt at the answer Feature must match the device identified in 1bi and must link to the purpose of watching a video. DO NOT accept features such as: • Password • Anti-virus **MUST be a feature and not a purpose (**do not accept "laptop plays the video" for example**)**

Question	Answer/Indicative content	Mark	Guidance
2 a	Up to **four** marks. • Uses satellite signals/Signal is sent/transmitted/emitted from satellites (1) • Signal received by GPS device (1) • Three satellites are required to be visible to the device as a minimum/process of trilateration (1) • Time of transmission included in signal (1) • (Time of sending) compared to clock in GPS device (1) • to calculate relative distance(s) (1) • location is based on time taken for signal to arrive(1)	4	This answer requires a technical understanding of how this system works. Read the whole answer and award to the candidate's best advantage. DO NOT award "Uses satellites" DO NOT award "to identify locations" (repeat of question) Candidates may confuse the process of sending and receiving signals. **If** candidates confuse sending receiving we don't give but may still be award reference to min 3 satellites, such as "the system requires a minimum of three satellites"
b	Up to **four** marks. • <u>Each individual's</u> signal/location tracked (1) • Starting position identified (or equivalent) (1) and time (1) • End position identified (or equivalent) (1) and time (1) • Time of movement calculated (1) • Distance calculated (1) • Distance divided by time (1)	4	Read the full answer and award to the candidate's best advantage. This question is **specifically** about how data collected on a GPS device can be used. Award "**and time**" once only One mark can be awarded for "GPS identifies locations"

Question			Answer/Indicative content	Mark	Guidance
2	c		Up to **two** marks for a full explanation: e.g. • Laptops are portable/easy to move around (1) and so the trainer take notes whilst talking to/without leaving the customer(1) • Trainers need to work in different locations/be mobile (1) so require a portable device / laptops are portable/desktops are not portable (1) • Laptops can be used <u>anywhere</u>(or equivalent) (1) as they include batteries/laptops do not need to be connected to an electricity supply/desktops need to be connected to an electricity supply (1)	2	Answer MUST deal with <u>why</u> the trainer has been given the laptop and **no**t given a desktop. Only consider first attempt at the answer Where answer is not in context and is just a statement about laptops and desktops, max 1.

Question			Answer/Indicative content	Mark	Guidance
2	d		Up to **four** marks available. MAX two marks per explanation Answers should be in the form Identify reason (1) explain why it is a reason (1) e.g. • Some clients find text hard to understand (1) and speech is more accessible(1) • Microphone records speech (1) in real-time/as things happen (1) so nothing is missed (1) • Soft copy less likely to be lost (1) because they can be stored on a computer (1) • The microphone does not need to be looked at (1) and so the trainer can concentrate on the gym members (1) • It is quicker to talk than to type (1) and so better notes are taken (1) • To include on the motivational video (1) because it is examples of actual people exercising(1) • Microphone notes will be clearer and easier to understand (1) because the method better suits the environment in which they are taken (1)	4	Numbers on QP are for a guidance. Consider the first two answers given, irrespective of location of answer within the space given. Answers can be a match of stems and extensions. However, only award any individual extension once. Be aware of candidates using "so nothing is missed" and "so better quality notes are taken" as extensions. These are **just** <u>acceptable as different answers and can be awarded</u>. DO NOT accept "does not have to leave customer to take notes" DO NOT accept answers to do with "so they do not need a pen" DO NOT accept answers to do with being able to check notes at a later date OR pass onto the client. This is true of any form of notes.

Question			Answer/Indicative content	Mark	Guidance
3	a		Up to **four** marks for **two** full descriptions (MAX two per description). Identify way (1 mark) Description of way (1 mark) e.g. • Encryption (1) so that the message is jumbled up/cannot be understood (1) • Password protect file (1) so that it cannot be opened (1) • Apply a log on password (or equivalent) (1) so that unauthorised users cannot log on/access files/description of a good password (1) • Create a private/secure folder (1) and save important data files in those folders (1) • Set permissions for the file to private (1) so that only authorised users can open it (1) • Biometrics (1) so only authorised users can access (1)	4	Accept answers in the form of identified the method (1) plus a description of that method (1) (order may be reversed) Accept "being able to get to" as the same as "access the data" DO NOT accept "harder to access" or "harder to break into" for encryption Accept "so that it cannot be opened" (or equivalent) once only Answer must refer to security of data and NOT security of devices. DO NOT allow mixed first and second part answers unless answer as a whole is correct. DO NOT accept "different log ins" DO NOT accept answers based on password protocol
3	b		**One** mark: e.g. • Store in a locked/safe room/container/similar location (1) • Store somewhere safe (1) • Secure the device to a fixed item (or equivalent) (1)	1	Answer MUST be a form of physical protection. Do not accept actions taken to reduce the impact of theft (such as encryption or physical trackers)

Question			Answer/Indicative content	Mark	Guidance
3	c		Up to **two** marks for a full explanation Answer may refer to impact of loss of device: e.g. • Maes Knoll Gym needs to buy a new machine (1) which will cost them money (1) • Individual staff can not do their work (1) until the laptop is replaced(1) Answer may refer to impact of loss of data: • Customers of Maes Knoll Gym will lose trust in the gym (1) because they have lost personal data (1) • Data may be used by competing gyms (1) to contact individual members/to attempt to steal members away(1) • Maes Knoll Gym has broken the DPA (1) and so will get investigated by the Data Commissioner (1)	2	Do not award answers that are not direct impacts (for example, "the police may attend the scene of crime and notice a further transgression" type answers). Do not award answers that suggest that the sole copy of the file has gone – each device has the same data and only one has been stolen. "DPA" on its own is NOT enough Impact **must** be negative.
3	d		Up to **two** marks for a full explanation (MAX two per explanation) e.g. • Personal data will be <u>used</u> (1) plus implication (may be used by insurance company to assess health, for example) (1) • There is a risk of fraud (1) because someone else has their personal data (1) • Members can request compensation (1) and receive money(1) • Members may need to find a new gym (1) as they no longer trust the gym (1) as they have lost their data (1)	2	Whilst all machines hold the same data initially, individual trainers may have added their own notes, so answers about only version being lost are acceptable

Question			Answer/Indicative content	Mark	Guidance
4	a		Up to **two** marks for a full description: e.g. • a computer that can be used on its own (1) without the need/requirement to connect it to a network/LAN/WAN (1) • Does not connect to a network (1) and all files are held on that device (1) • No central storage (1) so all data is stored on that computer (1)	2	DO NOT accept "Not connected to any other devices" READ whole answer.
4	b		Up to **two** marks for a full description of how a network could be created eg • Enable WiFi on all machines (1) and connect to a (WiFi) router (1) or create an ad-hoc/peer-to-peer network (1) • Use (Ethernet) cables from each machine/a wired network (1) to a central hub/switch/router (1)	2	Do not award "computers can be joined together" NB there are at least four machines based in the network Mark first answer given. DO NOT accept Bluetooth

			Section B		
Question			**Answer/Indicative**	**Marks Guidance**	
				Content Levels of response	

| 5 | a | | Explain how the following factors will impact on Mandy's decision of which computer system to buy.

 • Cost

 • User needs | | |

Marks	Both areas covered	One are covered
9 MB3	Answer that is balanced across both budgetary constraints and user needs. Explanation is in good depth. Good use of examples/extensions to further explain the points made.	
8 MB3	Both factors have been explained in good depth. Expansions go some way to meeting the demands of the question Discussion is slightly weighted towards one of the two constraints.	
7 MB3	Both factors have been explained. However, discussion is clearly weighted towards one of the two factors, with that one being **in good** depth. Expansions go some way to meeting the demands of the question	Both factors have been explained. Expansions go some way to meeting the demands of the question Discussion is slightly weighted towards one of the two constraints

			Section B			
Question			**Answer/Indicative**		**Marks Guidance**	
					Content Levels of response	
				6 MB2	Candidates will provide a good description of both factors. Some use of expansions/or examples, but these are descriptive rather than explanations Answer in context	One factor has been explained in good depth. Good use of examples to further explain the points made
				5 MB2	Fair description of both factors/One factor in good depth, other weak or simple statements Some use of expansions/or examples. Answer **MAY NOT** be in context	One factor has been explained in fair depth Some use of examples to further explain the points made Answer in context
				4 MB2	Some description of both factors	Description of the factor. Weak use of examples.
				3 MB1	A list of issues, not clearly linked to either factor **In context**	Weak description of one factor
				2 MB1	A list of issues, not clearly linked to either factor. Not in context.	
				1 MB1	Any valid point made	
				0	No valid points made	

Question			Answer/Indicative content	Mark	Guidance
5	b		Up to **four** marks for two paired answers. 1st mark for either pair is for identifying the item of hardware, second for the justification. e.g. • Printer (1) to create hard copies/print documents/information (1) • Headphones/speakers (1) to be able to listen to sound (1) • Scanner (1) to import/scan in documents/photographs/newspaper articles (1) • Webcam/camera (1) to video conference(1) • Laser pointer (1) to use during presentations (1) • External hard drive (1) to back up work (1) (accept other examples of external secondary storage)	4	Do not award "computer" or NON peripheral device Do not award: • Mouse • Monitor • Keyboard • Microphone • Projector • Charger/PSU DO NOT award uses that are not part of Mandy's OWN job (create motivational videos or networking hardware, for example) Only award full marks where an item has been identified (and awarded)
6	a		One from: • Word processing/processor software (1) • Text editor (1)	1	DO NOT accept Desktop Publisher (excluded by scenario) MUST be a type of **software** DO NOT accept "A text/word document"

Question			Answer/Indicative content	Mark	Guidance
6	b		Up to **two** marks for a full explanation of why this folder has been created with this name e.g. • So that files dealing with the same subject can be stored together (1) to allow for better organisation of files/increased efficiency (1) so the files can be found more readily/quickly (1) (<u>FINAL point here is **only** acceptable as an extension</u>) • So that a third party using the computer can find the files (1) by looking at the descriptive name (1) • It clearly stated what is in the folder/ so she knows that <u>it holds</u> presses releases/what it is about from 2018 (1) so information is better organised/easier to find (1) • So she knows that <u>it holds</u> presses releases/what it is about from 2018 (1)	2	Do not accept "easier to find" on its own – mark as TV. <u>However</u>, "Files are easier to find", or "easier to find" as part of an extension to a previous answer ARE acceptable. DO NOT award answers that confuse files and folders. For a folder, must be answering about "folder holds"
6	c	i	Up to **one** mark • Email (1) • <u>Save to/share on</u> (or equivalent) cloud (or online equivalent) (1)	1	Must be more than just "The cloud" (mark as TV)

Question	Answer/Indicative content	Mark	Guidance
6 c ii	Answer must match answer to 6ci Up to **two** marks available for a full explanation of suitability (DO NOT award two statements of suitability) Be aware of mixing and matching e.g. • Message will arrive quickly (may be qualified))(NOT immediately/as soon as sent or just "Quick")(1) and so get a quicker response (1) • It is a quick method of communication (1) and time is important (1) • Files can be attached (1) and be sent with an email <u>at the same time</u>(1) • Fees are not charged (1) for sending files (1) • Emails are not platform dependant (1) and so the files can be seen on any device (1) • Emails are not geographically dependant (1) and so can be accessed anywhere in the world (1)	2	**Do not award if 6ci not awarded. However, if candidate has awarded TV for "cloud" this answer can be considered.** Read whole answer, but be wary of mixing and matching 1st and 2nd mark points. For full marks, 2nd mark point must be an explanation of the 1st. **Answers should be based on speed of communication OR guarantee of delivery OR specific about method chosen** Other considerations are irrelevant – DO NOT accept • Easy • Trusted • Cheap
6 d	Up to **two** marks a full description: This answer should be a description of HOW the tool has been used to collaborate. e.g. • Mandy knows what has been changed/Track changes identifies changes (1) so that Mandy can reject or accept them (1) • Changes can be made without getting rid of the original (1) so that changes can be reviewed/history checked (1)	2	Extension must be how the tool is used. Where candidate has described the tool ONLY, MAX 1 mark.

Question			Answer/Indicative content	Mark	Guidance
6		e	Up to **two** marks for a full explanation: This answer should be a description WHY the tool has been used. e.g. • The owner of the club may suggest changes that are inappropriate (or equivalent) (1) and so Mandy wants to check before she accepts them (1) • Allows Mandy to/Mandy can see changes (1) and check if they should be accepted (1)	2	This answer is not a repeat of the previous and requires more than a description of how track changes work, but rather WHY the facility may be used. This is targeted at the most able students.
7		a	<table><tr><td>Features of Diary Management Software</td><td>How Mandy can use this feature</td></tr><tr><td>Creating meetings</td><td>Mandy can select a time(1) and place (1) for the meeting (1) and set how long the meeting will last (1) and who should attend(1)</td></tr><tr><td>Inviting participants</td><td>Mandy can send an email to the people she wants (1) telling them (NOT INVITING)that there is a meeting (1) and ask them to (confirm that they can) come to the meeting (1)</td></tr></table> Up to **four** marks in total. Max **two** per answer	4	READ whole answer Be wary of answers that are repeats of the question – "to create meetings" for example. Inviting participants stage – DO NOT accept "decide on who should attend" DO NOT accept any reference to reminders
7		b	Up to **two** marks for a full description of a suitable feature e.g. • Reminder (or equivalent) FIRST(1) • To the owner(1)	2	Suggested feature must match the purpose

OCR (Oxford Cambridge and RSA Examinations)
The Triangle Building
Shaftesbury Road
Cambridge
CB2 8EA

OCR Customer Contact Centre

Education and Learning
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored