

Cambridge National

ICT

R001/01: Understanding Computer Systems

Level 1/2 Cambridge National Certificate/Award/Diploma

Mark Scheme for January 2021

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 2021

MARKING INSTRUCTIONS

Annotations

Stamp	Ref No.	Annotation Name	Description
	151	Highlight	Highlight (mandatory for all units)
	181	Off Page Comment	Off page comment (mandatory for all units)
	11	Tick	Tick
	201	TV	Too vague
	811	SEEN	Noted but no credit given
	501	NAQ	Not answered question
	331	L3	Level 3
	321	L2	Level 2
	311	L1	Level 1
	21	Cross	Cross
	31	BOD	Benefit of doubt
	271	REP	Repeat

Question			Answer	Marks	Guidance
1			<p>Up to THREE marks. One mark per feature: e.g.</p> <ul style="list-style-type: none"> • Static/more static/not portable (1) • Need wires/cables//wired connection (1) • Heavier/heavy (1) • Separate screen (1) • Bigger screen (1) • Separate/portable keyboard (1) (may be awarded as an extension to peripherals) • Separate/portable mouse//no mouse pad (1) (may be awarded as an extension to peripherals) • Runs off mains power (only)//need to be plugged in (1) • Other suitable response 	3	<p>Line numbers are for guidance only. Mark first three attempts. Candidate may identify a feature whilst comparing desktops and laptops</p> <p>This is a low demand question. All computers have batteries, but this is acceptable as an answer due to the nature of batteries to provide day to day power in a laptop. Similarly, all computers have wires, but for this first question, “need cables/wires” is acceptable</p> <p>Allow: –</p> <ul style="list-style-type: none"> • Separate keyboard (1) and mouse (1) • Comparisons as features (“lighter” for example when considering laptops). • Reversal (“no battery” for example) <p>Do not accept:</p> <ul style="list-style-type: none"> • Faster/quicker/more storage/more powerful • Better security • Bigger or any extension (such as “take up space” UNLESS this also includes an answer about mouse/keyboard (for example) taking up space • Laptops are easier to upgrade

2	a	i	<p>Three marks e.g.</p> <ul style="list-style-type: none"> Blocked out areas (1st) <ul style="list-style-type: none"> showing where upcoming events(1) are already in the calendar (1) Reminders//notifications//warnings (accept “it reminds” or “it notifies” etc (1st) <ul style="list-style-type: none"> in advance//identified period of time (1) telling him what is coming up/that he has an appointment/meeting (1) by sending him a message (accept pop up, text etc)//making a ringing noise etc (1) Recurring event feature (1st) <ul style="list-style-type: none"> can be set up to add regular/repeating events (1) so that they won’t forget to add them (1) To do lists (1st) <ul style="list-style-type: none"> Of what needs to be done (1) automatically populated/completed tasks cleared off (1) Other suitable response – MUST be features not functionality 	3	<p>Mark first real attempt at answer. However, candidates may introduce answer with general statements about diary software.</p> <p>Award any feature that may result in James not forgetting the appointment. This may be reminders, but could also be formatting, for example.</p> <p>Structure is likely to be:</p> <ul style="list-style-type: none"> Identifies feature (1st) States what message feature is giving/doing (appointment/meeting etc) How it avoids missing it (given in advance etc) <p>Do not award:</p> <p>Answers of the type “reminders remind” – mark second (and third) remind as REP</p>
		ii	<p>ONE mark</p> <p>e.g.</p> <ul style="list-style-type: none"> Create/store appointments (1) Reminders/notifications (allow examples) (1) Recurring events can be set up in one go (1) To do list (1) Other suitable response 	1	<p>Mark first attempt only. MUST be a feature</p> <p>Do not accept:</p> <p>Repetition from 2ai</p> <p>Use of reminder on different device (as a result of synchronisation etc).</p>

	b	<p>Up to TWO marks.</p> <p>e.g.</p> <ul style="list-style-type: none"> • Either/the secretary can add/record an appointment (any concept of two people being able to edit/his secretary can edit/make changes) (1) so calendar is more detailed/up to date/if things change/other identified benefit (1) NB extension “if needed” is TV. • Both can set reminders (1) so reduce chance of missing events(1) • Other suitable response 	2	<p>Accept reversed order</p> <ul style="list-style-type: none"> • “More details in the diary (1) as they can be added by secretary as well”(1). “More details in the diary” is the explanation, “they can be added by secretary as well” is the benefit. <p>Do not accept:</p> <ul style="list-style-type: none"> • Both can see the diary/shared access (NAQ) • Indirect benefits – such as business will do better//improved image etc • “The secretary helps out” – or other general comment <p>Further guidance:</p> <ul style="list-style-type: none"> • “Both can edit” is just enough for a mark. This may then be expanded upon for a second mark. • Expansion must be an impact of sharing editing rights. “so all devices then show the appointment” is not an impact of shared editing rights.
--	----------	--	----------	--

	c	<p>Up to TWO marks, ONE mark per advantage:</p> <p>e.g.</p> <ul style="list-style-type: none"> Does not need to be on computer//access not linked to a computer//24/7 access (1) Updates/reminders//can check on/access when away from office/not on computer/any indication that this is at all times (1) Can add meetings when away from office/not on computer/any indication that this is at all times (1) Other suitable response 	2	<p>Mark first two attempts at advantages.</p> <p>Where candidate has identified “does not need to be on computer” for either answer, simple functional statements are acceptable.</p> <p>Do not allow</p> <ul style="list-style-type: none"> Use of “anywhere” and “always” as two separate answers. <p>e.g. He can access his diary wherever he is (1). He will always have his phone with him (REP)</p> <ul style="list-style-type: none"> “Check” and “see if available” are the same answer, so do not award both. No need to log in A passive impact – such as “get reminders” “He can access his software” without extension
3	a	<p>ONE mark:</p> <ul style="list-style-type: none"> Spreadsheet (software) 	1	Correct answer only, but accept trade names

	b	<p>Up to TWO marks:</p> <p>e.g.</p> <ul style="list-style-type: none"> • Can add/hold data (of different types) (1) such as currency and text (1) • It will hold his data/daily sales figures (NOT PROFIT) (1) separately (1) • Large storage capacity (1) so can hold data many weeks' data (1) • Includes cells (1) one cell per item of data (1) • Auto update (1) so change in one cell is applied to all other (linked) cells (1) • Multiple/create (work)sheets (1) with different (work) sheets for different weeks (1) • Data formatting (1) to show difference between types of data/identify which cells hold (eg) money//such as currency (1) • Formulae (1) to carry out calculations//any relevant calculation (1) • Functions//sum//average (e.g) (1) to carry out calculations/which are pre-set calculations/any relevant calculations (1) • Linked cells (1) where value in one cell is repeated (1) • Other suitable response 	2	<p>Candidate need not have been awarded a mark for 3a for this question to be considered.</p> <p>Mark first feature/attempt at a feature.</p> <p>These are examples of acceptable answers. Any other answer MUST be features that are for calculating profit.</p> <p>Description has been asked for, but award explanation of use if correct</p> <p><u>NB This is NOT a 1st mark question.</u> Candidate may be awarded, for example, "can do calculations" without identifying SUM etc. However, there must be an overall awareness shown that this is a feature.</p> <p>Do not accept</p> <ul style="list-style-type: none"> • Can lay out data so that it is clearly visible • Track changes • Use of rows and columns unless this is clearly an impact on calculation of profit • Calculator • Use of charts/graphs
--	----------	--	----------	---

	c	This is a banded response question. Working from the top mark, decide on the mark band and then the mark to be awarded.	
		<p>Band 3 – explanation Look for PEE approach – advantage identified, described and explained (look for use of “therefore” or “because”).</p> <p>Band 1 – identification Look for one/two word identification of the area of advantage</p> <p>Band 2 – description and above As soon as any other words are added to the identification, this is likely to become a description</p> <p>Possible areas that could be covered:</p> <ul style="list-style-type: none"> • Encryption makes words indecipherable if intercepted • Encryption requires a key/all parties need the key • Passwords reduce the likelihood of unauthorised access • Complicated passwords need to be written down 	<p>9</p> <p>Band 3: [6 – 9 marks]</p> <p>A comparative explanation of advantage(s) AND disadvantage(s) that covers BOTH passwords and encryption to protect from unauthorised access</p> <p>More than one use of context in the answer (may be same example, but used twice)</p> <p><i>At the bottom end of the band, there will be an explanation of any advantage OR disadvantage of using either passwords OR encryption to protect from unauthorised access.</i></p> <p>Marks from within the mark band should be based on the number of advantages and disadvantages explained and the use of context within the answer</p> <p>Band 2: [3 – 5 marks]</p> <p>A comparative description of advantage(s) AND disadvantage(s) that covers BOTH passwords and encryption to protect from unauthorised access</p> <p>More than one use of context in the answer (may be same example, but used twice)</p> <p><i>At the bottom of the mark band, any description of an advantage or a disadvantage.</i></p> <p>Band 1: [1 – 2 marks] Identifies areas of comparison</p> <p>At the top of the mark band, there will be: Two areas of comparison identified</p>

	d	<p>Up to TWO marks: e.g.</p> <ul style="list-style-type: none"> • User ID (1) • Security key (1) • Access rights/permissions (1) • Facial recognition/finger pad etc (1) • Restricted access to wireless devices//only allow registered devices//lock down wireless/blue tooth access (1) • Run separate (LAN) networks (1) • Raise awareness of social engineering (1) • Have check list of questions (1) • Restrict physical access//do not leave computer unattended//door key/fob (1) • Confirming identity (via responding to a text etc) (1) • Two factor identification/authentication/2FA (1) • Other suitable response (1) 	2	<p>Mark first TWO attempts at a suitable method.</p> <p>Low demand question - answer must be a method of restricting access within the context of the question</p> <p>Do not accept</p> <ul style="list-style-type: none"> • Log in • Firewall//antivirus • Use a VPN • Physical security (TV)
4	a	<p>TWO from:</p> <ul style="list-style-type: none"> • Wi-Fi card/(wireless) network card/NIC (1) • Wireless network adapter (1) • (Wireless) router (1) • (Wireless) access points (1) • Other suitable response 	2	<p>Mark first two attempts at devices.</p> <p>Where candidate gives two answers from the same mark point, treat as one attempt.</p> <p>Only award devices that are needed to create a wi-fi network.</p>

	b	<p>Up to FOUR marks:</p> <p>e.g.</p> <ul style="list-style-type: none"> Tablets are portable (1) easier to carry (1) and so can be with the cleaner at all times (1) so cleaner will find out if room is empty directly (1) The cleaner will find out if a room is vacant//available to clean (from the tablet) directly (1) as they move around (the hotel) (1) and as soon as/when customer leaves/room is empty/checks out (1) Will not need to waste time/saves time because (1) walking to reception//physically checking each room//other identified procedure (1) (allow further extensions from mark point above) Other suitable response 	4	<p>Read whole answer and mark to candidate's best advantage. <u>This is a low level question</u>, assessing a candidate's ability to explain a positive impact of having a mobile device.</p> <p>There is a number of different answers here. A lot of the answers can be a combination of points made from different mark points.</p> <p>There are other possible explanations that could, for example, focus on those who do not have a mobile device or the period before mobile devices were introduced. Award any marks that fit the overall spirit of the question.</p>
--	----------	--	----------	--

5	a	ONE mark: <ul style="list-style-type: none">• Camera (or equivalent) (1)• Scanner (1)	1	Consider first input device given Do not award: <ul style="list-style-type: none">• Smart phone/phone
	b	ONE mark: <ul style="list-style-type: none">• Microphone (or equivalent (including mic)) (1)	1	Consider first input device given Do not award: <ul style="list-style-type: none">• Smart phone/phone
	c	ONE mark: <ul style="list-style-type: none">• Keyboard (1)• Touch screen (1)	1	Consider first input device given

	d i	<p>Up to TWO marks for full explanation per item on presentation.</p> <p>“To further engage ” (or equivalent) may be awarded as a first point or an expansion for any of the three features but ONCE ONLY</p> <p>“To give information” (or equivalent) may be awarded as a first point or an expansion for any of the three features but ONCE ONLY</p> <p>IMAGES e.g.</p> <ul style="list-style-type: none"> • Include a photograph of Sarah (has to state a specific image OR description of that image (“examples” is sufficient)) (1) so that delegates know who she is (1) • To display relevant pictures (1) to exemplify/increase understanding/give examples (of what is being discussed in the text) (1) • Other suitable response <p>SOUND e.g.</p> <ul style="list-style-type: none"> • Sound of a bell ringing (1) to draw audiences’ attention to the presentation (1) • Short piece of speech (1) to give further clarification (1) so it is better understood (1) • Other suitable response <p>TEXT e.g.</p> <ul style="list-style-type: none"> • Add an instruction to turn off mobile phones (1) so that presentation is not disrupted (1) • Other suitable response (correct answers are extremely likely to be based on giving instructions, but could be about how text itself could aid – so could discuss use of font, for example) 	6	<p>For full marks, must state the benefit/impact of the use of images/sound/text in the presentation and either develop the argument, or have stated the item to be included</p> <p>Read whole of <u>each</u> answer and award to candidate’s best advantage. However, DO NOT award marks for answers in the wrong section (unless answer is an overflow due to lack of space).</p> <p>Where no benefit/impact stated. MAX 1 mark per item</p> <p><u>The examples given here are simply examples. There are many different suitable answers here. This is a low demand question.</u></p> <p>Answers (especially benefit/impact) MUST fit the scenario.</p> <p>For example –</p> <p>“Use a voice to create a scary/random sound so people wonder what it was” does NOT suit the scenario. Award 0 marks</p> <p>Do not award:</p> <ul style="list-style-type: none"> • To welcome delegates to the conference. • Repetition of explanation NB “Wont get bored” and “Will be entertained” are the same point. • Allow “to further explain” once only • Allow “to engage” once only • “Appealing” and “eye catching” are the same point • “To show” (images) and “to explain” are different answer (text/sound)
--	------------	--	----------	---

6	a	<p>Up to THREE marks, ONE per feature:</p> <p>e.g.</p> <ul style="list-style-type: none"> • Controlling inputs (1) • Controlling outputs (1) • Running programs (1) • Allows multitasking (1) • File management (1) • Resource allocation (1) • Allows connection to the internet (1) • Hot key navigation (1) • Screen capturing (1) • Accessibility configuration (1) • Other suitable response 	3	<p>Mark first THREE attempts to identify features</p> <p>Accept ANY reasonable feature of an operating system</p>
	b	<p>Up to FOUR marks (Max two marks per benefit marked):</p> <p>e.g.</p> <ul style="list-style-type: none"> • Download/install bug fixes (1) which make the computer run more smoothly//less likely to crash (1) • Downloads/install security updates (1) which protect against new security risks//improve outdated software//get rid of old problems (1) • To update drivers (1) so that peripheral devices can connect/work with your computer (1) • Improve compatibility with software (1) which may be linked to new operating system/technology/user experience (1) • Get newest features on her laptop//OS now up to date (accept laptop as replacement for OS) (1) to improve productivity//user experience//makes device easier to use (1) • Makes device easier to use (1) so improved productivity (1) • So system continues working/runs smoothly (1) plus expansion (1) 	4	<p>Mark first TWO attempts to identify a benefit. Description must match the benefit marked.</p> <p>Be wary of answers that focus on what would happen if she does NOT update. This is an acceptable method of answering this question.</p> <p>Line numbers are for guidance only. Candidate may identify two advantages in the first answer.</p> <p>Do not accept:</p> <ul style="list-style-type: none"> • Improve speed • Increased storage • Laptop updates (TV) • Statements that are about what already happens – such as “laptop will check for viruses”

			<ul style="list-style-type: none"> Other suitable response 		
	c		ONE mark: PCCDelegateOpen1 (1)	1	Correct answer only (Ignore spacing or minor spelling mistakes) IF candidate has numbered the possible answers, and gives the correct reference number, mark can be awarded.

	d	<p>Up to TWO marks:</p> <p>e.g.</p> <ul style="list-style-type: none"> • To improve security (1st) so that hotel materials are kept separate (1) from customer network (1) • So that hotel materials are kept separate (1st) from customer network (1) which improves security (1) • The open network has all users on it/anyone can join (1st) this is (e.g) a security risk (1) so separate networks improves security (1) • To provide a separate network (for hotel and guests) (may identify two separate networks) (1st) to improve security (1) to reduce the chances on cyber theft//protect the network (1) • To provide a separate network (for hotel and guests) (may talk about two separate networks) (1st) to improve bandwidth (1) increase speed (1) • So that any virus on customer machines (1st) does not get onto the operating/hotel network(1) disrupting the hotels business (1) • Other suitable response 	3	<p>Answer should be in form of why done and why this is important.</p> <p>Read whole answer, but do not award where candidate swaps from one theme (e.g. security) to another (e.g. bandwidth). Mark the points made that fit the original theme</p> <p>Be wary of candidates who make three valid points, but do not give the “why this is important” answer.</p> <p>NB – this is a 1st mark question</p>
--	----------	---	----------	--

7	a	<p>Information collected (MAX 3) e.g.:</p> <ul style="list-style-type: none"> • Name (1) • Email address (1) • Phone number (1) • Business address (1) • Other suitable feature (1) <p>Overall design (MAX 3) e.g.:</p> <ul style="list-style-type: none"> • Use of space (1) • Logical order (1) • Colours (1) • Font (1) • Font size (1) • Font format (e.g. Bold/Underline/Italic (one from) (May be shown rather than stated (e.g. – title may be underlined on the design)) (1) • Other suitable feature (1) <p>Features of online form (MAX 3) e.g.:</p> <ul style="list-style-type: none"> • Logo (1) • Title (1) • Text box (1) • Check box (1) • Drop down box (1) • Submit button (1) • Instruction (1) • Other suitable feature (1) 	9	<p>Max 3 per section</p> <p>For use of space, expect candidate to have used at least 80% of the space allocated.</p> <p>However, if candidate <u>clearly</u> draws an outline for a new form and works within this, take this as the working area.</p>
---	---	---	---	---

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