



Oxford Cambridge and RSA

Cambridge National

Information Technologies

R050/01: IT in the digital world

Level 1/2 Cambridge National Certificate/Award

Mark Scheme for January 2024

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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.

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MARKING INSTRUCTIONS

PREPARATION FOR MARKING

RM ASSESSOR

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM Assessor Assessor Online Training*; *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal <http://www.rm.com/support/ca>
3. Log-in to RM Assessor and mark the **required number** of practice responses (“scripts”) and the **number of required** standardisation responses.

YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the RM Assessor messaging system, or by email.
5. **Crossed Out Responses**
Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed out response where legible.

Rubric Error Responses – Optional Questions

Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM assessor, which will select the

highest mark from those awarded. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

Multiple Choice Question Responses

When a multiple choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).

When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.

Contradictory Responses

When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions (requiring only a list by way of a response, usually worth only **one mark per response**)

Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

Short Answer Questions (requiring a more developed response, worth **two or more marks**)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

Longer Answer Questions (requiring a developed response)

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there, then add a tick to confirm that the work has been seen.
7. Award No Response (NR) if:
 - there is nothing written in the answer space

Award Zero '0' if:














- anything is written in the answer space and is not worthy of credit (this includes text and symbols).



Team Leaders must confirm the correct use of the NR button with their markers before live marking commences and should check this when reviewing scripts.

- The RM Assessor **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
If you have any questions or comments for your team leader, use the phone, the RM Assessor messaging system, or e-mail.
- Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.
- For answers marked by levels of response:
 - To determine the level** – start at the highest level and work down until you reach the level that matches the answer
 - To determine the mark within the level**, consider the following

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

11. Annotations

Annotation	Meaning
	Tick
	Cross
	Blank page (mandatory for all units)
	Benefit of doubt
	Too vague
	Noted but no credit given
	No example
	Benefit of doubt not given
	Not answered question
	Level 3
	Level 2
	Level 1
	Repeat

Annotation	Meaning
 The annotation 'IRRL' is displayed in red text within a red rectangular border.	Irrelevant
 A large green question mark is centered in the cell.	Unclear

12. Subject Specific Marking Instructions

Question		Answer	Mark	Guidance
Section A				
1		Two from: <ul style="list-style-type: none"> • Central hub/Central theme/Title (1) • Nodes (1) • Sub nodes (1) • Linking lines / branches/ arrows (1) • Keywords (1) • Images (1) • Colour (1) • Shapes/Bubbles (1) 	2 x 1	Accept equivalent terminology
2		<ul style="list-style-type: none"> • Office (1) 	1	Two boxes ticked = TV
3		One from: <ul style="list-style-type: none"> • Spreadsheet (1) • Database (1) 	1	Accept brand names
4		One from: <ul style="list-style-type: none"> • Keyboard/Keypad (1) • Mouse (1) • Gesture (1) • Voice (1) 	1	
5		<ul style="list-style-type: none"> • Boolean (1) 	1	Two boxes ticked = TV

Question	Answer	Mark	Guidance								
Section A											
6	<ul style="list-style-type: none"> • Presence Check (1) 	1	Accept equivalent terminology								
7	One from <ul style="list-style-type: none"> • Double entry (1) • Manual Check(ing) (1) 	1	Accept equivalent terminology								
8	Two from <ul style="list-style-type: none"> • Email (1) • Interview/Focus group (1) • (Online) Questionnaire (1) • (Online) Survey/Poll (1) 	2 x 1	Accept equivalent terminology								
9	<p>One mark for each correct answer</p> <div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Type of Malware</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Spyware</td> <td style="text-align: center;">A standalone program that replicates itself</td> </tr> <tr> <td style="text-align: center;">Trojan Horse</td> <td style="text-align: center;">Collects user log-in details</td> </tr> <tr> <td style="text-align: center;">Worm</td> <td style="text-align: center;">A standalone program that replicates itself</td> </tr> </tbody> </table> </div> <ul style="list-style-type: none"> • Worm - A standalone program that replicates itself (1) • Spyware - Collects user log-in details (1) 	Type of Malware	Description	Spyware	A standalone program that replicates itself	Trojan Horse	Collects user log-in details	Worm	A standalone program that replicates itself	2 x 1	Two lines from one box = TV
Type of Malware	Description										
Spyware	A standalone program that replicates itself										
Trojan Horse	Collects user log-in details										
Worm	A standalone program that replicates itself										

Question		Answer	Mark	Guidance
Section A				
10		One from <ul style="list-style-type: none"> • (data at) rest (1) • Stored (1) • Saved (1) 	1	
11		<ul style="list-style-type: none"> • Radio-frequency identification (1) 	1	Correct Answer Only (CAO)
12		<ul style="list-style-type: none"> • Copyright, Designs & Patents Act (1) • Data Protection Act (1) 	1	Ignore any date provided

Question		Answer	Mark	Guidance
Section B				
13	(a)	<p>Two marks for definition of data e.g.:</p> <ul style="list-style-type: none"> Raw / Unprocessed (1) facts/figures (1) Numbers/letters/words (1) that have no meaning/context (1) <p>Award credit for any other suitable response</p>	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> One mark raw/unprocessed/no context One mark for facts/figures/words
13	(b)	<p>Two marks for each description e.g.</p> <p>Data type Check</p> <ul style="list-style-type: none"> Check that it's the correct type of data entered (1) such as only numbers when entering their contact phone number (1) If the user enters the wrong data into the field on the form (1) they will get a message telling them that they need to correct the issue (1) <p>Award credit for any other suitable response</p> <p>Input Mask</p> <ul style="list-style-type: none"> Data can only be entered in the correct spaces on the form (1) so date of birth will only be allowed in a set way (1) Provide guideline on required format (1) so data email address contains an @ (1) Postcodes can be input in the correct format (1) so the registration can be completed (1) <p>Award credit for any other suitable response</p>	4	<p>Read whole response and award:</p> <ul style="list-style-type: none"> One mark for each how reduces errors One mark for each expansion/example in context (registration screen)

Question		Answer	Mark	Guidance
14	(a)	<p>Two marks from e.g.:</p> <ul style="list-style-type: none"> • Can be moved / portable (1) • Robust / No moving parts (1) • Can be used with a range of devices (1) • Does not require own power (1) • Does not need Wi-Fi/Bluetooth/internet (1) • Can be encrypted / Is secure (1) <p>Award credit for any other suitable response</p>	2 x 1	<p>Do not accept:</p> <ul style="list-style-type: none"> • low cost without suitable expansion • large storage without suitable expansion
14	(b)	<p>Two marks for definition of identity theft e.g.:</p> <ul style="list-style-type: none"> • Personal details are stolen (1) and used to commit fraud / other crimes / example (1) • Stealing persons details (1) such as example (1) <p>Award credit for any other suitable response</p>	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for taking details (process of) • One mark use /example
14	(c)	<p>Two marks for each explanation e.g.:</p> <p>2FA</p> <ul style="list-style-type: none"> • Only approved users receive an extra token (1) needed to access the data (1) • Extra layer of security (1) where a user needs an extra token/code to access the data (1) • If USB is stolen the data cannot be accessed (1) without an extra code/token (1) <p>Award credit for any other suitable response</p> <p>Encryption</p> <ul style="list-style-type: none"> • Stored data is scrambled/unreadable/not understandable (1) without a key that makes the data readable (1) • Even if data is accessed on the USB (1) it cannot be read without an encryption key (1) 	4	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for what happens • One mark how protects data

Question		Answer	Mark	Guidance
		Award credit for any other suitable response		
15	(a)	<p>One from:</p> <ul style="list-style-type: none"> • Display type (1) • Display size (1) • Memory (1) • Processing power (1) 	1	Accept equivalent terminology/example
15	(b)	<p>Two marks for each advantage of using DTP software e.g.:</p> <ul style="list-style-type: none"> • Logo can be imported (1) that has been created in other software (1) • Drag and drop ability (1) allows different registration elements to be placed where needed (1) • DTP has guidelines (1) that allow different elements to be lined up on the visualisation diagram (1) • Shapes /drawing tools (1) can be used to plan the layout of HCI • Fonts/text box tools (1) to annotate the visualisation diagram/provide information on HCI (1) <p>Award credit for any other suitable response</p>	4	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for each DTP attribute • One mark for each advantage expansion in context (use in visualisation diagram/HCI)
15	(c)	<p>Two marks for explanation e.g.:</p> <ul style="list-style-type: none"> • HCI will be too small to use (1) if it does not fit the mobile sized screen properly (1) • Mobile HCI could allow range of interaction (1) which need to be designed for (1) • The HCI elements will be vertical on the screen (1) to save space on the small screen (1) <p>Award credit for any other suitable response</p>	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for mobile app consideration • One mark for impact in context (HCI design)

Question		Answer	Mark	Guidance																												
15	(d)	<p>If the response is not a visualisation diagram = NAQ</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">LAYOUT</th> <th rowspan="2" style="font-size: 2em; vertical-align: middle;">+</th> <th colspan="2">CONTENT</th> <th rowspan="2" style="font-size: 2em; vertical-align: middle;">=</th> <th colspan="2">TOTAL</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">4 Marks</td> <td>Wholly relevant</td> <td style="text-align: center;">4 Marks</td> <td>All relevant</td> <td style="text-align: center;">Level 3: 7 or 8 marks</td> </tr> <tr> <td style="text-align: center;">3 Marks</td> <td>Mostly suitable layout</td> <td style="text-align: center;">3 Marks</td> <td>Mostly relevant</td> <td style="text-align: center;">Level 2: 4 – 6 marks</td> </tr> <tr> <td style="text-align: center;">2 Marks</td> <td>Simplistic layout</td> <td style="text-align: center;">2 Marks</td> <td>Some relevance</td> <td style="text-align: center;">Level 1: 1-3 marks</td> </tr> <tr> <td style="text-align: center;">1 Mark</td> <td>Minimal layout for context</td> <td style="text-align: center;">1 Mark</td> <td>Limited relevance</td> <td></td> </tr> </tbody> </table> <p>0 marks – no work worthy of credit</p>	LAYOUT		+	CONTENT		=	TOTAL		4 Marks	Wholly relevant	4 Marks	All relevant	Level 3: 7 or 8 marks	3 Marks	Mostly suitable layout	3 Marks	Mostly relevant	Level 2: 4 – 6 marks	2 Marks	Simplistic layout	2 Marks	Some relevance	Level 1: 1-3 marks	1 Mark	Minimal layout for context	1 Mark	Limited relevance		8	<p>Award MAX 4 marks for layout Award MAX 4 marks for content Add together for final mark and Level</p> <p>Indicative content</p> <p>Layout:</p> <ul style="list-style-type: none"> • Registration screen • Mobile app • Mobile devices <ul style="list-style-type: none"> ○ Smartphone ○ tablet <p>Content:</p> <ul style="list-style-type: none"> • Personal details • Payment details / link to payment screen • Buttons for navigation • Charity logo • Title of screen – registration • Details about discovery trail • Colour scheme (annotated) • House style
LAYOUT		+	CONTENT			=	TOTAL																									
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1 Mark	Minimal layout for context	1 Mark	Limited relevance																													
16	(a)	<p>Two from e.g.:</p> <ul style="list-style-type: none"> • First name (1) • Initial (1) 	2	<p>Allow specific examples from context (registration screen) e.g.:</p> <ul style="list-style-type: none"> • Aaron • 0744754761 																												

Question		Answer	Mark	Guidance
		<ul style="list-style-type: none"> • Surname (1) • Postcode (1) • Telephone number (1). • Email address (1). <p>Award credit for any other suitable response</p>		<ul style="list-style-type: none"> • TS2 7GG • Numerical to test text box (vice versa)
	(b)	<p>Two marks for an explanation e.g.:</p> <ul style="list-style-type: none"> • Test the data validation tools work (1) by detecting errors (1) • Incorrect value will be entered (1) and the system will reject it (1) • The system will reject (1) incorrect data when enter the system fields (1) <p>Award credit for any other suitable response</p>	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for erroneous data use • One mark for expansion in context (testing an HCI)
17	(a)	<p>Two from:</p> <ul style="list-style-type: none"> • Smart phone (1) • Smart watch (1) • Tablet (1) 	2	<p>One mark for each context relevant device Accept equivalent terminology Accept brand names -only accept once for a device</p>
17	(b)	<p>Two marks for description of a disadvantage e.g.:</p> <ul style="list-style-type: none"> • May be wearing gloves (1) which can make selecting screen buttons difficult (1) • Possible (physical) disability / illness affecting their fingers (1) they may not be able to fully interact with the HCI (1) • Large fingers (1) make selection on screen difficult/inaccurate (1) 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for disadvantage of touch • One mark for how affects context (mobile HCI)

Question			Answer	Mark	Guidance
			Award credit for any other suitable response		

17	(c)	<p>Three marks for each data type and justification e.g.:</p> <p>Entry Number:</p> <ul style="list-style-type: none"> • Alphanumeric (1st) <ul style="list-style-type: none"> • The entry number has letters (1) and numbers (1) • Award credit for any other suitable response <p>When Found:</p> <ul style="list-style-type: none"> • Date (1st) <ul style="list-style-type: none"> ○ The statue details include the date it is found (1) as the charity need to know who found all the statues first (1) ○ The trail lasts for 3 weeks (1) so the charity needs to have a deadline date (1) ○ Date is not written in words (1) so that the system can calculate a valid competition find (1) ○ Validation technique/input mask used on the field (1) will only allow data in this format (1) ○ Award credit for any other suitable response <p>Statue ID:</p> <ul style="list-style-type: none"> • Integer/Numeric (1st) <ul style="list-style-type: none"> ○ The statue numbers are whole numbers (1) with no decimal places are included in the number (1) ○ The statue ID has no letters (1), so numeric is the most suitable data type (1) ○ Award credit for any other suitable response 	<p>9</p> <p>Data type must be correct for other marks to be considered.</p> <p>1 mark for valid data type (Max 3)</p> <p>Mark 2 and 3 for justification in context (statue details)</p> <p>Justification must link to the data type stated</p> <p>Do not accept examples</p>
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18		<p>Indicative content:</p> <p>Purpose:</p> <ul style="list-style-type: none"> • To inform the audience about each statue • To show an image of each statue • To let the audience know the results of the competition • To show how much money has been raised from the discovery trail competition <p>Advantages:</p> <ul style="list-style-type: none"> • A range of components such as text, images, charity logo can be combined • The charity house style can be used on all slides • A pre-existing template can be used • Links can be included to resources for example the charity website / videos • A presenter can show the presentation at a speed to suit the audience at the event • Not location/time dependant <p>Award credit for any other suitable response</p> <p>Disadvantages:</p> <ul style="list-style-type: none"> • The slides can become cluttered with lots of elements meaning they will be difficult to read • If a template / master slide is not used then each slide will look different and confusing • If the presentation is automatic too much / not enough time may be allocated to each slide • Lots of different effects / transitions can become unprofessional 	9	<p>Level 3 (high): 7-9 marks A thorough discussion which shows detailed understanding:</p> <ul style="list-style-type: none"> • Detailed knowledge and understanding of the purpose of presentation. • More than one advantage and disadvantage to the charity of using the presentation at the event are explained. • Relevant and appropriate examples are given. • Consistently used appropriate terminology. <p>Level 2 (mid): 4-6 marks An adequate discussion which shows sound understanding:</p> <ul style="list-style-type: none"> • Sound knowledge and understanding of the purpose of presentation. • At least one advantage and/or one disadvantage to the charity of using the presentation at the event are described. • Some relevant examples are provided although these may not always be appropriate. • Some use of appropriate terminology. <p>Level 1 (low): 1-3 marks A brief discussion which shows limited understanding:</p> <ul style="list-style-type: none"> • Limited knowledge and understanding of the purpose of a presentation (general).
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		<ul style="list-style-type: none">• Requires devices to present information (projectors, laptop, screen)• If online version could lose connectivity Award credit for any other suitable response		<ul style="list-style-type: none">• Few advantage(s) and/or disadvantage(s) of a presentation in general are identified• Little or no use of appropriate terminology. 0 marks <ul style="list-style-type: none">• No response worthy of credit.
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