

Cambridge National

IT

R050/01: IT in the digital world

Level 1/2 Cambridge National Certificate/Award/Diploma

Mark Scheme for January 2026

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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 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 available in RM Assessor
3. Log-in to RM Assessor and mark the **required number** of practice responses (“scripts”) and the **required number** of standardisation responses

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, email or via the RM Assessor messaging system.
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 the annotation 'SEEN' to confirm that the work has been seen and mark any responses using the annotations in section 11.
7. There is a NR (**No Response**) option. Award NR (No Response):














- if there is nothing written at all in the answer space
- OR if there is a comment which does not in any way relate to the question (e.g., 'can't do', 'don't know')
- OR if there is a mark (e.g., a dash, a question mark) which is not an attempt at the question.

Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).

8. 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.**
9. 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.
10. For answers marked by levels of response: Not applicable in F501
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

1. Annotations available in RM Assessor

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

2. Abbreviations, annotations and conventions used in the mark scheme (including subject-specific conventions).

Abbreviation	Meaning

3. Subject-specific Marking Instructions**Introduction**

Your first task is to familiarise yourself with:

- the specification, especially the assessment objectives
- the question paper and any inserts or resource booklets
- the mark scheme, including annotation requirements
- the administrative procedures related to the marking process.

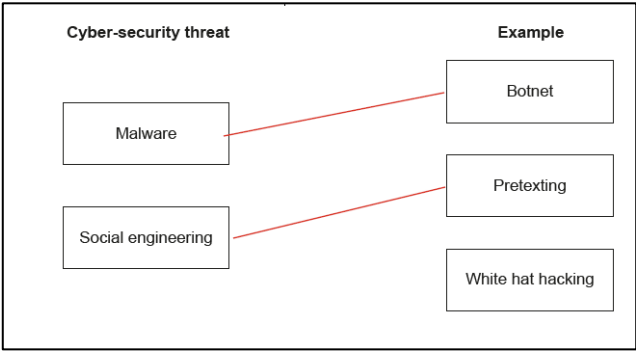
The administrative procedures are set out in the OCR booklet **Instructions for Examiners**.

If you are examining for the first time, please read **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

All relevant training materials are accessed from the Training Platform.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

Section A

Question		Answer	Mark	Guidance
1		<ul style="list-style-type: none"> D / Windows (1) 	1	Correct answer only (CAO)
2		<ul style="list-style-type: none"> (Portable) Solid State drive (1) Solid state disc (1) 	1	Accept equivalent wording/spelling
3		<ul style="list-style-type: none"> Malware - Botnet (1) Social Engineering - Pretexting (1) 	2	Two lines from/to one box = TV
4		<p>Two from:</p> <ul style="list-style-type: none"> Data erasure (1) Data sanitation (1) Magnetic wipe (1) Physical destruction (1) Factory reset (1) Overwriting (1) Award credit for any other suitable response. 	2	<p>Accept equivalent wording</p> <p>Accept</p> <ul style="list-style-type: none"> One example per method e.g. sledgehammer, shredding
5		<ul style="list-style-type: none"> A / Decision (1) 	1	Correct Answer Only (CAO)

6		<ul style="list-style-type: none"> • Audio (1) • Collaboration tools (1) • Email (1) • Instant messaging (1) • Multimedia distribution (1) • Project management tools (1) • Video (1) • VOIP (1) • Websites/Cloud sharing (1) 	1	<p>Accept</p> <ul style="list-style-type: none"> • Brand names e.g. Teams, Google Drive <p>Do not accept</p> <ul style="list-style-type: none"> • Example i.e.: voice calls, comments
7		<ul style="list-style-type: none"> • Email (1) 	1	Correct Answer Only (CAO)
8		<ul style="list-style-type: none"> • Wired (1) 	1	Accept equivalent wording
9		<ul style="list-style-type: none"> • A – Connecting line/ branches (1) • B - Central hub/main theme (1) 	2	<p>Accept equivalent wording</p> <p>Do not accept</p> <ul style="list-style-type: none"> • Arrow for A = TV • Node on own for B = TV
10		<ul style="list-style-type: none"> • DoS / Denial of Service (1) • DDOS/ Distributed Denial of Service (1) 	1	
11		<ul style="list-style-type: none"> • Device/Thing/Hardware (1) 	1	
12		<p>One from:</p> <ul style="list-style-type: none"> • Memory (1) • Processing power (1) 	1	<p>Accept examples of e.g.:</p> <ul style="list-style-type: none"> • RAM • ROM • CPU

Question		Answer	Mark	Guidance
Section B Sports centre online booking system				
13	(a)	<p>Two from:</p> <ul style="list-style-type: none"> • Kiosk (1) • Laptop (1) • PC / desktop (computer) (1) • (Smart/Mobile) phone (1) • Tablet (1) • Digital assistant (1) • Smart TV (1) • Award credit for any other suitable response. 	2	<p>Accept alternative wording</p> <p>Do not accept:</p> <ul style="list-style-type: none"> • Mobile device - TV <p>Accept examples e.g. iPad,</p>
	(b)	<p>Up to two marks for a description of how 2FA works:</p> <ul style="list-style-type: none"> • App authenticates/checks the username/password (1) a code is sent to the email address / phone number that is registered (1). • User enters details (1) gets/receives code on phone (1). • User enters login details (1) then enters code received (1) • User enters username and password (1) and then biometric confirmation with fingerprint (1). • Username / password entered and checked for registered details (1). App sends request for authentication (1). • Award credit for any other suitable response. 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • First mark for first identification method <p>AND</p> <ul style="list-style-type: none"> • One mark for linked confirmation process <p>Accept equivalent wording</p>

14	(a)	<p>Up to two marks for explanation of an advantage to the customer of the booking app having a HCI to include:</p> <ul style="list-style-type: none"> • Easier interaction (1) as customer can use icons (1) • Fast/quick option selection [on HCI] (1) speeding up user use of system (1) • Features can be included / example of/ Accessibility options (1) to increase range of customers able to use the booking app (1). • Provides a display (1) so user can see what they need to do (1) • Reduces chances of making mistakes (1) as limited choices provided (1) • Simplifies access/use of system (1) aiding user with booking (1) • Touchscreen/range of interactions (1) allow users to use different devices (1) • Use of buttons (1) aids/simplifies navigation in app (1) • Award credit for any other suitable response. 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for relevant advantage <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for effect on customer <p>Accept equivalent wording</p> <p>Do not accept:</p> <ul style="list-style-type: none"> • Easy on its own = TV • Smooth = TV
14	(b)	<p>Up to two marks for explanation why display size should be considered when designing the booking app HCI to include:</p> <ul style="list-style-type: none"> • Because it will be used on different devices (1) so needs to usable on all of them (1) • If HCI too big (1) elements may not appear in viewpoint/screen (1) • If the display size of the device is too small (1) then not all the HCI may be seen / users may not be able to interact with it (1). • The HCI needs to be scalable (1) to ensure users interaction (1). • Award credit for any other suitable response. 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for relevant consideration <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for reasoning <p>Accept equivalent wording</p>

14	(c)	<p>Up to two marks for an explanation of an advantage to the customer of using voice to interact with the HCI to include:</p> <ul style="list-style-type: none"> • Allows the customers to enter data (1) when doing other tasks at the same time (1). • If customers use assistive technology (1) they can still interact as no physical interaction is needed (1). • If user disabled/wearing gloves (1) do not need to physically interact (1) • natural communication method / Voice is intuitive (1) so no new skills need to be learnt by the customers (1). • Award credit for any other suitable response. 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for relevant advantage <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for effect on customer <p>Accept equivalent wording</p> <p>Do not accept:</p> <ul style="list-style-type: none"> • Easier, faster etc unless qualified
14	(d)	<p>Up to two marks for a description of one other interaction method that could be used to interact with the HCI to include:</p> <ul style="list-style-type: none"> • Gesture (1) by moving hand in front of a camera/sensor/swiping across the screen (1). • Keyboard/keypad (1) by pressing keys to enter the details (1). • Mouse (1) moving a cursor around the screen (1). • Touch (1) the tapping options when entering the data (1). • Award credit for any other suitable response. 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for relevant interaction method <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for use on HCI <p>Accept equivalent wording</p> <p>Do not accept</p> <ul style="list-style-type: none"> • Device e.g. touchscreen
15	(a)	<p>Two from:</p> <ul style="list-style-type: none"> • Can see if the <u>layout/design</u> will work (1). • Clearly shows ideas of <u>layout/design</u> (1). • No specialised software / skill is required (1). • Non-technical so most people can understand the <u>layout/design</u> (1). • Award credit for any other suitable response. 	2	<p>Accept equivalent wording</p> <p>Do not accept:</p> <ul style="list-style-type: none"> • Easy, fast etc unless qualified • Can see on its own = TV

(b)	If the response is not a wireframe/visualisation diagram = NAQ			
	Layout	+	Content	Total
	4 marks		4 marks	Level 3: 7 or 8 marks
	3 marks		3 marks	Level 2: 4 - 6 marks
	2 marks		2 marks	=
1 mark	1 mark		Level 1: 1- 3 marks	
			8	

Mark layout and content separately and add marks together to get level and total mark for question.

Indicative content:

Layout:

- Components of a visualisation
 - Images/graphics (indication of)
 - Text style/positioning
 - Fonts
 - Colours
 - Use of whitespace
- Annotations
 - Buttons for navigation
 - Colour scheme/house style
 - Error/Help messages
- Suitability for booking screen dashboard

Content:

- Username and photograph
- Making a booking
- Current bookings
- Past bookings

16	Activity		<p>Do not award marks for justification if validation method is not correct</p> <p>1st mark</p> <ul style="list-style-type: none"> suitable validation method <p>Marks 2 and 3</p> <ul style="list-style-type: none"> linked justification in context. <p>Justification must link to the validation method stated.</p> <p>Accept equivalent wording</p>
	Validation method	Justification	
	<p>One from:</p> <ul style="list-style-type: none"> Limited List (1) Radio button (1) Drop down list (1) Presence check (1) Lookup (1) Award credit for any other suitable response 	<p>Two from:</p> <ul style="list-style-type: none"> Small number of activities available (1) and cannot book any other activities (1) Speeds up data entry (1) and reduces errors when entering data (1) If no activity chosen (1) cannot proceed (1) To check matches (1) available activity (1) Award credit for any other suitable response 	9
	Date		
	Validation method	Justification	
	<p>One from:</p> <ul style="list-style-type: none"> Range check (1) Input mask (1) Format check (1) Award credit for any other suitable response 	<p>Two from:</p> <ul style="list-style-type: none"> The booking cannot be made (1) more than 4 weeks in advance (1) Makes sure that full date details (1) are supplied (1) Field is formatted (1) to dd/mm/yyyy (1) Award credit for any other suitable response 	

Contact email address	
Validation method	Justification
One from: <ul style="list-style-type: none"> • Presence check (1) • Format check (1) • Input mask (1) • Lookup (1) • Award credit for any other suitable response 	Two from: <ul style="list-style-type: none"> • Checks email entered (1) and not missed out when booking (1) • Checks contains an @ symbol (1) so it follows email address structure (1) • To check matches (1) registered email address (1) • Award credit for any other suitable response

17	(a)	<p>Up to two marks for each explanation of one advantage and one disadvantage to the customer of receiving the app instructions through a multimedia distribution channel.</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Audio instructions (1) can be listened to by customers while entering data (1) • Can be accessed easily (1) allowing them to learn to use the booking system (1) • Can be viewed on different device (1) whilst entering the data/making booking (1). • Can include controls (1) to allow rewind/replay of parts of instruction (1). • Links can be included (1) so customer can access further information about questions (1). • Video demo of using the app (1) is easier to understand than text for some customers (1). • Award credit for any other suitable response. <p>Disadvantages:</p> <ul style="list-style-type: none"> • Customer need spaces on their device (1) to store load the instructions (1) • If the quality is low (1) then customers may not fully understand how to book facility (1). • May have a poor connection (1) that causes buffering/slow viewing for customer (1). • Some components may not work as intended (1) if the customers have different devices to those the product was tested on (1). • Too much information may be given (1) so customers may become confused about the process of booking (1). • Award credit for any other suitable response. 	4	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for relevant advantage/disadvantage <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for effect on customer <p>Do not accept</p> <ul style="list-style-type: none"> • no access to digital devices • no available connection <p>Accept equivalent wording</p>
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	(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Audio (1). • Infographic (1). • Instant Messaging (1) • Leaflet (1). • Social media (1) • Text (1) • Video (1). • VOIP (1) • Websites (1) 	2	<p>Accept</p> <ul style="list-style-type: none"> • Brand names <p>Do not accept</p> <ul style="list-style-type: none"> • Example i.e.: voice call, comments, text message
18	(a)	<p>Up to two marks for each explanation of one advantage & one disadvantage to the sports centre of storing booking data on the cloud to include:</p> <p>Advantage</p> <ul style="list-style-type: none"> • Can schedule automatic backups (1) so less chance of booking data being lost (1). • Can store large amounts of data/Scalable (1) so sports centre can store all their data in one location (1) • Staff can access the booking data at any location (1) if internet connection is available (1). • The sports centre does not need to buy (1) large physical storage devices to store the primary copy (1). • Award credit for any other suitable response. <p>Disadvantage</p> <ul style="list-style-type: none"> • Booking data cannot be accessed (1) without an internet connection (1) • Data could be deleted/edited (1) which causes booking issues (1) • Expense of hiring location (1) may be too much for sports centre (1) • If the cloud service / provider does down (1) sports centre cannot access to their servers (1). • Risk of being hacked/breached (1) so personal details of manager / sensitive data may be accessed and used (1). 	4	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for relevant advantage/disadvantage <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for effect on sports centre <p>Accept equivalent wording</p> <p>Do not accept</p> <ul style="list-style-type: none"> • Easy to access • Cloud stops working= TV

		<ul style="list-style-type: none"> • Award credit for any other suitable response. 		
	(b)	<p>Up to two marks for a description of how network attached storage (NAS) could be used to store the physical secure backup of the data to include:</p> <ul style="list-style-type: none"> • Scheduled file transfer of back up (1) that is then encrypted to secure the data (1). • Data is stored in central/single location (1) with limited access rights (1). • Stores the data automatically (1) so safe if system crashes/switches off (1). • Stores backup files on a physical device connected to your local network (1) keeping data under sport centre control (1). • Stores the important files on a local storage device in sports centre (1) with restricted access to local staff (1). • Files from cloud stored on one unit (1) so it can be disconnected from the internet to protect the data from online threats (1). • Award credit for any other suitable response. 	2	<p>Read whole response and award:</p> <ul style="list-style-type: none"> • One mark for NAS characteristic/feature <p>AND/OR</p> <ul style="list-style-type: none"> • One mark for effect/impact on back up <p>Accept equivalent wording</p>
	(c)	<p>Two from:</p> <ul style="list-style-type: none"> • (Portable) Hard Drive Disc/HDD (1). • (Portable) Solid-State Drive/SSD (1). • (Portable) USB Flash Drives/Memory stick (1). • (Portable) Wireless Drives (1). • Award credit for any other suitable response. 	2	<p>Do not accept</p> <ul style="list-style-type: none"> • USB on own = TV
	(d)	<ul style="list-style-type: none"> • RFID (1). 	1	Correct Answer Only (CAO)

19		<p>Indicative content</p> <p>Purpose</p> <ul style="list-style-type: none"> To connect devices together. To share and analyse data from different devices/locations/people. To allow remote access/control to devices, locations/services/manage the sports centre. Award credit for any other suitable response. <p>Advantages</p> <ul style="list-style-type: none"> Energy saving – controls of lights, heating, air conditioning. Smart locks/Access controls - QR codes, entry pin codes on mobile phones. Smart timers/Display screens. CCTV security cameras. Personalised fitness programs with personalised data. Maintenance sensors on equipment. Motion sensors Award credit for any other suitable response <p>Disadvantages</p> <ul style="list-style-type: none"> Initial cost of equipment. Security risks of hacking/locked out. Privacy concerns. Dependence on internet connections. Compatibility issues with different devices/OS. Technology getting old/wearing out/replacement. Software updates Staff training. Customers education/digital divide. Loss of jobs Award credit for any other suitable response 	<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 that explains the purpose of the IoE At least one advantage of using the IoE to manage the sports centre is explained At least one disadvantage of using the IoE to manage the sports centre is 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> <p>9</p> <ul style="list-style-type: none"> Sound knowledge and understanding that describes the purpose of the IoE. Describes at least one advantage and/or one disadvantage of using the IoE to manage the sports centre 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 the IoE. Few advantage(s) or disadvantage(s) are identified. Little or no use of appropriate terminology. <p>0 marks No response worthy of credit.</p>
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