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CAMBRIDGE
International Education

Cambridge IGCSE™

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/11**

Paper 1 Theory **May/June 2026**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme contains the instructions and marking guidance that our examiners used to mark candidate responses for this component.

Before they start marking, examiners complete a standardisation process. They review a range of candidate responses and discuss the mark scheme in detail to agree which answers can and cannot be accepted. Examiners award marks where it is clear that candidate responses have met the requirements of the mark scheme. These requirements may vary between different components or different versions of the same component, depending on the exact requirements of the question and the candidate responses seen during the standardisation process.

Sometimes, our mark schemes may allow marks to be awarded to responses which contain elements that are factually incorrect or for content not covered by the syllabus. We do this in response to the demands of a specific question to support candidates and make sure that our assessments are fair. However, these allowances should not be used as a guide for teaching and learning.

We cannot discuss the mark scheme with schools, and we recommend that schools read the mark scheme together with the assessment material and the Principal Examiner Report for Teachers.

This document consists of **16** printed pages.

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General marking principles

All examiners must apply these marking principles when marking candidate responses.

1	Examiners must award marks for each response in line with: • the specific **content** defined in the mark scheme • the specific **skills** defined in the mark scheme or in the level descriptions • the **standard of response** required as exemplified by the standardisation scripts.
2	Examiners must award **whole marks** (not half marks, or other fractions).
3	Examiners must award marks **positively**. This means that: • marks are not deducted for errors or omissions • marks are awarded for correct/valid answers as defined in the mark scheme and also for **other valid answers** which go beyond the scope of the syllabus and mark scheme referring to your team leader as appropriate • the quality of spelling, punctuation and grammar are judged **only** when the mark scheme indicates that these features are **specifically assessed** in the question. However, the meaning of all responses must be unambiguous.
4	Examiners must **consistently** apply the requirements of the mark scheme and any rules for what to do when candidates have not followed instructions correctly.
5	Examiners must use the **full range of marks** defined in the mark scheme, unless limited by the quality of the candidate responses seen.
6	Examiners must award marks according to the mark scheme and **must not** award marks with grade thresholds or grade descriptions in mind.

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Annotations guidance for centres

Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

Annotation	Meaning
	Omission or to indicate where a company brand name has been used
	Incorrect
FT	Follow through
Highlighter	Information copied from the text
ISW	Ignore subsequent work
LNK	Two statements are linked
MAX	Maximum number of marks that can be awarded
NAQ	Not answered question
Off-page comment	Allows comments to be entered at the bottom of the RM marking window and then displayed when the associated question item is navigated to

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Annotation	Meaning
On-page comment	Allows comments to be entered in speech bubbles on the candidate response.
PE	Principal examiner has approved the mark
REP	Repeat
SEEN	Indicates that work/page has been seen including blank answer spaces and blank pages.
	Correct

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:
Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:
Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:
Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions

answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:
Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:
Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:
Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Mark scheme abbreviations
/separates alternative words / phrases within a marking point
//separates alternative answers within a marking point
underline actual word given must be used by candidate (grammatical variants accepted)
max indicates the maximum number of marks that can be awarded
( ) the word / phrase in brackets is not required, but sets the context
Note: No marks are awarded for using brand names of software packages or hardware.
Read the whole sentence before awarding marks, do not mark just the word that is on the mark scheme

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Question	Answer	Marks	Notes
1	Using an ergonomic keyboard: RSI Using an ergonomic chair: Back / neck problems Making sure the computer Eye strain / headache Using an anti-glare computer screen: Headaches / eye strain	**4**	**Remember:** Answers must be different

Question	Answer	Marks	Notes
2(a)	Four from: Separate display monitor / keyboard Easy to customise to user's needs Usually have a higher processing specification Use standardised connections / hardware Power consumption is not critical Less likely to be damaged as fixed in place Large footprint High storage capacity	**4**	
2(b)	Two from: Printed circuit board Allows the processor to function / communicate with each other Allows internal components to connect to it	**2**	

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Question	Answer	Marks	Notes
3(a)	Six from, first points: Can include text Can include images / photos Can include animation / video Can link to other websites Reaches more people Gives quick / easy access to every household in the village Can have sections to make it easy to find what you are looking for Can use search facilities More likely to be up to date Can be easily changed More difficult to lose Websites can be customised for particular users Does not restrict the amount of information	**6**	**Note: There are two marks for each section, one for the point made and one for the expansion.**
3(b)	Four from: Users have to opt in to the group The option to opt out must be set up by the administrator Email addresses must be checked regularly There may be a limit to the number of people in the group May be a file size limit due to the number of emails sent Harder to manage the group if too many members	**4**	
3(c)(i)	One from: Identifies the person Prevents identity theft	**1**	**Note:** **Read the whole answer**
3(c)(ii)	One from: So other people do not know where they live To prevent people visiting the person (in order to rob them)	**1**	**Note:** **Read the whole answer**

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Question	Answer	Marks	Notes
3(c)(iii)	One from: To prevent someone contacting you to find information about you To prevent smishing / scamming To prevent abusive phone calls	1	**Note:** **Read the whole answer**
3(c)(iv)	One from: To protect a person's age To prevent finding out whether a person is a child To prevent any harm / grooming	1	**Note:** **Read the whole answer**

Question	Answer	Marks	Notes
4(a)	Two from: It is a statement of what the system is to carry out It contains the requirements of a system Helps to identify problems Helps to propose solutions	2	
4(b)	For the programmers / analysts / technical team – 1 mark One from: • to make improvements to the system • to help maintain the system	2	

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Question	Answer	Marks	Notes
4(c)	Three from: Algorithms File structures Hardware requirements Input format Limitations of the system List of variables Output format Program flowcharts Program language Program listing Purpose of the system Sample runs / test runs Software requirements System flowcharts Validation routines	**3**	**Note:** **Closed list**

Question	Answer	Marks	Notes
5(a)	Four from: Secures an internet connection It prevents hackers from seeing data Ensure sender and receiver are authentic Verifies that the data has not been tampered with Adds an extra layer of protection Encrypts data sent between website and a web browser / two servers	**4**	
5(b)(i)	One from: Reducing the size of the file The file takes up less storage	**1**	

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Question	Answer	Marks	Notes
5(b)(ii)	Two from: Software scans the file for repeated data patterns Replaces the patterns with unique identifiers The identifiers take up less space	**2**	
5(c)	rar zip	**2**	**Note:** **CAO**

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Question	Answer	Marks	Notes
6(a)	Customers Max four from: Content dominated by features Shows the cost of each product Language needs to be more friendly Use of images / videos / animation / sound / multimedia Needs to be eye catching Presentation needs to be simple Sales team Max four from: Needs more technical facts Content dominated by profitability Language needs to be professional Needs more in depth text than images Layout needs to be more formal Use of charts and statistics	**6**	**Note:** **Need to clearly state that it is customers / sales team**
6(b)	Four from: To ensure a standard method of presentation To ensure the correspondence has a consistent look and feel for clients / customer To support and strengthen Tawara's brand To make it easier to edit parts of the document To help the customer quickly recognise the brand	**4**	

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Question	Answer	Marks	Notes
7(a)	Positives Max five from: Detects movement using motion controllers / sensors / trackers to detect and interpret user's movements This is a hands free system Uses movement for certain actions Uses natural language Allows the user to have a better experience / fun Makes the user feel like they are in a real game Negatives Max five from: Can be affected by distance from the camera Can be affected by the light level in the room The commands have to be learnt The commands have to be acted exactly People may not be physically able to make the movement Accidental movement in sight of sensor / camera can be captured	**6**	
7(b)	Three from: The camera captures the movement of the user Software in the camera records the movement A camera uses computer vision to track a user's movements Software in the camera analyses the movement to identify specific gestures The software in the camera compares the gestures to known movements	**3**	

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Question	Answer	Marks	Notes
8(a)	Four from: Once the backup is finished it could be stored securely Headteacher keeps control of the data The SSD is robust The seek / access / transfer times on the SSD are fast so data can be restored / backed up quickly SSD is not affected by a magnetic field Can store a lot of data on it	**4**	
8(b)	Four from: Control of the data is lost Control of the data is with a third party The data is confidential therefore could be breached Requires a stable internet connection to store the data Have to pay for more storage which can be expensive Data is backed up automatically on the cloud therefore there will be many copies, which could be easily hacked	**4**	

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Question	Answer	Marks	Notes
9(a)	Five from: Can analyse vast amounts of data It can personalise search results Can use natural language processing (rather than keywords) AI can recommend the most relevant keywords and phrases to target Makes it easier for users to quickly find what they are looking for Uses a user's preferences to find the best solution to the query Can search outdated sites Data retrieved can be fake news Some sites are not visited as AI can miss them out	**5**	
9(b)	Max three from: Can result in information overload May only search for certain sites Places sponsored sites at the top of the list Ranks the sites in the speed the search engine found them Max two from: Need to narrow down the search criteria Using more keywords Being concise with the search criteria	**4**	

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Question	Answer	Marks	Notes
10	Four from: The data in a primary key is unique Only one primary key field can be in a table A primary key identifies a record in a table The value of a primary key cannot be deleted from the tree structure A primary key contains a value Acts as a link with other tables	**4**	

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