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CAMBRIDGE
International Education

Cambridge IGCSE™

INFORMATION & COMMUNICATION TECHNOLOGY **0417/11**

Paper 1 Theory **October/November 2025**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2025 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

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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 descriptions 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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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.
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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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.

The following <u>must</u> be applied
Examiners **must** ensure that annotations are placed so they can be easily seen in white space where or close to where the mark is awarded
Before submitting a script, please check all ticks match the marks
At the end of prose answers/long answer place an annotation at the end of the answer to show that the whole answer has been read, unless a marking annotation has been placed near or at the end of the answer.
On any blank pages, place **one** SEEN annotation
Read the whole sentence before marking it
If an answer is blank then use SEEN and award NR, but if anything has been written for example 'Don't know', '?' etc. then use NAQ and award 0.
If an answer has been attempted and crossed out and no other answer written, then attempt to mark it.

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Question	Answer	Marks
1	RAM ROM	**2**

Question	Answer	Marks
2(a)(i)	Analogue	**1**
2(a)(ii)	Digital	**1**
2(b)	**Four** from: Analogue data is continuous Infinite number of values within a given range Requires high bandwidth **Digital data** Discrete data Binary data Transmitted at specific amplitudes Understood by computers	**4**

Question	Answer	Marks
3(a)	**Five** from: Headings / subheadings relate to the content Headings / subheadings are clear and easy to read Font style / type is easy to read Font size is large enough to be easily read Makes good use of the page area / white space Use of headers and footers to help in the layout Contrasting colours to make it easy to read All data is fully visible	**5**
3(b)	**Two** from: Format check Type / character check Length check Range check	**2**
3(c)	Normal	**1**

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Question	Answer	Marks
4	**Similarities** Max **three** from: Both are output devices Both produce high quality output Both produce hard copy **Differences** Max **five** from: Plotters work with larger sheets of paper Plotters produce higher quality drawings Plotters can print on a number of different materials Plotters are multi-coloured as standard Plotters use ink whereas laser printers use toner Plotters have bigger footprint Plotters can be slower to output Laser printers are page printers Laser printers emit ozone which can be a health hazard	**6**

Question	Answer	Marks
5	**Four** from: It controls the transfer of data and instructions Controls the operation of the computer It manages and coordinates all of the computer's peripherals It fetches instructions from memory Interprets instructions from memory Performs logic operations Performs calculations	**4**

Question	Answer	Marks
6(a)	**Benefits** Max **five** from: Better dissipation of heat Power consumption is not critical Less likely to be damaged as they are fixed in one location Less chance of the desktop being stolen as peripherals are separate Stable internet access Easily expanded / upgraded by changing peripherals **Drawbacks** Max **five** from: Less portable as they are built up of separate parts Has a large footprint Can be more trailing lead issues Less flexibility as students could bring in their own mobile computers Needs to be constantly connected to the mains electricity to use	**6**

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Question	Answer	Marks
6(b)	**Three** from: CAL uses specially designed software It is an integrative technology It's a computer program to assist the user in learning a particular subject It refers to an overall integrated approach of instructional methods	**3**
6(c)	**Three** from, for example: Users are able to move forward and backward through the course Allows users to be able to work at their own pace Tests the user Gives a score / grade to the user Can work at any time Allows interactive learning Tailored to the user It records learner's performance	**3**

Question	Answer	Marks
7(a)	**Six** from: Accessed through a website / internet that can be used on different devices Stores are open 24/7 Delivery to the home Wide choice of goods Uses online payments Can increase the number of customers Easy to compare the prices Uses reviews / comments / recommendations Can shop from anywhere	**6**
7(b)	**Four** from: **Positives** Creates customised recommendations for the customers Gives customers a personalised service / experience making them feel more comfortable in shopping Predicts customers purchasing behaviour It can learn and adapt to users' needs **Negatives** It can track customers purchasing of items Can influence purchasing Gathers a great deal of personal information Security issue as compares customers purchases with others Security issue browsing history are stored on the internet	**4**

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Question	Answer	Marks
7(c)(i)	**Eyestrain** **Three** from: Use an anti-glare screen Use window blinds Change to LCD / LED screens as no screen flicker Have eyes tested regularly Use blue lens glasses Keep the screen clean Change screen brightness to match the room brightness Do not sit too close to the screen	**3**
7(c)(ii)	**Back problems** **Three** from: Use ergonomic chairs Use a footrest Adjusting the height of the monitor so the eye is in line with the top of the monitor Sit with a correct posture Exercise / stretch	**3**

Question	Answer	Marks
8(a)	**Three** from: A network of remote servers Run by third-party providers Collection of computing services Allow **one** mark for an example of a computer service processing power / running applications	**3**
8(b)	**Six** from: Accessible to all It does not belong to any entity Anyone can create / share resources on the internet It offers information 24/7 Can be accessed using an internet connection Gives access to the world wide web It is worldwide A Wide Area Network (WAN) Its growth is unlimited, allowing new connections to the network Allows users to remain private therefore it is an anonymous network It can be accessed from any internet connected device Allows devices to instantly communicate Gives access to a large amount of resources	**6**

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Question	Answer	Marks
9(a)	Max **three** from: Log onto the network Plug the HDD into the computer Scan the HDD for viruses Select files Copy the file and paste onto the computer Verify the file has been correctly transferred **Issue and solution** Max **three** from, for example: If the connection is faulty, contact the network manager If the HDD contains a virus, delete / quarantine the virus If file cannot be found, check to make sure it is uploaded to the correct folder	**4**
9(b)(i)	**One** from: CD DVD Blu-ray	**1**
9(b)(ii)	**One** from: Memory cards SD card xD card CFast card Flash memory	**1**
9(c)	**Two** from: To protect the rights of the individual To prevent incorrect / inaccurate data from being stored To ensure an individual's data is used properly	**2**

Question	Answer	Marks
10(a)	**Four** from: Phishing is a form of Internet fraud The sender tries to trick the receiver into revealing personal information Carried out using emails which appear to be from legitimate organisations The email may contain links to a fake website User clicks on the link and is directed to the fake website	**4**
10(b)	**Three** from: Never send personal details in an email If the content of the email is too good to be true, then delete it Report any phishing attempts Do not respond to emails from people you do not know Do not click links contained in possible phishing emails Use a filter on the email to only allow trusted addresses Carefully check the URL links within an email	**3**

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Question	Answer	Marks
11	**One** from: Contains information about a web page's properties Contains links to external related files / stylesheets **One** from, for example: Title of the page Meta tags CSS code Open Graph tags Java Script code	**2**

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