



Mark Scheme (Results)

Summer 2025

Pearson Edexcel International GCSE
In Information and Communication
Technology (ICT) (4IT1)
Paper 01R: TimeZone

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:
 - i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear*
 - ii) select and use a form and style of writing appropriate to purpose and to complex subject matter*
 - iii) organise information clearly and coherently, using specialist vocabulary when appropriate.*

Question Number	Answer	Mark
1a	Any one from: • HDD / Hard Disk Drive • SSD / Solid State Drive Do not accept: RAM / ROM	(1)

Question Number	Answer	Mark
1b	The only correct answer is B – Online servers <i>A is not correct because the Internet is not used to access them, as they are stored on the device.</i> <i>C is not correct because this is software used to configure and maintain the system.</i> <i>D is not correct because it is software that allows users to view web pages and websites.</i>	(1)

Question Number	Answer	Mark
1c	The only correct answer is A – Access to cloud storage <i>B is not correct because this is done through a search engine.</i> <i>C is not correct because this is done using encryption.</i> <i>D is not correct because this is done through a web browser.</i>	(1)

Question Number	Answer	Mark
1d	Award up to two marks for a linked explanation such as: • It does not allow connection to the Internet (1) because it does not use the required protocols / Bluetooth is short-range/connects over short distances (1). • Data transfer requirements are high (1) but Bluetooth has limited bandwidth (1). Do not mix and match from mark points.	(2)

Question Number	Answer	Mark
1e	Any two from: • WAN / Wide Area Network • LAN / Local Area Network / WLAN / Wireless Local Area Network • MAN / Metropolitan Area Network • PAN / Personal Area Network	(2)

Question Number	Answer	Mark
1f	Award one mark for each correct line: Network requirement Gateway Media Access Control (MAC) Switch Use Connecting networks that use different protocols Converting IP addresses Directing data Identifying devices on a LAN Managing firewalls Do not award: answers with more than one line to or from any of the boxes.	(3)

Question Number	Answer	Mark
1gi	Award up to two marks for a linked description such as: • To direct/forward data/network traffic (1) using the quickest/best path (1). • Connects two networks (1) of the same type (1). • Forwards packets (1) using IP addresses (stored in the router) (1). • Stores the IP addresses (1) of all connected devices (1).	(2)

Question Number	Answer	Mark
1gii	Client (computer) Do not accept: client-server or client-server network.	(1)

Question Number	Answer	Mark
1giii	The only correct answer is B – NFC <i>A is not correct because it is the Global Positioning System and uses radio signals from satellites.</i> <i>C is not correct because it is a networking standard for sending emails over a network.</i> <i>D is not correct because it is a method of setting up a secure (home) network, it stands for Wi-Fi Protected Setup.</i>	(1)

Question Number	Answer	Mark
1giv	Award up to two marks for a linked description such as: • Connecting devices (1) via Bluetooth/Wi-Fi/USB (1). • Connecting devices (1) to share the host's mobile broadband/3G/4G/Internet connection (1).	(2)

Question Number	Answer	Mark
1gv	Award up to two marks for a linked description such as: The SIM number/IMEI number (1) is transmitted / checked/identified against a database (1). Do not accept: 'phone number' for mark point 1.	(2)

Question Number	Answer	Mark
1gvi	The only correct answer is B – GPS <i>A is not correct because transmissions can only be intercepted if they are on the same network.</i> <i>C is not correct because it encrypts data end-to-end making it very secure.</i> <i>D is not correct because it is point-to-point and not inherently vulnerable to remote interception.</i>	(1)

Question Number	Answer	Mark
1hi	Any one from: - Reducing the file size. - Representing information more efficiently / organising data more efficiently. - Removing unnecessary data.	(1)

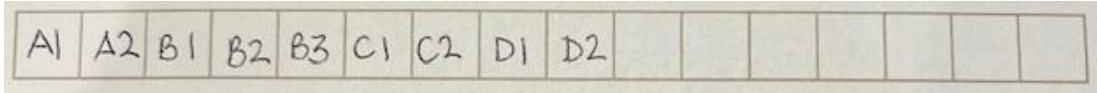
Question Number	Answer	Mark
1hii	Award up to two marks for a linked explanation such as: - It is a (legal) protection of their work (1) and ensures they receive recognition/royalties/money for their efforts (1). - It allows Vasu to control / gives Vasu sole control/authority (1) how the work is used/distributed/modified (1). - It (legally) prevents anyone else (1) from publishing/copying/using Vasu's work (without permission) (1).	(2)

Question Number	Answer	Mark
2ai	The only correct answer is D – 1,048,576 <i>A is not correct because it is the number of bits in a byte.</i> <i>B is not correct because it is the number of megabytes in a gigabyte.</i> <i>C is not correct because it is the number of mebibytes in a gibibyte.</i>	(1)

Question Number	Answer	Mark
2aii	Backup	(1)

Question Number	Answer	Mark
2aiii	The only correct answer is A – Hard disk drives <i>B is not correct because it uses flash media where data is stored using different levels of electrical charge.</i> <i>C is not correct because it uses optical media where data is written to the disk user a laser to create tiny bumps on the disks surface.</i> <i>D is not correct because it uses flash media where data is store using different levels of electrical charge.</i>	(1)

Question Number	Answer	Mark
2aiv	Any one from: • Fragile • Lower capacity • Slower access times/read-write speeds • Newer models of computer don't necessarily have optical drives	(1)

Question Number	Answer	Mark
2av	Award one mark for: • Each set of file blocks together (ignore additional blocks if they are in order). <i>Does not have to be in alphabetical order, so could be: C1 C2 B1 B2 B3 A1 A2 D1 D2</i> Award one mark for: • At least 7 free space blocks together. Correct Answer: 	(2)

Question Number	Answer	Mark
2b	Any one from: • Merging technologies, or devices into one system. • When devices adopting technologies and features from other types of device (e.g. a smartphone adopting features such as a music player, navigation aid, fitness tracker). • When designs/features/the functionality of devices change so they become similar to one another.	(1)

Question Number	Answer	Mark
2ci	Award up to two marks for a linked description such as: • To manage and control (1) the hardware components/memory/processes/security of a computer system (1). • To provide an interface (1) between the user and the machine (1). • To carry out/perform/manage (1) configuration and maintenance tasks (1). • To provide a platform (1) for running application software (1). • To establish communication between (1) a computer's hardware and software (1).	(2)

Question Number	Answer	Mark
2cii	Any two from: • Relies on community support rather than professional customer service. • Compatibility issues (with proprietary systems). • Vulnerabilities can be discovered and exploited. • May lack additional/advanced features.	(2)

Question Number	Answer	Mark
2d	The only correct answer is C – Monitor <i>A is not correct because it processes instructions and is measured in Hertz (Hz).</i> <i>B is not correct because it is an input device that is used to enter characters to the computer.</i> <i>D is not correct because it is used to store data and is measured in bytes.</i>	(1)

Question Number	Answer	Mark
2ei	Award one mark for: • Unpredictability (not a single recognisable word / unconnected words) / not related to personal data (e.g. example of a name). Any two from: • At least eight characters in length. • A mix of letters, numbers and symbols/special characters (at least two to be mentioned). • A mix of uppercase and lowercase letters. It must be an example of a password and not just identification of features that make a password secure.	(3)

Question Number	Answer	Mark
2eii	Award up to two marks for a linked description such as: Read-only access (1) means users cannot alter/edit/delete the data (1).	(2)

Question Number	Answer	Mark
2eiii	Award up to two marks for a linked explanation such as: - Passwords are easier to manage/revoke/setup (1) because passwords can be updated/changed / biometrics are fixed/cannot be changed (1). - Passwords are cheaper to setup (1) because they do not require special equipment/biometric scanners to be used (1). - Users feel more comfortable using passwords (1) because data about physical/personal characteristics are not being used/stored (1).	(2)

Question Number	Answer	Mark
2fi	Any one from: - ROM / Read Only Memory - Cache Do not accept: RAM / Random Access Memory as RAM is already given in the question.	(1)

Question Number	Answer	Mark
2fii	It is volatile / loses its stored data when the power is turned off or interrupted.	(1)

Question Number	Answer	Mark
2fiii	Award up to two marks for a linked explanation such as: • More applications can be open/running (1) at the same time (1). • Programs will open/run more quickly / performance will be improved (1) because there is less need for virtual memory/secondary storage to be used as RAM (1).	(2)

Question Number	Answer	Mark
2g	Any two from: • Process Management • File management • Device/Resource management • User interface • Security / access control / user management • Managing network communication • Error handling • Print spooling Do not accept: memory management as it is in the question.	(2)

Question Number	Answer	Mark
2h	Award up to two marks for a linked explanation such as: • It will be able to open files quicker / process data faster (1) because it can carry out more instructions/cycles per second / it carries out 0.6 billion/600 million more instructions per second (1). Do not accept: 'quicker' / 'faster' (without expansion) for the first mark point.	(2)

Question Number	Answer	Mark
3a	Any two from: • Monitor / (touch) screen • Speaker • Headphones	(2)

Question Number	Answer	Mark
3b	Award up to four marks for two linked explanations of negative impacts such as: • Increased cybersecurity risks (1) because employees could accidentally leak secure data / unauthorised users could intercept data being transferred on the Internet (1) / someone could hack the organisation's system (1). • Weaker customer relationships (1) because of reduced of personal (face-to-face) interaction (1). • Increased competition (1) because the Internet has produced a global marketplace (1). • Loss of sales/income/profit (1) because people can find cheaper prices/products online (1).	(4)

Question Number	Answer	Mark
3c	Award up to two marks for a linked explanation such as: • It's faster/easier to access files (1) because latency is reduced/an Internet connection is not required (1). • Data is more secure (1) because there is no reliance on a third-party service provider (1).	(2)

Question Number	Answer	Mark
3d	Award up to two marks for a linked description such as: • Install/run anti-malware (1) to quarantine viruses (1). • Check/verify the attachment/sender (1) to make sure it's legitimate (1). Do not accept: Do not open an attachment from an unknown/suspicious sender.	(2)

Question Number	Answer	Mark
3e	Any two from: • Increased communication Greater access to: • education • entertainment • diverse perspectives • medical services / medical information • work/employment • goods and services • news Do not accept: Greater access to: • information without qualification as to the type	(2)

Question Number	Answer	Mark
3fi	Award one mark for sharing information/resources, any one from: • shared access to files/documents/resources • (concurrent) document editing • version control Award one mark for real-time communication, any one from: • video conferencing / virtual meetings • screen sharing • chat • instant messaging • commenting features	(2)

Question Number	Answer	Mark
3fii	Any two from: • Set the guidelines / rules / expectations • To ensure awareness of the consequences (of non-compliance) • To ensure awareness of legal requirements Do not accept: • Examples of potential positive outcomes, e.g. creates a positive working environment, to enhance safety • Examples of avoiding negative outcomes, e.g. prevents inappropriate behaviour.	(2)

Question Number	Answer	Mark
4a	Any one from: • Log in / Create account • Edit • Search • Page history • Add page • Contact us	(1)

Question Number	Answer	Mark
4b	Award up to two marks for a linked description such as: • Store information about the user's selections/preferences/history (1) and present them with matched/similar/personalised content (1).	(2)

Question Number	Answer	Mark
4c	Award up to two marks for a linked explanation such as: - Improved customer engagement and user experience (1) because website owners can gain valuable insights into user behaviour/preferences/feedback (1). - Improves safety (1) because malicious users can be identified/blocked (1).	(2)

Question Number	Answer	Mark
4d	Award up to two marks for a linked explanation such as: Vasu can focus on important creative decisions / saves time (1) because AI can automate routine tasks (1).	(2)

Question Number	Answer	Mark
4e	Award up to two marks for a linked explanation such as: - Less secure (1) because there is no central control/administrator / it is difficult to enforce access controls/permissions (1). - Less reliable (1) because individual devices must be available to share files (1).	(2)

Question Number	Indicative content
4f	+ Cost savings + Increased productivity + Access to global talent + Business continuity - Communication and Collaboration Challenges - Difficulty in Monitoring and Supervision - Technological and Infrastructure Issues - Inequality and Accessibility

Level	Mark	Descriptor (A03 – Discuss)
	0	No rewardable material.
1	1-3	A limited number of points will be identified, which may only support one point of view. At least one point will have evidence to support it. The discussion will have few (if any) links to the scenario. There may be a conclusion but this is likely to be a simple statement. The response will lack clarity and organisation.
2	4-5	A range of points will be identified, which compare different points of view, though the discussion may be unbalanced. Some points will be supported by evidence. The comparisons will include links to the scenario but may include some generic points. A conclusion will be included, which will link with the comparison, though the link may be implicit. The response will show some focus but may not be well organised.
3	6-8	The discussion compares a range of different points of view. Most points will be supported by evidence. The majority of the discussion will link to the scenario. A conclusion will be given that clearly links to the comparisons made in the discussion. The response will show good focus and organisation.

Question Number	Answer	Mark
5a	Any two from: • Education disparities • Economic/job disparities • Social exclusion/isolation • Healthcare disparities • Reduced democracy • Global development disparities • Stronger communities	(2)

Question Number	Answer	Mark
5b	Award up to two marks for a linked explanation such as: • Economic inequality / geographical limitations (1) mean less access to technology / slower internet connectivity / less access to digital skills (1). • Infrastructure disparities (1) such as mobile connectivity (1). • Social and cultural differences/beliefs (1) create a barrier to access/use technology (1). • Government policies / regulations (1) can either facilitate or hinder access to ICT infrastructure and services (1). • Age-related/generational experiences (1) affect attitudes towards technology (1).	(2)

Question Number	Answer	Mark
5c	Award up to two marks for a linked description such as: • Toxic substances (1) can leak/contaminate into soil/groundwater/wildlife (1). • Air pollution (1) caused by burning e-waste (1). • Resources are depleted (1) because people buy new devices / throw away old devices (1).	(2)

Question Number	Answer	Mark
5d	Award up to two marks for a linked explanation such as: • Results are bias (1) because results say walking is the only exercise you need (1). • Results are unreliable (1) because it is someone's opinion (1). • Results are inaccurate (1) because it gives misleading information about walking curing all health issues (1).	(2)

Question Number	Answer	Mark
5e	Award one mark for crawling / indexing, any one from: • web crawlers / spiders browse the World Wide Web • information about the content of web pages (URLs, keywords) is stored in a database/index Award one mark for ranking results, any one from: • the index/database is searched for matching pages • results are ranked (based on location, language, device) Do not accept: • The search engine matches keywords from user's query to webpages and finds/displays the most relevant results.	(2)

Question Number	Indicative content
5f	• Legal framework (GDPR) • Data protection principles (lawfulness, fairness, and transparency; purpose limitation; data minimisation; accuracy; storage limitation; integrity and confidentiality (security); and accountability) • Lawful Basis for Processing (consent, contractual necessity, legal obligation, vital interests, public task, or legitimate interests) • Data Subject Rights: (security of personal data, including measures to prevent unauthorised access, accidental loss, destruction, or damage, access, rectified/deleted, object – damage/distress, prevent processing for direct marketing, object to decisions taken by automated means, request to know how it is being used) • International Data Transfers: (Restrictions on transferring personal data to countries without adequate data protection laws or safeguards).

Level	Mark	Descriptor (AO3 – Discuss)
	0	No rewardable material.
1	1-3	A limited number of points will be identified, which may only support one point of view. At least one point will have evidence to support it. The discussion will have few (if any) links to the scenario. There may be a conclusion but this is likely to be a simple statement. The response will lack clarity and organisation.
2	4-5	A range of points will be identified, which compare different points of view, though the discussion may be unbalanced. Some points will be supported by evidence. The comparisons will include links to the scenario but may include some generic points. A conclusion will be included, which will link with the comparison, though the link may be implicit. The response will show some focus but may not be well organised.
3	6-8	The discussion compares a range of different points of view. Most points will be supported by evidence. The majority of the discussion will link to the scenario. A conclusion will be given that clearly links to the comparisons made in the discussion. The response will show good focus and organisation.

