»Pearson

Mark Scheme (Results)

November 2025

Pearson Edexcel International GCSE
In Information and Communication
Technology (ICT) (4IT1)

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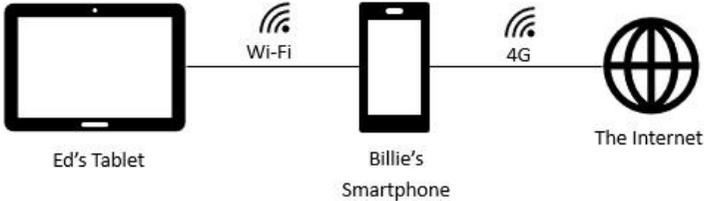
General Marking Guidance

- 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.

Question Number	Answer	Mark
1a	**The only correct answer is A – Bluetooth** *B* is not correct because it is a wired connection for data transfer *C* is not correct because it is a wired connection for data transfer *D* is not correct because it is a security protocol to encrypt wireless data transfer	**(1)**

Question Number	Answer	Mark
1b	Any **two** from: • Faster speeds / greater bandwidth • Lower latency / less lag • More reliable / stable connection / less (susceptible to) interference • Enhanced security • Better battery life **Do not accept:** 'safer' on its own for 'secure'.	**(2)**

Question Number	Answer	Mark
1c	Any **two** from: • Mobility / flexibility / portability • Easier to setup • Cheaper to setup/maintain • Fewer/less trip hazards **Do not accept:** 'easier' or 'cheaper' on its own for mark point 2 or mark point 3.	**(2)**

Question Number	Answer	Mark
1d	Any **two** from: • Accelerometer / Motion Sensor • Microphone • Proximity Sensor • Gyroscope • Light Sensor • Compass / Magnetometer • GPS • Barometer • Fingerprint Sensor / Touch ID / Biometric Sensors • Camera Sensors • Thermometer / Temperature Sensor • Touch Sensors • Infra-red Sensor	**(2)**

Question Number	Answer	Mark
1ei	Award **one** mark for each of: • Smartphone connected to the Internet • Mobile broadband labelled (3G/4G/5G) • Smartphone and tablet connected with labelled connectivity (Bluetooth/USB/WiFi) Example Diagram: Wi-Fi 4G Ed's Tablet Billie's Smartphone The Internet	**(3)**

Question Number	Answer	Mark
1eii	Award **one** mark for a negative effect and **one** mark for a linked explanation such as: • Slower/varying speed (1) because the bandwidth is reduced (1). • Less secure (1) because the device is visible to others / the connection may not be password protected (1). • Varying/unpredictable performance (1) because upload and download speeds are not consistent/balanced (1).	**(2)**

Question Number	Answer	Mark
1eiii	Any **one** from: • MAC • MAC address • Media Access Control (address)	**(1)**

Question Number	Answer	Mark
1f	Award up to **two** marks for a linked description such as: • The number of instructions executed/processed (1) per second (1). • 2.4 billion cycles/instructions (1) per second (1). **Accept:** 2.4×10^9 for 2.4 billion. 2,400,000,000 for 2.4 billion.	**(2)**

Question Number	Answer	Mark
1gi	Any **one** from: • To manage/maintain/enhance a computer system. • To carry out configuration and maintenance tasks. **Do not accept:** examples of utilities. **Do not accept:** 'to carry out a task' on its own as it is not clearly differentiated from application software.	**(1)**

Question Number	Answer	Mark
1gii	**The only correct answer is D – Proprietary** *A is not correct because it describes the designs of devices being similar to each other* *B is not correct because it describes when data is put in a code that can't be understood* *C is not correct because it describes a device that has more than one function, such as a smartphone*	**(1)**

Question Number	Answer	Mark
1h	Award up to **two** marks for a linked explanation such as: • Less portable (1) because magnetic storage is physically larger/heavier (1). • Less durable (1) because magnetic storage has moving parts/is negatively affected by movement (1). • Less energy efficient / more power hungry (1) because magnetic storage needs power to spin the platters/move the heads (1).	**(2)**

Question Number	Answer	Mark
2a	**The only correct answer is C – Mainframe** *A is not correct because it is a computer that requests services or data from a server* *B is not correct because it is a computer designed for individual use and personal tasks* *D is not correct because it is a device that controls what a computer does, taking an input, processing it to produce an output*	**(1)**

Question Number	Answer	Mark
2b	Any **two** from: • Washing machine • Dishwasher • Microwave • Calculator • TV / Smart TV • Alarm clock • Central heating • Sat-Nav • Engine management • Baby monitor • Fitness tracker • Refrigerator / Fridge **Accept:** any other correct example of an embedded system. **Do not accept:** multifunctional devices/computers.	**(2)**

Question Number	Answer	Mark
2c	Award up to **two** marks for a linked explanation such as: • They do not require user interaction (1) because their functions are predefined (1). • They have custom/built-in software (1) because they perform a specific/limited function (1).	**(1)**

Question Number	Answer	Mark
2d	**The only correct answer is B – Media player** ***A*** *is not correct because it is a personal computer with multiple functions, performing a range of different tasks* ***C*** *is not correct because it is a personal computer with multiple functions, performing a range of different tasks* ***D*** *is not correct because it is a personal computer with multiple functions, performing a range of different tasks*	**(2)**

Question Number	Answer	Mark
2e	Any **two** from: • Large-format prints/drawings • High resolution/quality prints/drawings • Precise/accurate (line/technical) drawings	**(2)**

Question Number	Answer	Mark
2f	Award up to **two** marks for a linked explanation such as: • To forward/route data packets/traffic (1) between networks / along the best/quickest path / to their destination/recipient (1) **Do not accept:** 'shortest' in place of 'best/quickest'.	**(2)**

Question Number	Answer	Mark
2g	Award **one** mark for: • Sight of 8 **or** 1024 Award **two** marks for: • Sight of 8 **and** 1024 Award **three** marks for: • Complete expression: $256 \times 8 \times 1024^3$ **or** 256 x 8 x 1024 x 1024 x 1024 **or** • Correct number of bits: 2,199,023,255,552 bits **or** 2^{41} bits **Accept:** 2^{30} for 1024^3 **Do not accept:** 1000 for 1024	**(3)**

Question Number	Answer	Mark
2h	Any **two** from: • office-productivity / word processing / spreadsheet / database • web authoring • image editing • sound editing • control software • presentation software • project management • communication software – browser / email • game / gaming software **Accept:** any other appropriate/correct type of software application. **Do not accept:** proprietary names for types of software application.	**(2)**

Question Number	Answer	Mark
2i	Award **one** mark for each correct line: **Do not award:** answers with more than one line to or from any of the boxes.	**(3)**

Question Number	Answer	Mark
2j	Award up to **two** marks for a correct definition such as: • Functions / features (1) are combined into one device (1). • Designs of a device (1) change to become similar to each other (1). **Accept:** examples of functions/features.	**(2)**

Question Number	Answer	Mark
2k	Award **one** mark for: • One term in correct position Award **two** marks for: • Two terms in correct position Award **three** marks for: • All terms in correct position **Smallest** kibibyte mebibyte gibibyte **Largest** tebibyte	**(3)**

Question Number	Answer	Mark
2l	Award up to **two** marks for a linked explanation such as: • Printers have limited memory (1), so this improves system responsiveness / allows users to continue working on other tasks without waiting for each print job to finish (1). • Prevents data loss (1) if the computer crashes or the printer encounters an issue during printing (1). • Supports multiple users (1) by managing jobs sent to a shared printer (1). • Supports multiple print jobs (1) by organising them in a queue (1).	**(2)**

Question Number	Answer	Mark
2m	Award up to **four** marks for **two** linked explanations such as: • Greater support (1) because the publisher provides customer service/tutorials (1). • More reliable/higher quality (1) because it has been thoroughly tested (1). • More stable/secure (1) because the source code is protected/regularly updated (1). • More compatible (1) because it is designed to work with other systems (1). • Easier to use (1) because it is familiar/ has a well-designed user interface (1). • Easier to install (1) because it is sold as a complete package (1). • Better productivity (1) because of **new/improved** features being regularly added (1). **Accept:** any other appropriate responses with a linked explanation.	**(4)**

Question Number	Answer	Mark
3a	Any **two** from: • unauthorised access e.g. hacker • accidental deletion • phishing • pharming **Do not accept:** malware	**(2)**

Question Number	Answer	Mark
3b	Award up to **two** marks for a linked explanation such as: • Biometrics (1) because it checks the unique physical characteristics (1). • CAPTCHA tests (1) because it distinguishes between humans and computers / prevents automated attacks like spam and bots (1). • Security questions / Passwords / PINs (1) because it is knowledge only the authorised user would know (1). • Two-factor authentication (1) because only the user would have the knowledge and possession of both factors (1).	**(2)**

Question Number	Answer	Mark
3ci	Cookie(s)	**(1)**

Question Number	Answer	Mark
3cii	Award up to **two** marks for a linked description such as: • Personalisation (1) by matching content to previous activities (1).	**(2)**

Question Number	Answer	Mark
3d	Award up to **four** marks for **two** linked explanations such as: • Improved communication (1) because organisations can connect with (potential) users through a range of channels (1). • Improved collaboration (1) enhancing efficiency and productivity (1). • Increased sales / potential for growth (1) because of a wider/global audience / available 24-7 (1). • More talented/motivated workforce (1) because of access to a global workforce (1). • Reduced costs (1) because teams/employees can be located anywhere (1). • Targeted services/marketing (1) because they can analyse user trends (1).	**(4)**

Question Number	Answer	Mark
3e	Award up to **four** marks for **two** linked explanations such as: • Use relevant keywords (1) because this can narrow down the search (1). • Use quotation marks (1) because the search engine would look for all the words in a phrase (1). • Use a plus or minus (1) because this will include or exclude terms from the search (1). • Use an asterisk in your search (1) because it can act like a wild card (1). • Advanced searches or filtering (1) because it further refines the results (1). **Do not accept:** 'keywords' on its own or 'more keywords' for 'relevant keywords' in the first mark point.	**(4)**

Question Number	Answer	Mark
4a	Award up to **two** marks for a linked description such as: • A tyre pressure sensor (1) detects punctures/low pressure (to improve vehicle handling) (1). • A light sensor (1) automatically turns on the lights (1). • A rain sensor (1) automatically turns on/adjusts speed of the windscreen wipers (1). • A collision avoidance/proximity sensor (1) detects obstacles close to/in the vehicle's path (1). • A camera (1) to detect when you stray out of your lane/assist in parking (1). **Do not accept:** answers relating to ABS to make braking more stable.	**(2)**

Question Number	Answer	Mark
4b	GPS / Global Positioning System	**(1)**

Question Number	Answer	Mark
4c	Award up to **four** marks for **two** linked descriptions such as: • The business can have an app/online portal (1) allowing customers to book online/pay in advance (1). • Real-time data on driver and passenger locations (1) allowing taxi companies to optimise routes / reduce waiting times / improving efficiency (1). • Alternative payment systems (to cash) (1) protecting its income (1). • Technology failure/poor signal (1) could lead to a loss of business (1).	**(4)**

Question Number	Answer	Mark
4d	Award up to **two** marks for a linked explanation such as: • The amount of personal information is limited (1) because individuals have the right to request data deletion (1). • Individuals can manage how their information is used (1) because employers have to say what the data is used for (1). • The accuracy of personal information should be better (1) because individuals have the right to correct data (if it's wrong/incomplete) (1). • They are more informed (1) because they have the right to access any data held about them (1).	**(2)**

Question Number	Answer	Mark
4e	Award up to **two** marks for a linked explanation such as: • New job opportunities (1) because the nature of jobs has changed (1). • There are new skill requirements (1) because of technological developments (1). • Potential job losses (1) because many jobs will be replaced by technology (1). Award up to **two** marks for a correct example, such as: • There is an increased demand for cybersecurity skills (1) because of the growing threat of cyberattacks (1). • A need for data analysis skills (1) because businesses seek insights from customer data (1). • Need for digital marketing skills (1) to promote businesses and products effectively in the digital space (1).	**(2)**

Question Number	Indicative content
4f	- Privacy concerns: The right to private communication and personal information. - Government surveillance: Potential for abuse of power and mass surveillance. - Corporate monitoring: Impact on employee morale, trust, and creativity. - Freedom of speech: Potential for censorship and suppression of dissent. - Data misuse: Risks of data breaches and identity theft. - Social implications: Impact on relationships, trust, and social interactions. - Consent and transparency: Importance of informed consent and open communication. - Ethical guidelines: Need for clear regulations and standards. - Benefits vs. harms: Weighing the potential advantages against the risks.

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.

Question Number	Answer	Mark
5a	Any **two** from: • Uploading videos • Commenting • Liking/upvoting / disliking/downvoting / giving reactions / rating • Subscribing • Recommendations • Tags **Do not accept:** sharing as 'video sharing sites' is in the question.	**(2)**

Question Number	Answer	Mark
5b	Any **two** from: • Cyberbullying • Misrepresentation / anonymity • Disclosure of personal information/location / identity theft / grooming • Exposure to harmful content **Accept:** any other appropriate/correct risks.	**(2)**

Question Number	Answer	Mark
5c	Award up to **two** marks for a linked explanation such as: • It sets guidelines for behaviour (1) because members know what is expected of them (1). • It blocks/bans/suspends people who break the guidelines (1) because it sets out the consequences for the actions (1).	**(2)**

Question Number	Answer	Mark
5d	Award up to **two** marks for a linked explanation such as: • Report it (to moderators) (1) because they can review the post / remove the content / warn/ban the user who posted it (1). • Block the post/user (1) to prevent him from seeing it again / to avoid further inappropriate posts from the same user (1).	**(2)**

Question Number	Answer	Mark
5e	Award up to **two** marks for a linked description such as: • Check age of source (1) to ensure the information is not out of date (1). • Check relevance (1) to make sure his posts attract the right audience (1). • Check reliability (1) to make sure his posts are trustworthy (1). • Check for bias (1) to make sure his posts present the full story/picture (1). **Do not accept:** answers relating to 'checking his sources for accuracy'.	**(2)**

Question Number	Indicative content
5f	- Use of sensors - Environmental monitoring: Sensors can track air and water quality, climate patterns, and wildlife. - Resource management: Optimise the use of water, energy, and other resources through sensor data. - Disaster prevention: Early warning systems for natural disasters using sensor networks. - Use of communication technology - Remote work / online meetings: Reduce carbon emissions from commuting. - Online education and training: Decrease paper consumption and travel-related emissions. - Digitalisation of services: Reduce paper usage and waste. - Social networking communities: Spread awareness / (viral) promotion of environmental concerns / campaigns / community projects. - Use of the Cloud - Energy efficiency: Cloud data centres can optimise energy usage through advanced cooling systems and power management. - Reduced physical infrastructure: Cloud storage can replace physical storage, saving space and materials.

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.