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Mark Scheme (Results)

Summer 2023

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

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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.

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Question Number	Answer	Mark
1ai	Connected computers	**(1)**

Question Number	Answer	Mark
1aii	D	**(1)**

Question Number	Answer	Mark
1b(i)	An explanation such as: To connect to the Internet (1) because data is stored on servers that are not (directly) connected to his Local Area Network (1)	**(2)**

Question Number	Answer	Mark
1b(ii)	A description such as: • To forward packets (1) to the next router /between networks (1) Or • To forward packets (1) via best/shortest route (1) Or • Keeps track / informs other routers (1) of traffic conditions (1)	**(2)**

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Question Number	Answer	Mark
1c	C	**(1)**

Question Number	Answer	Mark
1d	A description such as: Checking requested IP/URL (1) against a 'blocked' list (1)	**(2)**

Question Number	Answer	Mark
1e	Any two from: • Cellular network / 2G / 3G / 4G / 5G (etc) • GPS • Infra-red / IR • Near-field communication / NFC	**(2)**

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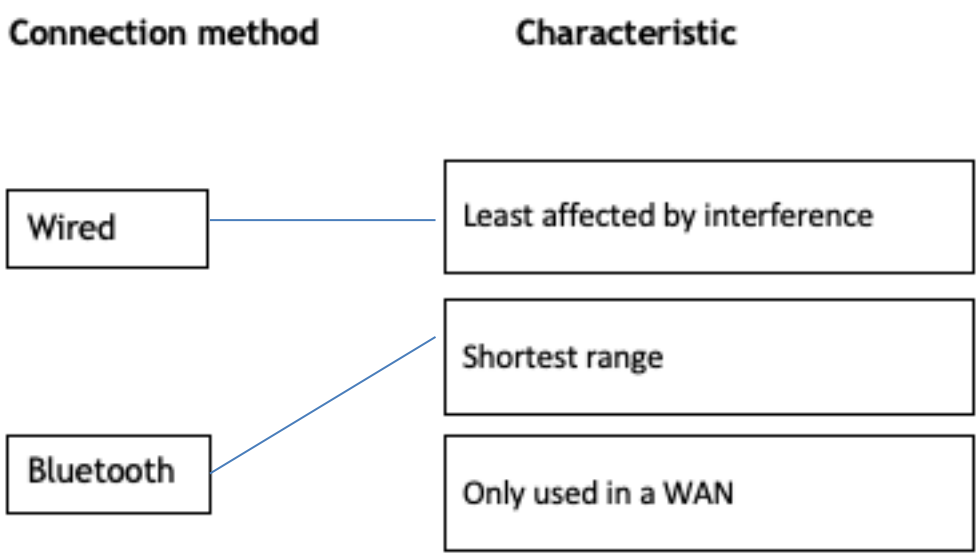
Question Number	Answer	Mark
1fi	One mark for each correct line.  	**(2)**

Question Number	Answer	Mark
1fii	Award **one** mark for any of the following: • The **maximum** volume/amount of data that can be transmitted (in one second/unit of time) (1) • The **full capacity** of data that can be transmitted (in one second) (1)	**(1)**

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Question Number	Answer	Mark
1gi	Any two from: • Anti-spyware • Anti-virus • Anti-adware	**(2)**

Question Number	Answer	Mark
1gii	Two descriptions such as: • Use a firewall (1) to block access to certain ports (1) • Use PIN/biometrics/CAPTCHA tests/security questions (1) to authenticate users (1) • Set access rights, file permissions (1) to prevent unauthorised access **to data** (1) • Do not open email attachments or follow web links (1) to prevent the risk of social engineering (1) • Backup (1) to ensure data is available if lost (1) • (Door) locks (1) prevent unauthorised access **to hardware** (1) • Security lights (1), so that intruders would be scared off / identified (1) • Alarms (1) to alert him of intruders (1)	**(4)**

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Question Number	Answer	Mark
1h	Any two from: • Increased cost (of equipment/connectivity for Asher/employer) • Difficult to monitor work • Lack of team work (as staff not working in office team) • Lack of productivity from the employees (due to distractions etc.) • Data security issues (more security required / less security guaranteed)	**(2)**

Question Number	Answer	Mark
2a	Any one from: • Forms part of another device / system • Performs a single/dedicated/specific task	**(1)**

Question Number	Answer	Mark
2b	A description that includes: • monitors inputs • runs program instructions • provide outputs	**(2)**

Question Number	Answer	Mark
2c	2,200,000,000 (instructions)	**(1)**

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Question Number	Answer	Mark
2d	Any one from: • Footage is not always clear • Face recognition is not always accurate • There may not be full coverage • Anti-surveillance clothing	**(1)**

Question Number	Answer	Mark
2ei	B	**(1)**

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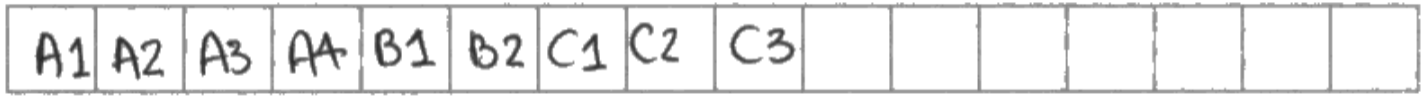
Question Number	Answer	Mark
2eii	• One mark for **Each set** of file blocks together (and no additional/missing blocks per file) *Does not have to be in alphabetical order, so could be: A1A2A3A4C1C2C3B1B2* • One mark for **All** free space blocks **together** (at least three free blocks) **Allow follow through on MP2:** e.g. if added A5, B3, C4, then award mark for MP2 if three free blocks are together, rather than used to separate files Correct answer: 	**(2)**

Question Number	Answer	Mark
2eiii	Any one from: • Magnetic • Hard disk Accept: Hard Drive / Hard Disk Drive / HDD	**(1)**

Question Number	Answer	Mark
2eiv	B	**(1)**

Question Number	Answer	Mark
2ev	Any two from: • Low power • No moving parts	**(2)**

Question Number	Answer	Mark
2evi	B	**(1)**

Question Number	Answer	Mark
2f	B	**(1)**

Question Number	Answer	Mark
2gi	C	**(1)**

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Question Number	Answer	Mark
2gii	Any one from: • More programs can be open / run **at the same time** • Programs run faster/more efficiently (less need for virtual memory)	**(1)**

Question Number	Answer	Mark
2h	B	**(1)**

Question Number	Answer	Mark
3a	Any two from: 1. Social network 2. Blog 3. Website 4. Online gaming 5. Wiki 6. Forum **Award:** 'user generated content' for MP2/3, if a mark from those has not already been awarded **Award:** 'user generated reference site' for MP3/5/6, if a mark from those has not already been awarded **Do not accept** 'social media' for 'social network'	**(2)**

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Question Number	Answer	Mark
3b	C	**(1)**

Question Number	Answer	Mark
3c	Any two from: • To provide an encrypted/secured connection / tunnel • It provides access to a private LAN / Accessing employers' network • To hide/mask/change the IP address/location (of a device) / Protect privacy **Award**: 'Accessing content from other countries' for the third mark point	**(2)**

Question Number	Answer
3d	A description such as: • Enable location **services/settings** (1) using GPS (1) • Allow GPS (1) so geotag/metadata can be stored with the file (1)

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Question Number	Answer	Mark
3e	An explanation to include two linked points from a response such as: • More features on local software (1) because computer performance does not have to be shared between users (1) causing additional load on the resources/CPU/memory (1) • Smoother user experience (1) because there is no latency (1) as no network connection is required (1) **Award** descriptions of drawbacks of hosted software	**(2)**

Question Number	Answer	**Mark**
3fi	An explanation to include two from: Data packets are not transferred intact / packets have to be requested again (1) because of (electromagnetic) Interference (1) caused by power surges (1)	**(2)**

Question Number	Answer	**Mark**
3fii	A description such as: Compress the files (1) so there is less data to transfer (1)	**(2)**

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Question Number	Answer	Mark
3g	An explanation to include two from: Some users may not see the email (1) because they could be (wrongly) marked as spam (1) which often happens when emails sent to multiple users (1) Or Email may not reach the recipient / bounce back (1) because the file size may be too large (1)	**(2)**

Question Number	Answer	Mark
3hi	Any two from: • Third party payment (e.g. PayPal / Skrill) • Crypto currency • Bank card / Payment wallet (e.g. *Apple Pay* / *Google Wallet*) • Gift card (e.g. *iTunes* card) **Award** names of card providers e.g. *VISA / MasterCard / AMEX*	**(2)**

Question Number	Answer	Mark
3hii	D	**(1)**

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Question Number	Answer	Mark
3hiii	An explanation such as: His money/data/account can be accessed/stolen by unwanted users (1) because this is a phishing email / the URL will not direct users to the expected site / users will be tricked into entering data into a fake site (1)	**(2)**

Question Number	Answer	Mark
4ai	Any two from: • Microphone / mic • Webcam / camera / video camera	**(2)**

Question Number	Answer	Mark
4aii	C	**(1)**

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Question Number	Answer	Mark
4b	An explanation such as: • Learners can gather a wider range of opinions (1) because they can ask questions (1) • Communities can answer learners' questions (1) because they can share wider experiences (1) • Communities can answer learners' questions (that the presenter can't) (1) because video is sometimes pre-recorded / not always presented live (1) • She can fast-forward/pause/stop/rewind the video (1) so she can learn at her pace (1) • Students can interact/ask questions (1) because there is a comments section (1)	**(2)**

Question Number	Answer	Mark
4ci	A description such as: • Results can be more relevant/specific/valid (1) by changing the type to 'all' / not using 'Shopping' / changing timeframe / by changing 'Global' to 'Australia' / by using Boolean operators or speech marks / phrase matching (1) **Do not accept** 'accurate' for 'relevant/specific/valid'	**(2)**

Question Number	Answer	Mark
4cii	An explanation to include **two** linked points from: • Results are personalised • Cookies / transactional data • Browsing history • Profile data	**(2)**

Question Number	Answer	Mark
4d	Any one from: 1. VLE (e.g. *Google Classroom / Moodle)* 2. Online support 3. Online courses 4. Online workspace / Video conferencing (e.g. *Zoom* / *Microsoft Teams* / *Google Workspace*) 5. Booking systems 6. Shopping site 7. News providers 8. Entertainment (e.g. streaming video) 9. Online/hosted storage/applications 10. Online payment / banking	**(1)**

Question Number	Answer	Mark
4e	A description to include two from: • Servers are required to provide the services (1) and they require power to run/cool them (1) using more fossil fuels / increasing global warming (1) Or • People need to travel less (to access services) (1) so reduced use of fossil fuels / less pollution created (1) **Do not accept** 'Uses more energy/more electricity' without qualification as to what it is used for.	**(2)**

Question Number	Indicative content
4f	Access to digital devices means: • Access to wide range of knowledge • Access to different cultures • More learning opportunities from outside school • Less reliance on expert knowledge/access to more informal learning Lack of access to digital devices means: • Reduced range of knowledge • Reduced access to different cultures • Less learning opportunities outside of school • More reliance on expert knowledge

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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.

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Question Number	Answer	Mark
5a	Any two from: • Haptic feedback / motor • Headphones • Speakers • Colour-changing/RGB LED • Screen / display / TV / monitor / Projector / VR Headset	**(2)**

Question Number	Answer	Mark
5b	Any two from: • Free source • Open source • Proprietary / freeware	**(2)**

Question Number	Answer	Mark
5c	1) Organisation/manufacturer identifier 2) Network Interface Controller/Card (NIC) identifier	**(2)**

Question Number	Answer	Mark
5d	To prevent it from being understood. Do not accept: 'read' for 'understood'	**(1)**

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Question Number	Answer	Mark
5ei	Two explanations, each to include **two** linked points such as: • They can collaborate (1) using hosted applications/ hosted storage / online communications software (1) • A loss of communication/shared understanding (1) because of increased isolation / loss of social/face to face interaction with colleagues (1) • Job losses / time needed to learn new skills (1) because some workers may not be familiar with online tools / working (1) • They can work flexibly / mobile (1) because they can **access the Internet anytime/anywhere** (1)	**(4)**

Question Number	Answer	Mark
5eii	An explanation such as: • Risk to health (1) because of online predators/ because of reduced physical activity (1) • Risk to wellbeing (1) because of reduced social interaction / cyberbullying (1) • Risk to reputation (1) because of identity theft (1)	**(2)**

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Question Number	Indicative content
5f	Wider audience Reach Interactivity Further sharing Analytics (of viewers to guide future videos) Audience is targeted Free distribution Monetisation Copyright/IP protection tools

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Level	Mark	Descriptor (AO3 – Justify)
	0	**No rewardable material.**
1	**1-3**	A limited number of points will be identified, some of which will support the statement. At least one point will have evidence to support it. There will be few (if any) links to the quote / statement. There may a conclusion / summary of the argument 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 but they will not all support the quote / statement. Some points will be expanded and these will usually strengthen the support of the statement. The points made will mainly link to the quote / statement but may include some generic points. A conclusion / summary will be included. The response will show some focus but may not be well organised.
3	**6-8**	The response will provide good evidence to support the quote / statement. The response will be well argued with effective use of evidence. The evidence used will be clearly explained. There will be a conclusion / summary that clarifies the quote / statement. The response will show good focus and organisation.

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