www.dynamicpapers.com



Mark Scheme (Results)

Summer 2022

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

(4IT1) Paper 01R: TimeZone

www.dynamicpapers.com

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

Summer 2022
Question Paper Log Number P71554A
Publications Code 4IT1_01R_2206_MS
All the material in this publication is copyright
© Pearson Education Ltd 2022

www.dynamicpapers.com

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.

www.dynamicpapers.com

Question Number	Answer	Mark
1a	Any **one** from: • Creating/recording video (files) • Take photos/stills • Use as a webcam/CCTV Accept: Recording audio	**(1)**

Question Number	Answer	Mark
1b	**The only correct answer is B – USB** *A is not correct because GPS is wireless* *C is not correct because WEP is an encryption protocol, not a connectivity type* *D is not correct because Wi-Fi is wireless*	**(1)**

Question Number	Answer	Mark
1c	**The only correct answer is B – Higher bandwidth** *A is not correct because data can be intercepted hen using either* *C is not correct because Wi-Fi has lower latency (and if it was higher, it would make it a worse choice)* *D is not correct because either work with secure files*	**(1)**

Question Number	Answer	Mark
1d(i)	An explanation such as: • He has less control of who can access them (1) because it is easier for people to re-share them / and they can be then used for fraudulent/criminal activities (1) • His location may be easier to find (1) because social media sites use geo-location features / metadata to display location information (1) • There is a risk of malicious/criminal activity / invasion of privacy (1) because unknown users could gain access (1)	**(2)**

Question Number	Answer	Mark
1d(ii)	Nihal/he does	**(1)**

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
1e(i)	• Award 1 mark for: 64/2 **or** 1024/2 **or** 64*1024 • Award 2 marks for correct expression: 64/2*1024 **or** 64*1024/2 Accept for 1024: • 2^{10} Award **both** marks for the correct number of photographs: **32,768**	1000 for 1024		**(2)**

Question Number	Answer	Mark
1e(ii)	**The only correct answer is B - Easier to expand available storage** *A is not correct because memory cards are not used to connect to networks* *C is not correct because memory cards are not used to name files* *D is not correct because memory cards can be used to store any data, not just image data*	**(1)**

Question Number	Answer	Mark
1e(iii)	ROM/Read-Only Memory	**(1)**

Question Number	Answer	Mark
1e(iv)	Compression	**(1)**

Question Number	Answer	Mark
1f	An explanation such as: • It will reduce the battery life (1) because it will use more power/energy / require cooling (1) • The hardware could be damaged (1) because the processor will produce more heat (1)	**(2)**

www.dynamicpapers.com

Question Number	Answer	Mark
1g(i)	Any **two** from: • Can be re-written • Low energy consumption • Faster access • More expensive **per MiB than HDD/optical/tape** • No moving parts	**(2)**

Question Number	Answer	Mark
1g(ii)	A description to include **two** from: • Data is stored as electrical charges (1) • in cells (1) • that are (or are not) flooded with electrons (1) • to represent binary data (1 or 0) (1)	**(2)**

Question Number	Answer	Mark
1g(iii)	So that data is not lost when the power is turned off	**(1)**

Question Number	Answer	Mark
1g(iv)	RAM/Random-Access Memory	**(1)**

Question Number	Answer	**Mark**
1h	Any **one** from: • Can store more data • More resilient / robust • Faster **read/write** speed	**(1)**

www.dynamicpapers.com

Question Number	Answer	Mark
1i	Award **one** mark for any example of a use of an embedded system in a camera, such as: • Digitising the image • Compressing the image • Controlling the shutter speed • Sensing the light level • Processing the image Accept any other appropriate process	**(1)**

Question Number	Answer	Mark
2a	Reads/scans/recognises **text/characters**	**(1)**

Question Number	Answer	Mark
2b(i)	An explanation to include **two** from: • They are unique / they cannot be changed • They are hardwired/hard-coded into the device/network interface card (NIC) • It is easier to ban/**accurately** identify devices on the network	**(2)**

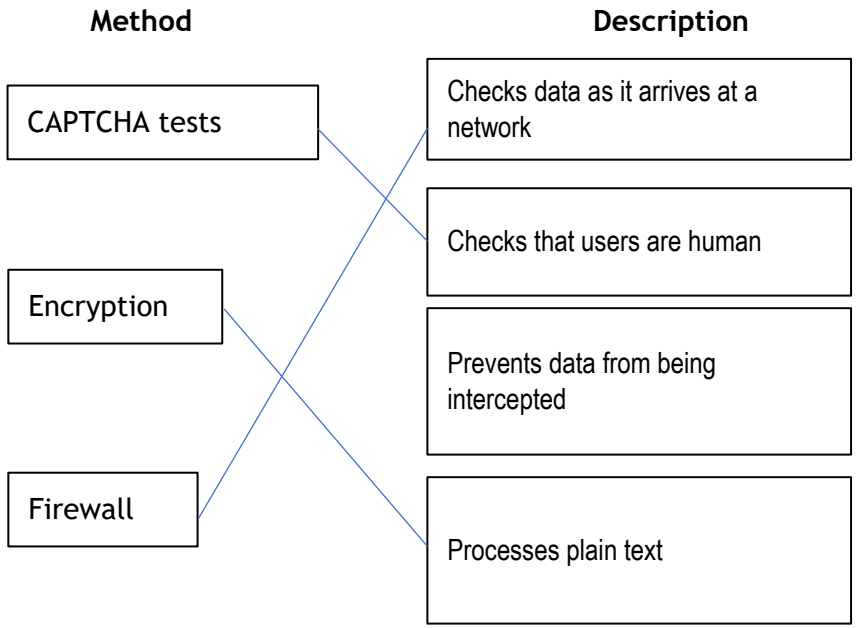
Question Number	Answer	Mark
2b(ii)	Any **two** from: • Lack of security / misuse of the network • Not communicating / transmitting data to the correct device • Not possible to log data transfer	**(2)**

www.dynamicpapers.com

Question Number	Answer	Mark
2b(iii)	A local area network uses a **switch/router** to connect devices, whereas a wide area network uses a **gateway** to connect local area networks	**(2)**

Question Number	Answer	Mark
2b(iv)	An explanation such as: • It costs more money (1) because a server / more cabling / expertise is needed (1) • Monitoring/management software is required (1) because unknown/unauthorised jobs may be sent (1) • Network/Printer overloaded with requests (1) because any device connected to the network can send jobs (1) • Paper/resources could be wasted (1) because unknown/unauthorised jobs may be sent / print jobs could be sent to the wrong printer (1)	**(2)**

www.dynamicpapers.com

Question Number	Answer	Mark
2b(v)	 Do not award the mark if more than one line drawn (to different boxes on the right) from any box on the left.	**(3)**

Question Number	Answer	Mark
2b(vi)	**The only correct answer is D – Smartphone** *A is not correct because a hard drive would not connect via a PAN* *B is not correct because a router would not connect via a PAN* *C is not correct because a server would not connect via a PAN*	**(1)**

www.dynamicpapers.com

Question Number	Answer	Mark
2c	An explanation such as: It reduces the amount of time taken to load the film / stops it from pausing/buffering/lagging / means it won't be pixelated (1) because less data is needed to fill the buffer / less bandwidth is needed (1)	**(2)**

Question Number	Answer	Mark
2d	A description to include: • The time it takes for data to travel (between devices) (1) • Reference to **decreased** time/delay (1) Accept an answer in context, such as: Low latency reduces delay (1) keeping sound and video synchronised (1)	**(2)**

Question Number	Answer	Mark
2e(i)	A description such as: Set user permissions/accounts (1) with access rights / usernames / passwords (for each account) (1)	**(2)**

Question Number	Answer	Mark
2e(ii)	A description such as: • Data can be restored (1) from the backup (1) • Create a backup (1) that is then stored/kept in the cloud/offsite (1)	**(2)**

Question Number	Answer	Mark
2f	Critical path	**(1)**

www.dynamicpapers.com

Question Number	Answer	Mark
3a(i)	Award **two** features of an **online** banking service from: • Increased access (to chat / support / service) (any time / anywhere) • Encryption / secure payments / secure data transfer • Anti-fraud measures (e.g. matching name of payee) • (Instant mobile) notifications • The service can carry out multiple transactions simultaneously / no queuing Award up to **one** mark max for any **general** banking service from: • (Check) balance • Payments / transactions / transfers • **Order** cards/chequebooks • **Reporting** cards lost/stolen • Set up new (bank) account • Loan applications	**(2)**

Question Number	Answer	Mark
3a(ii)	A description such as: Nihal can see personalised/relevant/matched adverts (1) based on his past activity (1) Do not accept: 'He will see things he is interested in' for the first mark.	**(2)**

www.dynamicpapers.com

Question Number	Answer	Mark
3b	**The only correct answer is C – Cookies** *A is not correct because authentication does not enable transaction tracking* *B is not correct because backups does not enable transaction tracking* *D is not correct because encryption does not enable transaction tracking*	**(1)**

Question Number	Answer	Mark
3c	**The only correct answer is C - Geotagging photos** *A is not correct because anonymising posts is safe practice* *B is not correct because copyrighting photos does not impact safety* *D is not correct because plagiarising text does not impact safety*	**(1)**

Question Number	Answer	Mark
3d(i)	Any **one** from: • Friend suggestions are based on existing/common views/interests • Geo-blocking (limits access to views of users from other localities/nations)	**(1)**

www.dynamicpapers.com

Question Number	Answer	Mark
3d(ii)	Two explanations such as: • Makes (face to face) social interaction harder (1) because people cannot read body language as easily (1) • Increased cyberbullying (1) because it is easier to stay anonymous online / it is easier to spread information online (1) • Reduced physical activity (1) because there is no need to travel/move to access services (1) • Increased misinformation (1) because it can be spread/shared more easily (1) • Increased exposure to inappropriate content (1) because it is harder to confirm age/identity online (1)	**(4)**

Question Number	Answer	Mark
3d(iii)	**The only correct answer is B – Moderators** *A is not correct because customised avatars do not improve safety* *C is not correct because time-limited posts can reduce safety* *D is not correct because user-ratings do not improve safety*	**(1)**

www.dynamicpapers.com

Question Number	Answer	Mark
3e(i)	Any two from: • Wiki • Forum • Website • Blog / Vlog • Video sharing site • Social bookmarking Award 'user generated reference' (site) if MP1, or MP2, or MP3 not already awarded. Award 'user generated content' (site) if MP3, or MP4, or MP5 not already awarded.	**(2)**

Question Number	Answer	Mark
3e(ii)	A description such as: • Check other reviews left by that user (1) to see if they often leave inaccurate/bias reviews (1) • Compare with reviews left by other users (1) to see if they are consistent/reliable (1) • Check the age of the reviews (1) to see if they refer to recent events/issues (1) • Check the number of likes (etc) of the review (1) to compare other's view of it (1) • Check the source / profile of the reviewer (1) to see if it is an expert/paid reviewer (1)	**(2)**

www.dynamicpapers.com

Question Number	Answer	Mark
4a	A description such as: • New types of jobs are created (1) as the needs of consumers/employers change (1) Accept: • Access to a wider workforce / more employers (1) using (employment) networks (1) Do not accept 'there are a lot of job opportunities' without clarification/expansion. Do not accept responses relating to working practices such as 'employees can work more flexibly'	**(2)**

Question Number	Answer	Mark
4b(i)	An explanation to include: • Reduces data security (1) because data is stored by a third party (1) • Data might not always be available (1) because access to the Internet is not guaranteed (1)	**(2)**

Question Number	Answer	Mark
4b(ii)	**The only correct answer is D – Mainframe** *A is not correct because a mainframe would have the most processing power* *B is not correct because a mainframe would have the most processing power* *C is not correct because a mainframe would have the most processing power*	**(1)**

www.dynamicpapers.com

Question Number	Answer	Mark
4c	A description to include two from: Requests an IP address (1) from a DNS server (1) Requests the data/resource (1) from a webserver (1) Interprets/reads the HTML (1) and displays/formats the text/images/content (1)	**(2)**

Question Number	Answer	Mark
4d	Any **two** from: • No mixture of letters and numbers / does not contain numbers / only letters • No use of special characters • It is a recognisable/dictionary word	**(2)**

Question Number	Answer	Mark
4e	An explanation such as: It increases the chances of a user responding (1) because not all users are vulnerable / phishing targets vulnerable users / more people are aware of phishing (1)	**(2)**

Question Number	Answer	Mark
4f	Award **one** mark for any from: • Leaking chemicals • Mining for chemicals (e.g. lithium) • Use of non-renewable energy to recharge	**(1)**

www.dynamicpapers.com

Question Number	Indicative content
4g	• Third party payment systems (hiding payment/account details) • Bank cards (open to theft and unauthorised use) • Contactless payment using NFC (limited transaction for some payments) • Collective limits • Monitoring payments / analysing patterns (if card lost/stolen/cloned) • Unlimited payment for biometrically authenticated payments • Encryption for payments made online • Cryptocurrency • Two factor authentication (2FA) • Use of CCTV on ATMs

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.

www.dynamicpapers.com

Question Number	Answer	Mark
5a	Any **two** from: • storage • connectivity • processor • memory	**(2)**

Question Number	Answer	Mark
5b	Two explanations, each to include **two** linked points such as: • Provides live/real-time communication (1) because the exchange of data is (almost) instant (1) • Allows for remote communication (1) because people can connect using mobile devices/online meetings/video calls (1) • Allows for better explanations (1) because video/images can be sent (1) • Allows collaboration / teamwork / file sharing / feedback on work (1) because employees can use hosted applications/storage / messages can be sent to groups (1) • Allows for transparency/accountability (1) because records / logs are kept (1) • Allows additional channels for customer feedback (1) because organisations can have a presence on social media (1)	**(4)**

Question Number	Answer	Mark
5c	An explanation to include two from: • Colours can be altered / font sizes increased (1) to support users with visual impairments (1) so that the menus/features/content are clearly visible (1) • Visual prompts can be enabled (1) to support users with auditory impairments (1) Do not accept 'narrator' / 'text-to-speech', as these are not related to configuring applications software, they are separate applications.	**(2)**

www.dynamicpapers.com

Question Number	Answer	Mark
5d	Any **two** from: • To protect/patch security flaws • To add new features • To ensure compatibility (with new software/hardware) • To fix bugs	**(2)**

Question Number	Answer	Mark
5e	An explanation such as: More files can be stored / less storage needs to be bought / quicker (data) **transfer** (1) …because file size is reduced / less storage is needed for each backup (1)	**(2)**

Question Number	Answer	Mark
5f	Defragmentation	**(1)**

www.dynamicpapers.com

Question Number	Indicative content
5g	• Type of sensors (seatbelt, tyre pressure, proximity/collision sensors, light/rain sensors), road surface sensors • Use of sensors (car can put lights on automatically, brakes can be applied, warnings can be given if too close to car in front / performance implications (braking, suspension) • Safety implications (driver does not have to take hands off wheel to use lights/wipers, decision making quicker when made by computers) • Ethical considerations (responsibility on manufacturer or owner, drivers becoming complacent when using vehicles, computers cannot make ethical decisions).

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.

www.dynamicpapers.com

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London, WC2R 0RL, United Kingdom