

Mark Scheme (Results)

June 2012

International GCSE ICT (4IT0)
Paper 1 Written Paper

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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.

SECTION A

Question Number	Answer	Mark
1	D	1

Question Number	Answer	Mark
2	A	1

Question Number	Answer	Mark
3	D	1

Question Number	Answer	Mark
4	B	1

Question Number	Answer	Mark
5	C	1

Question Number	Answer	Mark
6	A	1

Question Number	Answer	Mark
7	A	1

Question Number	Answer	Mark
8	B	1

Question Number	Answer	Mark
9	C	1

Question Number	Answer	Mark
10	B	1

Question Number	Answer	Mark
11	C	1

Question Number	Answer	Mark
12	B	1

Question Number	Answer	Mark
13	B	1

Question Number	Answer	Mark
14	D	1

Question Number	Answer	Mark
15	B	1

Question Number	Answer	Mark
16	C	1

SECTION B

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (a)	If no response to or incorrect identification do not award mark for input/output.			
	Speakers, output (1,1)		Do not accept 'output' without 'speaker'	2
	Webcam, input (1,1)	Camera	Accept digital camera. Do not accept 'input' without 'webcam' or 'digital camera' Accept 'camera' and 'input' for 1 mark	2
	Keyboard, input (1,1)		Do not accept 'input' without 'keyboard'	2

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (b)	Any one of: <ul style="list-style-type: none"> • Touchscreen (1) • Information point (1) 	Named items such as specific mobile phone models	Accept 'screen' on any suitable device eg smartphone, tablet, games console	1

Question Number	Answer	Do not accept	Additional Guidance	Mark
	Any two different named types with different and appropriate uses.			
17 (c)(i)	Any two of: <ul style="list-style-type: none"> • CD (1) • DVD (1) • Blu-Ray (1) 		Accept 'types' of CD and DVD Award two marks for eg CD-R and CD-RW	2
(ii)	Any two of: <ul style="list-style-type: none"> • Music / sound / audio (1) • Video / film(s) / movie(s) (1) • Images / photographs (1) • Software (1) • Documents, spreadsheet, database files or other user generated content (for backup or archive)(1) • Games (1) 	Backup / archive without further explanation Data storage as in question		2

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (d)	Any one of: <ul style="list-style-type: none"> • USB pen (1) • USB / memory stick (1) • USB / flash drive (1) • Memory cards / SD card (1) • Pen / thumb drive (1) • Solid state hard drive (1) 	USB Universal storage bus		1

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(a)	LAN / Local Area Network (1)			1

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(b)	Server (1)	Do not accept main computer, print server	Accept file server	1

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(c)	Any one of: <ul style="list-style-type: none"> • Bluetooth (1) • WiFi(1) • Infra-red or IR (1) 	Wireless as 'wirelessly' is in the question		2

Question Number	Answer	Do not accept	Additional Guidance	Mark
18d(i)	Award one mark for an example of a strong password. The password must include at least three of the bullet points listed. Any two of: <ul style="list-style-type: none"> • Password 6 characters min length(1) • Includes upper/lower case (1) • Includes symbols/punctuation (1) • Includes letters and numbers (1) • Word not related to user / random (mix of characters)(1) • Includes spaces (1) 		Award up to 2 marks for explanation only or explanation unrelated to the example	3

Question Number	Answer	Do not accept	Additional Guidance	Mark
18d(ii)	<p>Any three of:</p> <ul style="list-style-type: none"> • Don't tell anyone (1) • Don't write it down (1) • Change regularly (1) • Don't let anyone see you entering it (1) • Use different passwords for different accounts (1) • Don't click yes when prompted by a system 'Remember this password?' / don't enter your password when prompted suspiciously (1) 	Anything to do with making the password strong		3

Question Number	Answer	Do not accept	Additional Guidance	Mark
18d(iii)	<p>Any two of:</p> <ul style="list-style-type: none"> • Each user has a profile (1) • Restricts access to certain programs (1) • Restricts access to certain data / files (1) • Restricts access to certain parts of the system (1) • Restricts what a user can do on the system (1) eg installing software 	Anything about internet search restrictions or website access.	'things' is too vague. students need to refer to software, data etc to be awarded marks	2

Question Number	Answer	Do not accept	Additional Guidance	Mark
18e	<p>Any four of:</p> <ul style="list-style-type: none"> • Share / transfer documents / files / folders / data (1) • Share peripherals /appropriate stated piece of hardware(1) • Sharing internet connection / only 1 internet connection needed (1) • Security can be centrally managed / management of firewall, antivirus etc (1) • User account control (not access rights) (1) • Central monitoring of every machine (1) • Central control of backup (1) • Files (to share) can be uploaded centrally (1) • Central software administration / software can be installed and updated easily / faster (1) • May be cheaper to buy network version of software (1) • Can use any workstation / hot-desking (1) • Communicate with other workstations <u>without using the internet</u> / internal email (1) • Intranet (1) 	Sharing software		4

Question Number	Answer	Do not accept	Additional Guidance	Mark
18f(i)	Router / gateway / modem(1)		Accept bridge	1

Question Number	Answer	Do not accept	Additional Guidance	Mark
18f(ii)	Any two of: <ul style="list-style-type: none"> • Broadband (1) • Dialup (1) • VPN (1) • 3G (mobile broadband) (1) • wi-fi(1) • Satellite (1) 			2

Question Number	Answer	Do not accept	Additional Guidance	Mark
19a(i)	MHz / GHz (1)		Accept Hz	1

Question Number	Answer	Do not accept	Additional Guidance	Mark
19a(ii)	<p>An explanation based on any four of:</p> <ul style="list-style-type: none"> • Games / videos are large files (1) • Games have lots of graphics/video (1) • Graphics/ video / games take up a lot of storage space / RAM(1) • RAM temporarily holds data and instructions for the game (1) • RAM provides faster access to graphics/video than a hard drive(1) • Large RAM means less swapping with the hard disk OR <u>small</u> RAM means more swapping with the hard disk(1) • Large RAM helps games / video run smoothly / improves quality OR <u>small</u> RAM may cause game / video to stop (crash) / reduce quality (1) • Larger RAM allows multitasking e.g. talking to his friends whilst playing a game (1) 			4

Question Number	Answer	Do not accept	Additional Guidance	Mark
19a(iii)	<p>Any one of:</p> <ul style="list-style-type: none"> • (High spec) graphics / video / display card (1) • 3D glasses / goggles (1) 			1

Question Number	Answer	Do not accept	Additional Guidance	Mark
19b	Operating system / system software (1)			1

Question Number	Answer	Do not accept	Additional Guidance	Mark
19c	<p>An explanation including any three of:</p> <ul style="list-style-type: none"> • Gives the right / permission to use /download the software (1) • If the user has a licence it is legal to use the software / it is illegal without a licence (1) • Licence shows that the software has been obtained legally /bought (1) • To acknowledge the author of the software (1) • Software producer / owner will receive payment (1) • Will be able to take legal action if anyone copies the software without permission / prevents illegal copying / piracy (1) 			3

Question Number	Answer	Do not accept	Additional Guidance	Mark
19d(i)	<p>Any two of:</p> <ul style="list-style-type: none"> • Email (1) • VoIP (1) • Tele/video conferencing /video calls(1) • Social networking sites (1) • Instant messaging (1) • In-game communication /online gaming(1) • Blogs (1) • Forums (1) 		Allow trade names such as Twitter, Facebook, MySpace, Skype etc.	2

Question Number	Answer	Do not accept	Additional Guidance	Mark
19d(ii)	<p>Any three of:</p> <ul style="list-style-type: none"> • Don't give out personal information(1), unless you are sure of the recipient (1) • Use copy lists with care (1) • Use social networking sites with care (1) • Make use of privacy settings (public/private) / use block lists / filters (1) • Don't post pictures/text detailing your location (1) • Don't link to friends of friends.(1) • Be careful about arranging physical meetings (1) 	'Don't talk to strangers' - this is not a danger unless you give them personal information		3

Question Number	Indicative Content	
19 (e)	<p><i>Indicative content for a discussion on the relative merits of downloading and streaming</i></p> <p>Downloading:</p> <ul style="list-style-type: none"> • Entire video must be saved on user's computer system initially • Often very large files • Need large storage • Can view whenever user wants • Can keep the files for as long as they want • May be able to edit • Don't need to have internet access once saved <p>Streaming:</p> <ul style="list-style-type: none"> • Don't have to store the files on computer • Can start watching as soon as streaming begins • Must view when being streamed • Need internet access • Rely on good signal • Quality may be affected by buffering 	
Level	Mark	Descriptor
	0	No rewardable content
Level 1	1 - 2	The candidate will have produced a brief response or one that includes little appropriate content. They may not have covered both streaming and downloading. There will be little discussion of advantages and disadvantages. Only a limited number of points will have been considered. Very limited understanding will be shown.
Level 2	3 - 4	The candidate will have provided some discussion on both downloading and streaming. There may be some inaccuracies but the content will be mainly accurate. Advantages and disadvantages will have been identified but this may not be for both methods. Discussion may be fairly limited especially if there are a number of advantages / disadvantages included.
Level 3	5 - 6	The candidate will have demonstrated clear understanding of streaming and downloading. They will have identified a range of advantages and disadvantages of each method. They will have produced a structured discussion that includes few, if any, inaccuracies.

Question Number	Answer	Do not accept	Additional Guidance	Mark
20a(i)	Any one of: <ul style="list-style-type: none"> • Thermistor (1) • Digital thermometer (1) • Temperature sensor (1) 	Thermometer Thermostat	Allow thermal sensor	1

Question Number	Answer	Do not accept	Additional Guidance	Mark
20a(ii)	Control software(1)			1

Question Number	Answer	Do not accept	Additional Guidance	Mark
20b(i)	Any two of: <ul style="list-style-type: none"> • Screen resolution (1) • Brightness (1) • Contrast (1) • (Default) font size (1) • Display settings eg icon size (1) • Accessibility settings (1) 		Allow visual impairment software	2

Question Number	Answer	Do not accept	Additional Guidance	Mark
20b(ii)	<p>Any three of:</p> <ul style="list-style-type: none"> • Take regular breaks (1) • Anti-glare screens / screen filter (1) • Suitable lighting (1) • Avoid (sun)light reflecting on screen/ blinds at windows (1) • Move screen to better position: adjust angle / height / distance of screen (1) • Focus on distant objects (1) 			3

Question Number	Answer	Do not accept	Additional Guidance	Mark
20c	<p>Any three of:</p> <ul style="list-style-type: none"> • Processed fairly and lawfully (1) • Obtained fairly and lawfully (1) • Processed in accordance with rights of data subject (1) • Data must be accurate (1) • Data must be kept up to date (1) • Data must be kept only as long as necessary (1) • Must be kept secure (1) • Data must be shown to subjects on request (1) • Must specify the purpose for holding the data / use only for the specified purpose (1) • Must be adequate / not excessive (1) • Cannot be transferred to countries with less protection (1) 	Keep it confidential		3

Question Number	Answer	Do not accept	Additional Guidance	Mark	
20d(i)	A description of 2 ways of reducing risk. 1 mark for identification, 1 mark for explanation.				
	Install a firewall (1)	A shield that will prevent hackers / prevents the network being 'seen' (1) Accessing data from outside the network / Access via the internet (1)	Viruses Physical security systems	Don't allow both WEP and WPA	4
	Encryption (1)	Data is meaningless to anyone trying to view the data. (1) Scrambled information (1) Meaningless to unauthorised viewers / without key / password (1) Cannot be read without decryption (1)			
	WEP / WPA / WPA2 (1)	Is the 'key' to access the wifi (1) Signal is meaningless to anyone who intercepts it (1) Scrambled / encrypted signal (1) Key is a long list of randomly generated letters and numbers (1)			
	Installing anti-virus software (1)	Prevents Trojans / spyware (1) from stealing data (1)			

Question Number	Answer		Do not accept	Additional Guidance	Mark
20d(ii)	Risk	Method		<p><u>Risk</u> must be clearly defined to award mark.</p> <p>If <u>risk</u> is vague, but understandable, <u>method</u> mark may be awarded.</p> <p>If no <u>risk</u>, or <u>risk</u> is not understandable, <u>method</u> mark cannot be awarded.</p> <p>Award descriptions of backup method.</p>	4
	Virus / malware(1)	Anti-virus software / anti-malware(1) Treat unknown files / email attachments with caution (1)			
	<u>Accidental</u> deletion / <u>accidental</u> damage / <u>accidental</u> corruption (1)	Backup (1) Access rights (1) Password on files (1) Read only files (1) File recovery software (1)			
	<u>Malicious</u> damage (1)	Backup (1) Access rights (1) Password on files (1)			
	Physical problems (1) Eg fire, flood	Backup(1)			
	Hardware or software malfunction (must be specific item) (1)	Backup(1)			

Question Number	Answer	Do not accept	Additional Guidance	Mark
21a i-iii	<p>i)Manufacturing</p> <p>Many <u>unskilled</u> jobs lost / More <u>skilled</u> jobs created (1)</p> <p>Jobs taken over by robots / CAD systems / CAM systems (1)</p> <p>Jobs have changed eg maintaining systems (must have example) (1)</p> <p>Employees need to be retrained to cope with new systems (1)</p> <p>New jobs have been created (must have example)(1)</p> <p>Job migration to take advantage of high skill areas(1)</p> <p>Safer working conditions / better working environment (1)</p> <hr/> <p>ii)Education</p> <p>Teachers job changed due to new methods (example needed eg availability of information requiring facilitation of learning)(1)</p> <p>CAL / Learning platforms / use of VLE(1)</p> <p>Interactive white boards/ other new technology in classrooms(1)</p> <p>Management Information systems(1)</p> <hr/> <p>iii)Retail</p> <p>Move to internet shopping has reduced number of shop workers (1)</p> <p>Increase in jobs in on line retail</p> <p>Example of how technology changes the role of retail staff (1)</p> <p>New business opportunities due to wider online market (1)</p>		<p>Marks are for the <u>impact on people working in the jobs</u> not for describing the technologies.</p> <p>The question is about the impact on people not businesses.</p>	6

Question Number	Answer	Do not accept	Additional Guidance	Mark
21b(i)	<p>Any two of:</p> <ul style="list-style-type: none">• Check other sources of information (1)• Ask an expert (1)• Use more than one website (1)• Use trusted sources, eg government sites (1)• Use books / magazines (1)• Use other forms of digital media eg reference CDs/DVDs (1)• 'Look and feel' of the site e.g. poor spelling and grammar(1)• Check that the date is recent (1)	<p>Do not accept 'ask other people' unless specified as an authority / expert</p>		2

Question Number	Indicative Content	
21 (b)ii	<p>Indicative content for a discussion on the benefits and drawbacks of the lack of regulation on the internet</p> <p>21 b(ii) asked about checking the reliability of information.</p> <p>Marks in 20 b(ii) should be awarded where reliability of information is used to illustrates the indicative content.eg supporting an argument about freedom of speech.</p> <p>General</p> <ul style="list-style-type: none"> • Anyone can create web pages / post messages on social networking sites. • Can be viewed worldwide • Can be anonymous <p>Good points:</p> <ul style="list-style-type: none"> • Corrupt organisations / governments can't hide truth • When bad things happen people write about it on the web • Freedom of speech • Freedom of expression <p>Bad Points:</p> <ul style="list-style-type: none"> • Not everyone is honest / computer crime • Data may be biased • Data may be illegal • Data may be offensive • Viruses can be downloaded • Malicious actions 	
Level	Mark	Descriptor
	0	No rewardable content
Level 1	1 - 2	The candidate will have produced brief responses. They will have considered at least one drawback but possibly no benefits.

		Only a limited number of points will have been considered. Very limited understanding will be shown.
Level 2	3 - 4	The candidate will have provided a one sided case probably concentrating on drawbacks. They may have considered some benefits. The discussion is likely to be limited and unstructured.
Level 3	5 - 6	The discussion It will be genrally accurate. It will involve both benefits and drawbacks of the lack of regulation of the internet. It will be balanced but may focus more on one drawbacks than benefits or vice versa.

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