

Mark Scheme (Results)

Summer 2013

International GCSE ICT (4IT0/01)
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	B	(1)

Question Number	Answer	Mark
2	C	(1)

Question Number	Answer	Mark
3	D	1

Question Number	Answer	Mark
4	A	(1)

Question Number	Answer	Mark
5	A	(1)

Question Number	Answer	Mark
6	A	(1)

Question Number	Answer	Mark
7	C	(1)

Question Number	Answer	Mark
8	D	(1)

Question Number	Answer	Mark
9	A	(1)

Question Number	Answer	Mark
10	B	(1)

Question Number	Answer	Mark
11	D	(1)

Question Number	Answer	Mark
12	D	(1)

Question Number	Answer	Mark
13	A	(1)

Question Number	Answer	Mark
14	B	(1)

Question Number	Answer	Mark
15	C	(1)

Question Number	Answer	Mark
16	D	(1)

SECTION B

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (a)(i)	Word processing (1) Word processor (1)	Must be a type of software. Not 'Word' or other brand names	Allow DTP/Desk Top Publishing	(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (a)(ii)	Any one of: <ul style="list-style-type: none"> • Mouse (1) • Keyboard (1) • Microphone (1) • Touch Screen (1) • Touch pad (1) 			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (a)(iii)	Any one of: <ul style="list-style-type: none"> • Monitor (1) • Screen (1) • Printer(1) • Touch screen (1) • VDU (1) 			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (b)(i)	Any one of: <ul style="list-style-type: none"> • Flash memory (1) • EPROM(1) • EEPROM (1) 			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (b)(ii)	Any two of: <ul style="list-style-type: none"> • Portable / easy to carry (1) • Very strong / difficult to break/Solid state device (1) • Can be used to transfer data between machines / access data on different machines (1) • Most computers have USB ports (1) • Widely available / relatively inexpensive (1) • Encrypted USB available/can be encrypted (to make it more secure) (1) 	Answers relating to back up Answers relating to storage size		(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (b)(iii)	Any one of: <ul style="list-style-type: none"> • (Physical size makes them) easy to lose (1) • Can easily transfer/pick up viruses (1) • Corrupt if incorrectly disconnected (1) 	Answers relating to storage size	Accept it breaks easily, only if mark has not been awarded for not easy to break in (ii)	(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (c)(i)	Any two of: <ul style="list-style-type: none"> • Accidental damage: Data may be accidentally overwritten / erased / corrupted (1) • Deliberate damage: Malware/viruses may damage the data (1) • System / hardware failure (1) • Physical problems e.g. data may be lost due to fire / flood / computer theft (1) 	Answers relating to internet e.g. hackers	Answers must relate to standalone PC Do not award for ' lost/damaged files/data'	(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
17 (c)(ii)	Any three of: <ul style="list-style-type: none"> • Media/device (determined by total file size) (1) • Where to keep the backup e.g. away from computer (1) • Can it be stored securely e.g. encryption/passwords (1) • What files to back up e.g. find/select(1) • How often to make a backup(1) • Can it be automated(1) • Who has access to backup / how many copies should be kept (1) • When to run backup (1) 			(3)

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(a)(i)	(Bar code) scanner (1) Bar code reader (1)			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(a)(ii)	Item/product number (1) Item/product code (1) Item/product ID (1) Item/product reference (1)			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(a)(iii)	Any two of: <ul style="list-style-type: none"> • Saves time as items will be processed faster (1) • Less time spent queuing (1) • Accurate bills/no (human) errors (1) • Itemised bills/purchased items identified (1) 	'Saves time' without expansion	Is advantage to customer	(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark														
18(a)(iv)	<p>Award 3 marks for 4 correct answers, 2 marks for 2 correct answers, and 1 mark for 1 correct answer.</p> <table border="1"> <thead> <tr> <th>Steps</th> <th>Order</th> </tr> </thead> <tbody> <tr> <td>Bar code input</td> <td>1</td> </tr> <tr> <td>Price identified</td> <td>4</td> </tr> <tr> <td>Item found</td> <td>3</td> </tr> <tr> <td>Price displayed</td> <td>5</td> </tr> <tr> <td>Information sent to database</td> <td>2</td> </tr> <tr> <td>Receipt printed</td> <td>6</td> </tr> </tbody> </table>	Steps	Order	Bar code input	1	Price identified	4	Item found	3	Price displayed	5	Information sent to database	2	Receipt printed	6			(3)
Steps	Order																	
Bar code input	1																	
Price identified	4																	
Item found	3																	
Price displayed	5																	
Information sent to database	2																	
Receipt printed	6																	

Question Number	Answer	Do not accept	Additional Guidance	Mark
18(b)(i)	<p>Any one of:</p> <ul style="list-style-type: none"> • Card reader (1) • Magnetic stripe reader (1) • Chip and pin reader (1) • Magnetic strip reader (1) • Near field communication reader (1) • NFC reader (1) • Contactless card reader (1) • RFID reader (1) 	'Reader' on its own		(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark								
18(b)(ii)	<p>Allow 1 mark for a reason and 1 mark for appropriate linked extension. Reason and extension may be reversed. Award 2 marks maximum for reasons without extensions.</p> <table border="1"> <thead> <tr> <th>Reason</th> <th>Extensions</th> </tr> </thead> <tbody> <tr> <td>More difficult to steal data from a chip/more secure</td> <td>Better encryption/you can read a magnetic stripe on a tape reader/PIN is needed</td> </tr> <tr> <td>Data can be more easily updated on a chip / updated during transaction</td> <td>Has built in processing power/greater memory/storage</td> </tr> <tr> <td>More difficult to corrupt data/damage a chip</td> <td>Chip protected by plastic coating/magnetic stripe affected by stray fields/ scratches</td> </tr> </tbody> </table>	Reason	Extensions	More difficult to steal data from a chip/more secure	Better encryption/you can read a magnetic stripe on a tape reader/PIN is needed	Data can be more easily updated on a chip / updated during transaction	Has built in processing power/greater memory/storage	More difficult to corrupt data/damage a chip	Chip protected by plastic coating/magnetic stripe affected by stray fields/ scratches		Do not accept two extensions for one reason.	(4)
Reason	Extensions											
More difficult to steal data from a chip/more secure	Better encryption/you can read a magnetic stripe on a tape reader/PIN is needed											
Data can be more easily updated on a chip / updated during transaction	Has built in processing power/greater memory/storage											
More difficult to corrupt data/damage a chip	Chip protected by plastic coating/magnetic stripe affected by stray fields/ scratches											

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(a)(i)	Project Management (software) (1)			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(a)(ii)	<p>Any two of:</p> <ul style="list-style-type: none"> • Timeline / Completion date/time to complete the project (1) • Task breakdown/order of tasks(1) • Staff/Resources needed (1) 		Accept "time and tasks" without further explanation for 1 mark	(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(b)	Local Area Network (1) LAN (1)			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(c)(i)	Peripherals, eg printers, can be shared (1)			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(c)(ii)	Any one of: <ul style="list-style-type: none"> • Server (1) • Cabling (1) • Switch(1) • Network (interface) card (1) • NIC (1) 	Modem	Accept router as these include a switch.	(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark	
19(d)	Award 1 mark for each of Method, Benefit and Drawback for each type of printer.				
		Method	Benefit		Drawback
	Laser	Laser draws patterns on drum (1) Electrostatic pattern attracts toner (1) Toner fused onto paper (1)	Very fast (1) High quality (1) It is quiet (1)		Expensive (to purchase) (1) Colour options are more expensive (1)
Inkjet	Ink sprayed onto paper(1)	Good quality (1) Colour printing is readily available (1) Relatively cheap to purchase (1)	Relatively slow compared to laser (1) Can smudge (1) Cost per page more than laser (1)	(6)	

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(e)	Any two of: <ul style="list-style-type: none"> Set up user names / log-ins and passwords (1) Set profiles (1) Assign privileges / Access rights / Access permissions (1) Folder/File level passwords/File encryption (1) 	'Passwords' on its own		(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(f)(i)	Any two of: <ul style="list-style-type: none"> • suitable lighting (1) • blinds (1) • wrist rests (1) • adjustable chairs/chairs with lumbar support/ergonomic furniture or chairs (1) • swivelling/adjustable screens (1) • screen glare shields (1) • foot rests (1) • ergonomic mouse (1) • RCD/Residual current device (1) 	'Comfortable' chairs		(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
19(f)(ii)	Any two of: <p><u>Posture</u></p> <ul style="list-style-type: none"> • Adjust chairs to suit themselves/sit with correct posture (1) • Adjust angle/height of monitor (1) <p><u>Eye Strain</u></p> <ul style="list-style-type: none"> • Adjust brightness/contrast of screen (1) • Adjust font/icon size (1) • Regularly focus on distant objects (1) • Position monitor to reduce reflection / adjust blinds to reduce reflection (1) • Sit at a suitable distance from monitor (1) • (Attending) regular eye examinations (1) 			(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(a)(i)	<p>Any two of: Data must be</p> <ul style="list-style-type: none"> • fairly and lawfully processed/obtained (1) • used only for its intended purpose/not shared without permission (1) • be adequate/relevant/not excessive (1) • kept up to date/accurate (1) • kept for no longer than necessary (1) • not transferred outside EU / to countries with lesser restrictions (1) 		'Keeping data secure' is given in the question. Do not award for these kind of answers.	(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(a)(ii)	<p>Any two of: The right to:</p> <ul style="list-style-type: none"> • see the data on request (1) • know who stores your personal data/opt out of sharing data (1) • have errors corrected (1) • prevent processing for direct marketing (1) • object to processing causing damage or distress (1) • object to decisions made by automated means (1) • claim compensation for damages caused by breach of the Act (1) 			(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(b)(i)	Any two of: <ul style="list-style-type: none"> • Less travelling reduces stress (1) • Can use travelling time to do other things (1) • Flexibility/managing workload (1) • Reduced cost of travel (to head office) (1) 	'Less time travelling' without qualification		(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(b)(ii)	Any two of: <ul style="list-style-type: none"> • Can have representatives based around the country/reduced costs of visiting clients (1) • Saving from reduced office space / less office space needed (1) • Savings equipment costs(1) • Staff may be more productive due to less stress/more relaxed (1) 			(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(c)	Not restricted to being next to PC / Wifi has wider range (1) Much faster data transfer rate (1) Wifi is more secure (1)	'Larger capacity ' 'More data can be sent'	Accept 'faster'	(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(d)(i)	Any one of: <ul style="list-style-type: none"> • Router (1) • Gateway (1) • Modem (1) 	Trade names		(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(d)(ii)	Any two of: <ul style="list-style-type: none"> • URL / IP address (1) • ISP/telephone number/broadband/dial up (1) • Web browser software(1) • Telephone line/cable/satellite link (1) • Communication software (to set up initially) (1) 		If no mark awarded in (i) mark can be awarded for any one of (i) in (ii)	(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(d)(iii)	Any two of: <ul style="list-style-type: none"> • Is a security method (1) • Allows access to / prevents unauthorised access to the router/gateway/modem/ network / wifi connection (1) • Key is used to encrypt data (during transmission across the network) (1) 	'Key is a type of password'		(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(d)(iv)	Any one of: <ul style="list-style-type: none"> • WPA(1) • WPA2(1) 			(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark
20(e)(i)	Any one of: <ul style="list-style-type: none"> • Instant send/company get information quickly (1) • Copy to customer (if they have email)(1) 	'Quicker' on its own		(1)

Question Number	Answer	Do not accept	Additional Guidance	Mark														
20(e)(ii)	<p data-bbox="427 309 1102 408">Award one mark for each method and a further mark each for an example of the method.</p> <table border="1" data-bbox="427 408 1102 1088"> <thead> <tr> <th data-bbox="427 408 763 448">Method</th> <th data-bbox="763 408 1102 448">Example</th> </tr> </thead> <tbody> <tr> <td data-bbox="427 448 763 555">VoIP / multi media chat / Video calls (1)</td> <td data-bbox="763 448 1102 555">Phone call to head office / Customers (1)</td> </tr> <tr> <td data-bbox="427 555 763 662">Video conferencing / Instant relay chat (1)</td> <td data-bbox="763 555 1102 662">With head office / other reps (1)</td> </tr> <tr> <td data-bbox="427 662 763 769">Forum (1)</td> <td data-bbox="763 662 1102 769">With other reps / similar professionals (1)</td> </tr> <tr> <td data-bbox="427 769 763 876">News groups / mailing lists (1)</td> <td data-bbox="763 769 1102 876">With other reps / similar professionals (1)</td> </tr> <tr> <td data-bbox="427 876 763 1027">Instant messaging/SMS(1)</td> <td data-bbox="763 876 1102 1027">With head office / other reps / Customers (1)</td> </tr> <tr> <td data-bbox="427 1027 763 1088">Social networking sites (1)</td> <td data-bbox="763 1027 1102 1088">Customers (1)</td> </tr> </tbody> </table>	Method	Example	VoIP / multi media chat / Video calls (1)	Phone call to head office / Customers (1)	Video conferencing / Instant relay chat (1)	With head office / other reps (1)	Forum (1)	With other reps / similar professionals (1)	News groups / mailing lists (1)	With other reps / similar professionals (1)	Instant messaging/SMS(1)	With head office / other reps / Customers (1)	Social networking sites (1)	Customers (1)	Email - question asks for two methods other than email	To gain the example mark there must be reference to business activity e.g. customer / head office / colleagues	(4)
Method	Example																	
VoIP / multi media chat / Video calls (1)	Phone call to head office / Customers (1)																	
Video conferencing / Instant relay chat (1)	With head office / other reps (1)																	
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Instant messaging/SMS(1)	With head office / other reps / Customers (1)																	
Social networking sites (1)	Customers (1)																	

Question Number	Answer	Do not accept	Additional Guidance	Mark
21(a)(i)	Any three of: <ul style="list-style-type: none"> • 24/7 (1) • Readily compare prices different suppliers (1) • Readily compare products on one site / different sites (1) • Get online offers / discounts(1) • Lower prices as suppliers pass on savings of premises etc (1) • Worldwide 'market' to choose from / wider range of goods (1) • Know instantly if in stock / instant confirmation (1) • No queuing (1) 	'Don't have to leave home' as its is given in the question 'Lower prices' on its own		(3)

Question Number	Answer	Do not accept	Additional Guidance	Mark
21(a)(ii)	<p>Any three of:</p> <ul style="list-style-type: none"> • Incorrect / damaged goods may be delivered (1) • No cash payments / need card / need payment account (1) • Have to wait for goods to be delivered (1) • May not have the knowledge to set up the devices (e.g. computers) / not delivered by experts (1) • Sales advice not available (1) • Have to pay postage / delivery charges (1) • Can not try out goods (1) • May have to pay to return goods (1) • Vulnerability of personal data / identity theft / credit card fraud / Bogus websites/ pharming (1) 	May not look / be like the picture	Answers relating to trying out the goods must clearly relate to purchasing electrical items	(3)

Question Number	Answer	Do not accept	Additional Guidance	Mark
21(b)	<p>An explanation based on any two of:</p> <ul style="list-style-type: none"> • Bogus emails sent, requesting personal data (1) • Recipient (believing email is genuine) provides personal data (via hyperlink or email) (1) • Data is then used for identity theft / fraud (1) 			(2)

Question Number	Answer	Do not accept	Additional Guidance	Mark												
21(c)	<p data-bbox="427 268 1104 336">Award 1 mark for a risk and further mark for a relevant method to reduce the risk.</p> <table border="1" data-bbox="427 336 1104 1126"> <thead> <tr> <th data-bbox="436 343 712 373">Risk</th> <th data-bbox="712 343 1095 373">Method</th> </tr> </thead> <tbody> <tr> <td data-bbox="436 373 712 483">Unsecure/unsafe website</td> <td data-bbox="712 373 1095 483">Look for HTTPS (1) Look for padlock symbol (1)</td> </tr> <tr> <td data-bbox="436 483 712 593">Personal data online</td> <td data-bbox="712 483 1095 593">Privacy settings (in social networks) (1)</td> </tr> <tr> <td data-bbox="436 593 712 847">Hacker</td> <td data-bbox="712 593 1095 847">Firewall (1) Passwords (1) Encryption (1) Operating system updates (1) Changing default settings on router (1)</td> </tr> <tr> <td data-bbox="436 847 712 884">Spyware</td> <td data-bbox="712 847 1095 884">Anti-spyware</td> </tr> <tr> <td data-bbox="436 884 712 1126">Virus</td> <td data-bbox="712 884 1095 1126">Anti-virus (1) Treat unknown sites / email attachment with caution (1) Use a browser add-on to block unknown attack sites (1)</td> </tr> </tbody> </table>	Risk	Method	Unsecure/unsafe website	Look for HTTPS (1) Look for padlock symbol (1)	Personal data online	Privacy settings (in social networks) (1)	Hacker	Firewall (1) Passwords (1) Encryption (1) Operating system updates (1) Changing default settings on router (1)	Spyware	Anti-spyware	Virus	Anti-virus (1) Treat unknown sites / email attachment with caution (1) Use a browser add-on to block unknown attack sites (1)	Identity theft/Pharming	If the Risk given is vague, allow sensible Method mark.	(2)
Risk	Method															
Unsecure/unsafe website	Look for HTTPS (1) Look for padlock symbol (1)															
Personal data online	Privacy settings (in social networks) (1)															
Hacker	Firewall (1) Passwords (1) Encryption (1) Operating system updates (1) Changing default settings on router (1)															
Spyware	Anti-spyware															
Virus	Anti-virus (1) Treat unknown sites / email attachment with caution (1) Use a browser add-on to block unknown attack sites (1)															

Question Number	Answer	Do not accept	Additional Guidance	Mark
22(a)(i)	Any three of: <ul style="list-style-type: none"> • Is the information up to date (1) • Is the information biased (1) • Is the information accurate (1) • Is the source / information reliable/ verifiable (1) • Is the information at the right level / understandable / relevant (1) • Are there copyright restrictions on the use of the materials (1) 			(3)

Question Number	Answer	Do not accept	Additional Guidance	Mark
22(a)(ii)	Any two of: <ul style="list-style-type: none"> • Copyright rules/ Acknowledge sources / bibliography / references (1) • Avoid plagiarism / Don't Copy and paste / Write in your own words (1) 		Providing a reference list does not avoid plagiarism – do not award second marking point in this case	(2)

Question Number	Indicative Content
22(b)	<p><i>Indicative content for a discussion on the ways in which ICT can enhance students learning.</i></p> <p>Areas that could be included:</p> <p>ICT used to present work</p> <p>CAL</p> <ul style="list-style-type: none"> • Learners working independently / at own pace / in own time / may be outside school • Use for reinforcement / drill and practice / instant feedback <p>Control technology</p> <ul style="list-style-type: none"> • Provides 'hands on' experience / analysis of data <p>Simulations</p> <ul style="list-style-type: none"> • Safely carry out experiments / vary situations <p>VLE</p> <ul style="list-style-type: none"> • Access to materials • Upload work • Download assignments <p>Communication methods</p> <ul style="list-style-type: none"> • Emailing teachers <p>Use of modern technologies</p> <ul style="list-style-type: none"> • Smart phones / pads <p>Use of the internet (not for research)</p> <ul style="list-style-type: none"> • Communicating with students in other countries <ul style="list-style-type: none"> ○ Better understanding of other cultures ○ Learning languages • Revision sites

Level	Mark	Descriptor
	0	No rewardable content
1	1 - 2	A few examples of using ICT in learning are identified but are not expanded; or one example described in some detail. Some indication of how learning is enhanced may be included.
2	3 - 4	Examples of using ICT in learning are given, some of which have been expanded. They may all relate to the use of the internet excluding research. Other uses of ICT may be included. Some discussion of how the use of ICT enhances learning in the examples is given.
3	5 - 6	A range of examples of using ICT in learning are described, some of which do not relate to the use of the internet. There may be in depth discussion of a particular area with just a few examples. A discussion of how the use of ICT enhances learning is included in most examples.

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