



Pearson

# Mark Scheme (Results)

Summer 2017

Pearson Edexcel International GCSE  
in Information and Communication  
Technology (4IT0) Paper 01

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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
<b>1</b>	A	<b>(1)</b>

Question Number	Answer	Mark
<b>2</b>	B	<b>(1)</b>

Question Number	Answer	Mark
<b>3</b>	C	<b>(1)</b>

Question Number	Answer	Mark
<b>4</b>	D	<b>(1)</b>

Question Number	Answer	Mark
<b>5</b>	B	<b>(1)</b>

Question Number	Answer	Mark
<b>6</b>	A	<b>(1)</b>

Question Number	Answer	Mark
<b>7</b>	A	<b>(1)</b>

Question Number	Answer	Mark
<b>8</b>	C	<b>(1)</b>

Question Number	Answer	Mark
<b>9</b>	D	<b>(1)</b>

Question Number	Answer	Mark
<b>10</b>	C	<b>(1)</b>

Question Number	Answer	Mark
<b>11</b>	A	<b>(1)</b>

Question Number	Answer	Mark
<b>12</b>	D	<b>(1)</b>

Question Number	Answer	Mark
<b>13</b>	C	<b>(1)</b>

Question Number	Answer	Mark
<b>14</b>	B	<b>(1)</b>

Question Number	Answer	Mark
<b>15</b>	C	<b>(1)</b>

Question Number	Answer	Mark
<b>16</b>	D	<b>(1)</b>

Question Number	Answer					Mark
<b>17(a)</b>		<b>Input</b>	<b>Output</b>	<b>Storage</b>		<b>(6)</b>
	Speaker		<input type="checkbox"/>			
	Mouse	<input type="checkbox"/>				
	Flash memory			<input type="checkbox"/>		
	Webcam	<input type="checkbox"/>				
	DVD			<input type="checkbox"/>		
	Data projector		<input type="checkbox"/>			

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>17(b)(i)</b>	Kilobyte Accept 1024 bytes Kilobite			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>17(b)(ii)</b>	Any <b>two</b> from: <ul style="list-style-type: none"> <li>• Give photographs / files relevant / meaningful names (1)</li> <li>• Create folders/save in folders / use albums (for groups of photographs) (1)</li> <li>• Sort the photographs into date / alphabetical order (1)</li> <li>• View as medium / large icons (to produce thumbnail images) / enable file preview (1)</li> <li>• Create / use tags (1)</li> <li>• Use Image Management software (1)</li> </ul>	Use Search		<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>17(b)(iii)</b>	Application(s) (software)			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>17(b)(iv)</b>	Systems (software) (1) Operating system (1)			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>17(b)(v)</b>	Graphics card / graphics chip (set) / graphic processor			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>17(b)(vi)</b>	Any <b>two</b> from: Wi-fi (1) Bluetooth (1) IR / IrDA (1)			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18 (a)(i)</b>	Spreadsheet			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(a)(ii)</b>	Any <b>two</b> from: <ul style="list-style-type: none"> <li>• (Total) number of students / (total) number of meals / (total) number of items (1)</li> <li>• Average (checkout) time per student / meal / item (1)</li> <li>• No. of students queuing at checkouts (1)</li> <li>• Average queueing time (1)</li> <li>• Time allowed (1 hour) (1)</li> </ul>	Number of checkouts	Assume one student buys one meal	<b>(2)</b>



Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(a)(iii)</b>	Any <b>two</b> from: <ul style="list-style-type: none"> <li>• Number of checkouts needed (at each time) (1)</li> <li>• Number of students passing through each checkout in time given / average time per student (1)</li> <li>• Average queuing time (1)</li> <li>• Maximum queuing time (1)</li> <li>• No. students in queue after 1 hour (1)</li> </ul>	Number of checkouts on its own		<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(a)(iv)</b>	Graph / chart (1)			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(a)(v)</b>	<p>Any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>• The variables can be changed (to try out different scenarios) / can compare different scenarios (1)</li> <li>• Can try out new systems before buying resources /no need to buy extra equipment / employ more staff to try out different scenarios (1)</li> <li>• Can run in accelerated time / don't need a day to try out scenarios (1)</li> <li>• Won't inconvenience to staff / students (1)</li> </ul>	No risk to anyone	Inconvenience = overcrowding, longer queueing times	<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(a)(vi)</b>	<p>Any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>• Cannot model exactly what will happen / is only a representation of real situation (1)</li> <li>• May be factors which interfere with 'normal' events (e.g. students may not all join shortest queue) (1)</li> <li>• A model is dependent on getting the 'rules' / inputs correct (1)</li> </ul>			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(a)(vii)</b>	<p>A description such as:</p> <p>Running a live test / recording live test outcomes (1) and comparing the outcomes with the results from the model (1)</p> <p>Award <b>one</b> mark for:</p> <p>Compare live and modelling results (1)</p> <p>Modelling outputs are in the question and could be inferred</p>		Must be a linked response for 2 marks	<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(b)(i)</b>	<ul style="list-style-type: none"> <li>• (Micro)chip (1)</li> <li>• Barcode (1)</li> <li>• QR code (1)</li> </ul>			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>18(b)(ii)</b>	Any <b>two</b> from: <ul style="list-style-type: none"> <li>• Transactions will be carried out faster (1)</li> <li>• Less time spent queuing (1)</li> <li>• Spending limited to balance on card (1)</li> <li>• No need to have cash / don't need to worry about having cash on a daily basis / reduces risk of losing cash (1)</li> <li>• Have a record of what they have spent (1)</li> </ul>	Faster or easier without expansion		<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(i)</b>	Local Area Network / LAN (1) Client-server (1)			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(ii)</b>	<ul style="list-style-type: none"> <li>• IP Address (1)</li> <li>• MAC address (1)</li> <li>• Unique computer name (1)</li> </ul>			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(iii)</b>	<p>Any <b>three</b> from:</p> <ul style="list-style-type: none"> <li>• Control network access / logon details (username and (initial) password) (1)</li> <li>• Control user accounts / access levels / access rights / user profiles (1)</li> <li>• Managing encryption / WEP / WPA (1)</li> <li>• Manages (centralised) backup (1)</li> <li>• Maintains transaction logs (1)</li> <li>• Manages the firewall / Gateway (1)</li> <li>• Manages (installation and updates of) anti-malware (1)</li> </ul> <p>Allow 'manages data going in and out of the network' for mp6</p>		Ignore references to network administrator /other people carrying out tasks	<b>(3)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(iv)</b>	<p>Any <b>three</b> from:</p> <ul style="list-style-type: none"> <li>• Can access/logon to the network from any workstation (1)</li> <li>• Can access/share centrally stored files/data (1)</li> <li>• Can share any (networked) peripherals / use shared peripherals (1)</li> <li>• All staff will be working on same version of software / no compatibility issues (1)</li> <li>• Can communicate via the network /between workstations / without the internet (1)</li> </ul>	<p>This question is based in an admin office not in a school / college. Do not accept responses relating to teaching or communication with students.</p> <p>Do not accept answers referring to security as this is in the question.</p>		<b>(3)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(v)</b>	<p>Any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>• Satellite (1)</li> <li>• VPN (1)</li> <li>• Wi-fi (1)</li> <li>• Dial up / DSL (1)</li> </ul> <p>Accept: 2G / 3G / 4G / GSM / HSPA (mobile broadband) (1)</p>	<p>Mobile broadband on its own.</p>		<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(vi)</b>	A description such as: (Router) receives (wireless) signals from a mobile device (1) and assigns an IP address to the mobile device / directs them to a network device / IP address (1)			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(a)(vii)</b>	A description involving any <b>two</b> of: <ul style="list-style-type: none"> <li>• Key is used to encrypt (data / signal) (1)</li> <li>• You need the key to decrypt (the data / signal) (1)</li> <li>• Key is calculated by the system (based on network password) (1)</li> </ul>			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(b)(i)</b>	Database (1) Accept spreadsheet (1)			<b>(1)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(b)(ii)</b>	<p>Any <b>three</b> from:</p> <p>Data must be</p> <ul style="list-style-type: none"> <li>• fairly / lawfully processed (1)</li> <li>• accurate / up to date (1)</li> <li>• fairly collected (1)</li> <li>• used only for its intended purpose (1)</li> <li>• not misused / used properly (1)</li> <li>• be adequate / not excessive (1)</li> <li>• relevant (1)</li> <li>• kept securely (1)</li> <li>• kept for no longer than necessary (1)</li> <li>• not transferred outside EU / to countries without similar restrictions / without authorisation (1)</li> <li>• available for individuals to check (1)</li> </ul>			<b>(3)</b>



Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>19(c)</b>	Any <b>two</b> from: <ul style="list-style-type: none"> <li>• Position screens so that light does not reflect off them (1)</li> <li>• Provide screen filters / anti-glare screens (1)</li> <li>• Provide suitable lighting (1)</li> <li>• Provide window blinds (1)</li> <li>• Provide regular eye tests (1)</li> <li>• Provide health and safety training / provide advice to staff e.g. taking breaks, adjusting monitors etc (1)</li> </ul>	Any actions taken by the staff		<b>(3)</b>

Question Number	Answer		Do Not Accept	Additional Guidance	Mark
<b>20(a)</b>	Trainer format	Notes pages (1)		Do not award reason without correct format. Format may be within the explanation of the reason.	
	Trainer reason	Computerised notes printed for (easy) reference (1) Computerised notes added more detail than slide (1)			
	Learner format 1	1/2/3/4 horizontal/4 vertical slides per page (1)			
	Learner reason 1	Gives space for learner to make own notes (1)			
	Learner format 2	Allow notes page (1)			
	Learner reason 2	(Tutor) provides additional explanation of slide (1)			
					<b>(4)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>20(b)(i)</b>	<p>Any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>• Reduced / no travelling costs/ accommodation costs (1)</li> <li>• Reduced / no travelling time (1)</li> <li>• Travelling may be difficult (1)</li> <li>• May be able to record presentation / course for (later reference) / may be able to view/access at any time (to suit themselves) (1)</li> </ul>			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>20(b)(ii)</b>	<p>Any <b>two</b> from:</p> <ul style="list-style-type: none"> <li>• Cost / need for IT equipment / need internet access / cost of internet access (1)</li> <li>• Must be IT literate (1)</li> <li>• May incur technical / power problems (1)</li> <li>• Time difference may be an issue (1)</li> <li>• Bandwidth issues/ time lag / latency may cause difficulties (1)</li> </ul>			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>20(b)(iii)</b>	<p>An explanation involving at least <b>two</b> of:</p> <ul style="list-style-type: none"> <li>• The learner is more likely / willing to ask questions / more likely to receive feedback and clarification (1)</li> <li>• Able to take advantage of opportunities for social interaction / learner will not feel isolated (1)</li> <li>• More able to concentrate in a face-to-face meeting / not disturbed by family etc (1)</li> <li>• More flexibility to tailor for learning styles in a face-to-face meeting / group activity is easier (1)</li> <li>• More interaction with others learners and teacher to aid learning / more discussion opportunities (1)</li> </ul>	Technical difficulties	Candidates may have assumed that online course is pre-recorded	<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>20(c)(i)</b>	<p>Any <b>three</b> from:</p> <ul style="list-style-type: none"> <li>• (Downloaded) videos can be viewed whenever they want / at a later time (1)</li> <li>• Don't need to have internet access once saved/downloaded (1)</li> <li>• Once downloaded quality of signal is not relevant / no buffering (1)</li> </ul> <p>Accept 4 and 5: may be possible with some downloads</p> <ul style="list-style-type: none"> <li>• May be able to save in a different format / transfer to other devices (1)</li> <li>• May be able to share with other learners (in the workplace) (1)</li> </ul>	Editing the video	<p>Reverse responses may be given:</p> <ul style="list-style-type: none"> <li>• Streaming may buffer, lag</li> <li>• Need internet access to view when streaming</li> <li>• Can only view at the time when streaming</li> </ul>	<b>(3)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>20(c)(ii)</b>	<p>Any <b>three</b> from:</p> <ul style="list-style-type: none"> <li>• Have to wait until entire video is downloaded before viewing / longer to download and then watch (1)</li> <li>• Need to store on learner's computer / storage capacity may be a problem (1)</li> <li>• May not be the most up to date version when viewed (1)</li> <li>• Copyright may be an issue (if sharing with others) (1)</li> <li>• Cannot watch 'live' (1)</li> </ul>			<b>(3)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>21(a)</b>	Virus / malware	Anti-virus / anti malware software	Software names Do not accept method without sensible risk	Accept examples of malware such as Trojan / worms / spyware
	Hacking / unauthorised access	Firewall / encryption		

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>21(b)</b>	Any <b>two</b> from: <ul style="list-style-type: none"><li>• Encrypt (email/content) (1)</li><li>• Use secure email software (1)</li><li>• Use a secure network / personal hotspot / TOR / VPN (1)</li><li>• Use encrypted transmission (1)</li></ul>			<b>(2)</b>

Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<b>21(c)(i)</b>	<p>Any <b>three</b> from:</p> <ul style="list-style-type: none"> <li>• Can easily access multiple books wherever you are / multiple books stored on a single portable device (1)</li> <li>• Much easier / lighter to carry multiple books around / multiple printed books are heavier to carry (1)</li> <li>• Can download new books whenever has internet access / where there are no book shops (1)</li> <li>• Can change font (text) size / style to help readability (1)</li> <li>• Can transfer between electronic devices / books can be backed up electronically (1)</li> <li>• Most can be read in the dark/poor light / can adjust the screen settings e.g. contrast, brightness (1)</li> <li>• Can read to you / turn text into spoken speech (1)</li> <li>• Includes text search (1)</li> <li>• The library of books is (easily) organised by author / subject etc (1)</li> <li>• Out of print books often available in e-reader format on the internet (1)</li> </ul>			<b>(3)</b>



Question Number	Answer	Do Not Accept	Additional Guidance	Mark
<input type="checkbox"/> 21(c)(ii)	<p>Any <b>three</b> from:</p> <ul style="list-style-type: none"> <li>• Not all books are available in electronic format (1)</li> <li>• Reliant on technology / dependent on battery life (1)</li> <li>• Need an internet connection to download books (1)</li> <li>• Copyright / licensing / ownership issues (1)</li> <li>• Many people prefer 'feel' of books (1)</li> <li>• May be problems reading in sunlight (1)</li> <li>• Limited ability to share / re-sell (1)</li> </ul>			<b>(3)</b>

Question Number	Answer	Mark
<b>21(d)</b>	<p><b>Indicative content</b></p> <p>Benefits</p> <ul style="list-style-type: none"> <li>• Easy / accessible way to keep in touch with friends</li> <li>• Can build relationships with new people</li> <li>• Can be used on multiple devices (with internet access)</li> <li>• Used by many people / very popular</li> <li>• Can share / post / upload images / videos</li> <li>• Can use privacy settings / block / so feel safe</li> <li>• Can create groups with shared interests</li> <li>• Can use chat e.g. messenger in Facebook</li> <li>• Synchronise across apps and devices</li> </ul> <p>Drawbacks</p> <ul style="list-style-type: none"> <li>• People not always who they say they are</li> <li>• Identity theft</li> <li>• Grooming / paedophiles</li> <li>• Cyber bullying</li> <li>• Hacking / virus / security issues</li> <li>• Easy to spend too much time on sites at the expense of other things e.g. school work / exercise</li> <li>• Potential employers may see content / must be very careful what is posted</li> </ul>	<b>(6)</b>

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
1	<b>1 - 2</b>	The candidate will have produced brief responses. They will have identified some benefits or drawbacks. Only a limited number of points will have been considered. Very limited understanding will be shown.
2	<b>3 - 4</b>	Points will be described, but may have limited detail. The candidate will have considered some benefits <b>and</b> drawbacks. The discussion may be mainly one sided. The response may be unstructured.
3	<b>5 - 6</b>	It will make a number of useful points that show a clear understanding of the issues. The discussion will involve benefits and drawbacks and will be balanced. Some points will be discussed in detail. The discussion will show an understanding of the issues.

