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**Mark Scheme (Results)**

**October 2023**

**Pearson Edexcel International Lower Secondary  
Curriculum In Computing (LCP11)  
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.

## Section A

Question number	Answer	Mark
1	Award <b>one</b> mark for:  Operating system/OS	(1)

Question number	Answer	Mark
2	<b>The only correct answer is B</b>  <i>A is not correct because applications are licensed, rather than being types of licence</i> <i>C is not correct because Unicode is a text encoding format</i> <i>D is not correct because utilities are licensed, rather than being a type of licence</i>	(1)

Question number	Answer	Mark
3a	Award <b>one</b> mark for each of:  A DVD is a type of <b>optical</b> disc. (1) Hard drives store data on <b>magnetic</b> media. (1)	(2)

Question number	Answer	Mark
3b	Award <b>one</b> mark for:  The CPU executes <b>instructions</b> that are stored in main memory.	(1)

Question number	Answer	Mark
3c	<b>The only correct answer is D</b>  <i>A is not correct because the CPU processes the boot sequence</i> <i>B is not correct because the boot sequence tells the computer where the hard-disk drive is</i> <i>C is not correct because an array is a programming concept</i>	(1)

Question number	Answer	Mark
4	<p>Award <b>one</b> mark for each correct line:</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Utility software</p> <div style="border: 1px solid black; padding: 2px; width: 100px; margin-bottom: 5px;">Anti-malware</div> <div style="border: 1px solid black; padding: 2px; width: 100px; margin-bottom: 5px;">Compression</div> <div style="border: 1px solid black; padding: 2px; width: 100px;">Back up</div> </div> <div style="text-align: center;"> <p>Purpose</p> <div style="border: 1px solid black; padding: 2px; width: 150px; margin-bottom: 5px;">Creates copies of data</div> <div style="border: 1px solid black; padding: 2px; width: 150px; margin-bottom: 5px;">Prevents files from being deleted</div> <div style="border: 1px solid black; padding: 2px; width: 150px; margin-bottom: 5px;">Reduces file sizes</div> <div style="border: 1px solid black; padding: 2px; width: 150px; margin-bottom: 5px;">Removes files</div> <div style="border: 1px solid black; padding: 2px; width: 150px;">Stops spyware</div> </div> </div> <p>Do not award answers with more than one line to and from any of the boxes.</p>	(3)

Question number	Answer	Mark
5a	<p>Award <b>one</b> mark for any of the following:</p> <ul style="list-style-type: none"> <li>• expired (1)</li> <li>• used (1)</li> </ul>	(1)

Question number	Answer	Mark
5b	<p>Award <b>one</b> mark for:</p> <p>ticket</p>	(1)

Question number	Answer	Mark
5c	<p><b>The only correct answer is B</b></p> <p><i>A is not correct because it is a relational/comparison operator</i></p> <p><i>C is not correct because it is not an operator</i></p> <p><i>D is not correct because it is not an operator</i></p>	(1)

Question number	Answer	Mark
5d	<p>Award <b>one</b> mark for:</p> <p>An argument is passed to a <b>parameter</b> in a subprogram.</p>	(1)

Question number	Answer	Mark
6a	<p>Award <b>one</b> mark for:</p> <pre> 1 pin = input("Enter the PIN: ") 2 pin = int(pin) 3 if pin == 3684: 4     welcome() </pre>	(1)

Question number	Answer	Mark
6b	<p>Award up to <b>two</b> marks for a linked explanation such as:</p> <p>It would cause a (logic) error (when the comparison with 3684 is made) (1) because input is taken as string / the pin is an integer (1)</p> <p>The subprogram welcome() will never execute (1) because input is taken as string / the pin is an integer (1)</p> <p>Award marks for responses such as: strings cannot be compared (1) against integers (1)</p>	(2)

Question number	Answer	Mark						
7	<p>Award <b>one</b> mark for each correct cell:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Code</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>print (word[-1])</td> <td>e</td> </tr> <tr> <td>print (word[2:])</td> <td>ructure</td> </tr> </tbody> </table>	Code	Output	print (word[-1])	e	print (word[2:])	ructure	(2)
Code	Output							
print (word[-1])	e							
print (word[2:])	ructure							

Question number	Answer	Mark
8	<p>Award <b>one</b> mark for any of the following up to a maximum of <b>two</b> marks:</p> <ul style="list-style-type: none"> <li>• privacy (1)</li> <li>• inclusion / digital divide (1)</li> <li>• equality / inequality (1)</li> <li>• environmental damage (1)</li> <li>• employment issues (1)</li> <li>• AI (1)</li> </ul> <p>Responses can be positive or negative, but do not accept the reverse for a second mark.</p>	(2)

Question number	Answer	Mark
9a	<p>Award <b>one</b> mark for:</p> <p>Data is split into <b>packets</b> for transfer across a network.</p>	(1)

Question number	Answer	Mark
9b	<p><b>The only correct answer is C</b></p> <p><i>A is not correct because this is the role of a firewall</i>  <i>B is not correct because this would be done by a receiver</i>  <i>D is not correct because ID cards/CCTV are physical security options</i></p>	(1)

Question number	Answer	Mark
9c	<p>Award <b>one</b> mark for any of the following:</p> <ul style="list-style-type: none"> <li>• more reliable (1)</li> <li>• less interference (1)</li> <li>• not affected by physical barriers (1)</li> <li>• stronger signal / less loss (over large distance) (1)</li> <li>• harder (for unauthorised users) to intercept / more secure (1)</li> </ul>	(1)

Question number	Answer	Mark
10	<p>Award <b>one</b> mark for any of the following:</p> <ul style="list-style-type: none"> <li>to restrict / allow access to particular URLs / IP addresses (1)</li> <li>to control what content users are allowed to access (1)</li> </ul>	(1)

Question number	Answer	Mark
11	<p><b>The only correct answer is B</b></p> <p><i>A is not correct because a browser displays online content</i>  <i>C is not correct because a protocol is used to transfer data on the Internet</i>  <i>D is not correct because a search engine is used to find online content</i></p>	(1)

Question number	Answer	Mark
12	<p>Award <b>one</b> mark for:</p> <p>A URL is the address of a <b>web server</b></p>	(1)

Question number	Answer	Mark
13	<p>Award <b>one</b> mark for:</p> <p>A <b>modem</b> converts digital data to analogue data.</p>	(1)

Question number	Answer	Mark
14a	<p>Award <b>one</b> mark for any of the following:</p> <ul style="list-style-type: none"> <li>NFC / Near field communication (1)</li> <li>RFID (1)</li> </ul>	(1)

Question number	Answer	Mark
14b	<p>Award <b>one</b> mark for any of the following:</p> <ul style="list-style-type: none"> <li>HTTPS (1)</li> <li>SSL (1)</li> <li>TLS (1)</li> </ul>	(1)

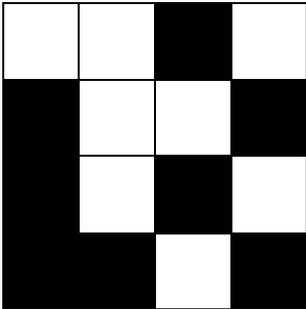
Question number	Answer	Mark														
15a	<p>Award <b>one</b> mark for one correctly numbered step  Award <b>two</b> marks for two correctly numbered steps  Award <b>three</b> marks for four correctly numbered steps</p> <table border="1"> <thead> <tr> <th></th> <th>STEP</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Start with the first item in the list</td> </tr> <tr> <td>4</td> <td>Move to the next item in the list.</td> </tr> <tr> <td>6</td> <td>Go back to the start of the list</td> </tr> <tr> <td>3</td> <td>If the value of the item is greater than the value of the next item, swap the items.</td> </tr> <tr> <td>5</td> <td>Continue steps 2 to 4 until there are no more items to compare</td> </tr> <tr> <td>2</td> <td>Compare the value of the item with the value of the next item</td> </tr> </tbody> </table> <p>Pre stand needs to consider how follow through from incorrect numbering can be dealt with</p>		STEP	1	Start with the first item in the list	4	Move to the next item in the list.	6	Go back to the start of the list	3	If the value of the item is greater than the value of the next item, swap the items.	5	Continue steps 2 to 4 until there are no more items to compare	2	Compare the value of the item with the value of the next item	(3)
	STEP															
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4	Move to the next item in the list.															
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3	If the value of the item is greater than the value of the next item, swap the items.															
5	Continue steps 2 to 4 until there are no more items to compare															
2	Compare the value of the item with the value of the next item															

Question number	Answer	Mark
15b	<p>Award up to <b>two</b> marks for a linked description such as:</p> <p>When no swaps have been made (1) during a (full) pass (1).</p>	(2)

Question number	Answer	Mark
15c	<p><b>The only correct answer is C</b></p> <p><i>A is not correct because the algorithm will still need to loop for each pass of the list values</i>  <i>B is not correct because the first item needs to be checked against the second value each pass</i>  <i>D is not correct because the number of items in the list stays constant</i></p>	(1)

Question number	Answer	Mark
16a	<p><b>The only correct answer is B</b></p> <p><i>A is not correct because 4 is the number of bits in a nibble</i></p> <p><i>C is not correct because 1000 is the number of bytes in a kilobyte</i></p> <p><i>D is not correct because 1024 is the number of bytes in a kibibyte</i></p>	(1)

Question number	Answer	Mark
16b	<p>Award <b>one</b> mark for each correct nibble in the correct order:</p> <p>(0)101 1011</p>	(2)

Question number	Answer	Mark
16c	<p>Award <b>one</b> mark for any correct row</p> <p>Award <b>two</b> marks for all rows correct</p> <div style="text-align: center;">  </div> <p>Award marks for inverse.</p>	(2)

Question number	Answer	Mark
17a	<p>Award <b>one</b> mark for any of the following up to a maximum of <b>two</b> marks:</p> <ul style="list-style-type: none"> <li>• <b>Increase</b> bit/colour depth (1)</li> <li>• <b>Increase</b> resolution / pixels (per inch/ppi) (1)</li> </ul>	(2)

Question number	Answer	Mark
17b	Award <b>three</b> marks for a linked description such as: <ul style="list-style-type: none"> <li>• the voltage/amplitude of a signal (1) is sampled (1) at regular intervals (1)</li> <li>• an analogue wave (1) is converted to binary (1) at regular intervals (1)</li> </ul>	<b>(3)</b>

Question number	Answer	Mark
18	Award <b>one</b> mark for:  e	<b>(1)</b>

Question number	Answer	Mark
19	Award <b>one</b> mark for each of: <ul style="list-style-type: none"> <li>• score (1)</li> <li>• &gt; (1)</li> <li>• highscore (1)</li> <li>• score (1)</li> </ul>	<b>(4)</b>

## Section B

Question number	Answer	Mark
20	Award <b>one</b> mark for:  Vector graphics files use <b>paths</b> to draw lines.	(1)

Question number	Answer	Mark
21	<b>The only correct answer is C</b>  <i>A is not correct because a vector can be cropped</i> <i>B is not correct because a vector can be used to create digital art</i> <i>D is not correct because a vector image can be resized</i>	(1)

Question number	Answer	Mark
22	Award <b>one</b> mark for:  The image (of the face) would not look as realistic/detailed.	(1)

Question number	Answer	Mark
23	Award up to <b>two</b> marks for a linked explanation such as:  A vector graphic (1) because it will mean the quality can be retained (when enlarged) / because it will not pixelate (when enlarged) / because it is made up of points and coordinates / because it is made up of paths which can be re-calculated (when enlarged) (1)  Accept appropriate examples of a file extension (e.g. .svg) for the first mark	(2)

Question number	Answer	Mark
24a	Award <b>one</b> mark for any of the following: <ul style="list-style-type: none"> <li>• sound (1)</li> <li>• video (1)</li> <li>• animation (1)</li> <li>• multimedia (1)</li> </ul>	(1)

Question number	Answer	Mark
24b	Award <b>one</b> mark for:  An image can include a <b>hyperlink</b> to external content.	(1)

Question number	Answer	Mark
25a		(2)

Question number	Answer	Mark
25b	Award <b>one</b> mark for any of the following: <ul style="list-style-type: none"> <li>• landscape (1)</li> <li>• portrait (1)</li> </ul>	(1)

Question number	Answer	Mark
26	Award <b>one</b> mark for:  callout	(1)

Question number	Answer	Mark
27a	<p><b>The only correct answer is A</b></p> <p><i>B is not correct because data in flat files are not linked</i>  <i>C is not correct because queries can be run on flat file data</i>  <i>D is not correct because flat files can contain unnecessary data</i></p>	(1)

Question number	Answer	Mark
27b	<p><b>The only correct answer is B</b></p> <p><i>A is not correct because Boolean values have two options</i>  <i>C is not correct because Boolean values have two options</i>  <i>D is not correct because Boolean values have two options</i></p>	(1)

Question number	Answer	Mark
27c	<p><b>The only correct answer is C</b></p> <p><i>A is not correct because ^ is an arithmetic (exponent) operator</i>  <i>B is not correct because \ is an arithmetic (division) operator</i>  <i>D is not correct because {} is not an operator</i></p>	(1)

Question number	Answer	Mark
27d	<p>Award <b>one</b> mark for:</p> <p>Each <b>row</b> in a table represents a record.</p>	(1)

Question number	Answer	Mark
28	<p><b>The only correct answer is C</b></p> <p><i>A is not correct because this is the reason for using a defragmentation tool</i>  <i>B is not correct because the use of a hosted application is not dependent on file compression</i>  <i>D is not correct because the number of files is not relevant to the file storage used by each (or all) file(s)</i></p>	(1)

Question number	Answer	Mark
29	<p><b>The only correct answer is B</b></p> <p><i>A is not correct because it is faster to access files on local storage than cloud-based storage</i></p> <p><i>C is not correct because folders are not always automatically compressed when using cloud storage</i></p> <p><i>D is not correct because local storage will still be required</i></p>	(1)

Question number	Answer	Mark
30a	<p>Award <b>one</b> mark for:</p> <p>3</p>	(1)

Question number	Answer	Mark
30b	<p>Award <b>one</b> mark for each pair up to a maximum of 3 marks:</p> <p>=D7 * 5 + E7 * 3 - F7 * 2</p> <p>Ignore order of first pair (should be any pair)</p> <p>Ignore bracket</p>	(3)

Question number	Answer	Mark
30c	<p>Award one mark for any of:</p> <ul style="list-style-type: none"> <li>• scattergraph</li> <li>• line graph</li> </ul>	(1)

Question number	Answer	Mark
30d	<p>Award <b>one</b> mark for use of MAX and <b>one</b> mark for correct cell range.</p> <p>=MAX(D2:D7)</p> <p>Accept for <b>two</b> marks:</p> <p>=MAX(D1:D7)</p>	(2)

Question number	Answer	Mark
31a	<p>Award <b>one</b> mark for:</p> <p>head</p>	(1)

Question number	Answer	Mark
31b	<p>Award <b>two</b> marks for a linked explanation such as:</p> <ul style="list-style-type: none"> <li>• It avoids errors / pages can be created more quickly (1) because the HTML is created for you / because you can preview the output as you create the page (1)</li> <li>• More people can create webpages (1) because less specialist knowledge is required (1)</li> </ul>	<b>(2)</b>

Question number	Answer	Mark
32a	<p>Award <b>one</b> mark for any of the following:</p> <ul style="list-style-type: none"> <li>• more (specialist) tools are available (1)</li> <li>• more formats can be exported (1)</li> </ul>	<b>(1)</b>

Question number	Answer	Mark
32b	<p>Award <b>two</b> marks for a linked explanation such as:</p> <ul style="list-style-type: none"> <li>• It can inform what the company should do next (1) because trends allow the company to make predictions based on past performance (e.g. the rate of increase of electric cars vs fossil-fuelled cars) (1)</li> </ul>	<b>(2)</b>

