

6-A-Day – Computer Science GCSE (4)

Q1	<p>1(a)(i) An advertisement for a personal computer is shown below. What is software?</p> <ul style="list-style-type: none"> • Programs (which can be run on the computer) <p style="text-align: right;">[1]</p> <p>1(a)(ii) Give <u>one</u> example of software from the advertisement.</p> <ul style="list-style-type: none"> • Suitable example, eg PS Anti-virus <p style="text-align: right;">[1]</p>																																				
Q2	<p>The table below contains a list of hardware devices. Tick <u>one</u> box in each row to show what type of device it is. The first one has been done for you.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Hardware Device</th> <th style="padding: 5px;">Input</th> <th style="padding: 5px;">Output</th> <th style="padding: 5px;">Processing</th> <th style="padding: 5px;">Storage</th> <th style="padding: 5px;">Communication</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Monitor</td> <td></td> <td style="text-align: center;">✓</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">CPU</td> <td></td> <td></td> <td style="text-align: center;">✓</td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Mouse</td> <td style="text-align: center;">✓</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">DVD-Drive</td> <td></td> <td></td> <td></td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td style="padding: 5px;">Speakers</td> <td></td> <td style="text-align: center;">✓</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="margin-top: 10px;">[1 mark per row. Do not award mark if more than one box ticked per row]</p> <p style="text-align: right;">[4]</p>	Hardware Device	Input	Output	Processing	Storage	Communication	Monitor		✓				CPU			✓			Mouse	✓					DVD-Drive				✓		Speakers		✓			
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Q3	<p>2(a) Mary's computer has an 800MHz CPU and 1GB of RAM. Describe the purpose of the CPU. e.g. Controls the operations of the computer (1). Fetches (1) and executes instructions (to allow software to run) (1) Max 2.</p> <p style="text-align: right;">[2]</p>																																				

Q4	<p>2(b) Mary wants to upgrade this computer so that she can play the latest games. Explain <u>two</u> ways by which the computer can be upgraded to improve its performance.</p> <ul style="list-style-type: none">• Higher processor speed (1) to increase the number of instructions the processor can carry out in a given time (1)• CPU with more cores (1) which share the load of running the game (1).• More RAM (1) to increase the number of programs/amount of data that the computer can handle at the same time (1) <p>2 marks per bullet. Max 4</p>	[4]
Q5	<p>3(a) Convert the denary number 106 into an 8 bit binary number. 0110 1010 (1 mark per nibble)</p> <p>3(b) Convert the denary number 106 into Hexadecimal. 6A (1 mark per digit)</p>	[2] [2]
Q6	<p>4(a) Peter takes a high resolution picture with a digital camera. The picture is stored in a bitmap file. Describe how a picture is stored in a bitmap file.</p> <ul style="list-style-type: none">• The picture is split into dots/pixel• Each pixel is given a binary code (which says what colour it is)• The bitmap file contains the list of pixels• ... and header/meta information on how to display them (e.g. height and width, resolution, colour depth) <p>(1 mark for each bullet, Max 3)</p>	[3]