

6-A-Day – Computer Science GCSE (44)

Q1	<ul style="list-style-type: none"> • Instructions/programs(currently running)/data are stored in the RAM... • these are fetched <u>from the RAM</u> by the CPU /Processor • ... where the instructions are executed / instructions are processed / data is processed 	3	<p>If the candidate has described the functions of RAM and the CPU separately, only award the 2nd bullet if it is clearly stated that instructions are fetched from RAM.</p> <p>Mention of the fetch – execute cycle in the CPU is enough to award bullet 3.</p>						
Q2	<ul style="list-style-type: none"> • To store instructions/data that is frequently used / previously used / next to be used • Data does not need to be fetched from RAM • Speeds up access 	2							
Q3	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">a</td> <td style="width: 5%; text-align: center;">i</td> <td style="width: 90%;"> <ul style="list-style-type: none"> • (Part of the instruction which) specifies the operation to be carried out • e.g. 00001000 = add to timer/00000100 = subtract from timer </td> </tr> <tr> <td></td> <td style="text-align: center;">ii</td> <td> <ul style="list-style-type: none"> • (Part of the instruction which) supplies the data/ address/value needed for an operation • e.g. the number to be added/subtracted from the timer / numerical example from the table (00010100 or 00000001) </td> </tr> </table>	a	i	<ul style="list-style-type: none"> • (Part of the instruction which) specifies the operation to be carried out • e.g. 00001000 = add to timer/00000100 = subtract from timer 		ii	<ul style="list-style-type: none"> • (Part of the instruction which) supplies the data/ address/value needed for an operation • e.g. the number to be added/subtracted from the timer / numerical example from the table (00010100 or 00000001) 	2	<p>The answer must refer specifically to the operation to be carried out and not the instruction as a whole.</p> <hr/> <p>For data, accept number/integer.</p>
a	i	<ul style="list-style-type: none"> • (Part of the instruction which) specifies the operation to be carried out • e.g. 00001000 = add to timer/00000100 = subtract from timer 							
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Q4	<p style="text-align: center;">00000101 00011110</p> <p>1 mark per byte</p>	2	<p>All 8 bits must be correct for each byte.</p>						
Q5	<ul style="list-style-type: none"> • Instructions and data are fetched at different points of the fetch execute cycle • Instructions and data are kept in separate parts of the memory (by the operating system) 	1	<p>Award the mark for:</p> <ul style="list-style-type: none"> • The program counter points to the address of instructions 						
Q6	<p>e.g.</p> <ul style="list-style-type: none"> • record log on / log off times • remote access / view users' screens • audit printing • keylogging • monitor internet usage / downloads • monitoring emails / files sent / copied • inspect files in users' areas 	2	<p><i>Accept answers which show how the LAN is used to <u>monitor the work of employees</u> rather than advantages of using a LAN in general</i></p>						