Mark Scheme - GCSE Computing Topic 1 (Unit 2.1.2)

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| **Qn** | **Answer** | **Marks** |
| 1a | 4GB | 1 |
| 1b | Storage capacity / HDD size | 1 |
| 1c | Windows 7 / Operating System | 1 |
| 2 | Keyboard - InputTouchscreen - Input AND OutputUSB stick - Storage Modem - Communication CPU - Processing Scanner - Input | 6 correct - 4 marks4/5 correct - 3 marks2/3 correct - 2 marks1 correct - 1 mark |
| 3a | Short term memoryfor currently running programs and currently used data | 111 (max 2) |
| 3b | **Processor**Faster execution of instructions**RAM**More programs/files open without having to resort to virtual memory**HDD**More virtual memory, so better able to cope with more programs running simultaneously | **1 for component**1 for reasonDon’t allow same component twice (e.g. clock speed & cache size both mean processor)Max 4 |
| 3c | **Upgrade**Less expensive in the short term, less environmental impact as fewer parts to recycle. Upgrade might provide limited improvement**Replace**More expensive in the short term, more environmental impact as more to recycle. Replacement mightprovide significant improvement | Marked in bands. For full marks, must include:Full consideration. Clear answer/advice. Technical language. SPaG.Max 6 |
| 4a | Fetch instructions Execute instructions Store results | 111 (max 2) |
| 4b | i. More instructions executed per second ii.More data available for fast accessiii.More instructions executed simultaneously | 111 |

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| **Qn** | **Answer** | **Marks** |
| 5a | RAM is volatile / ROM is notRAM is (easily) rewriteable / ROM is notRAM is for currently running programs / ROM is for startup instructions | 1 per responseMax 2 |
| 5b | i. Memoryii.Acts as a buffer between main memory and CPUiii.Using part of the HDD as an extension to RAM | 111 |
| 6a | Data could be damaged, erased or corrupted Meaning that the data (e.g. photo) could not be retrieved / would be lost permanently | 1 for loss1 for consequence |
| 6b | i. CD/DVD/BluRayii.HDD, floppy disc, DAT tape iii.USB stick, SSD, memory card | 111 |
| 6c | Answers don’t necessarily have to refer to the above choices.Consideration should include physical size, storage capacity, robustness, cost and portability.Good answers might suggest external HDD for backup and CD-ROM for sending work to clients | Marked in bands. For full marks, must include:Full consideration. Clear answer/advice. Technical language. SPaG.Max 6 |
| 7 | e.g.* Immediately available...
* ... so the shopkeeper can start using it straightaway
* Tried and tested …
* and so less likely to have errors
* No development costs...
* ... as this has already been borne by the developer
* More support available...
* ... many other users who can provide help/third party help books, help lines or web sites available

(marks in pairs) |  |
| 8a | Antivirus * Scans the computer periodically
* To check if any software has been installed which contains code that may harm the computer
* Removes/quarantines these programs / notifies the user
* Prevents these programs from being installed
* Protects the computer by preventing important files (e.g. the boot sector or operating system) from being changed
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| 8b | Disk defragmenter * Moves (parts of) of files around so that all parts of a file are stored together (allowing files to be accessed more quickly)
* Free space is collected together (allowing large files to be saved easily)
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