**Answers**

1. Anika has found an old computer from the 90s in her grandfather’s loft. When she sets up the computer and turns it on it has a command line interface.

Describe what is meant by a command line interface. [2]  
  
It is an interface where the user has to enter specific commands to use the operating system (1) For example to move or delete files / to run a program (1).

(a) State **one** benefit and **one** drawback of using this type of interface. [2]  
  
Benefit: \_\_\_  
  
It is quicker to type commands than using a mouse to click on GUI objects (1).  
  
Drawback: \_\_\_  
  
The commands must be typed perfectly to work (1)  
Users must learn commands before they can use the system / more complicated to use the system (1).

(b) Anika normally uses a graphical user interface (GUI) when using her computer. Her grandfather says that by typing in a command she can load a GUI on the computer.

(i) State **two** features of a graphical user interface. [2]

Windows (1), Icons (1), Menus (1), Pointer (1).

(ii) Explain **two** benefits for Anika of using a graphical user interface over the command line interface. [4]

It is easier for beginners/non-technical users (1) as they don’t need to learn commands / type commands perfectly (1).

Features such as drag and drop (1) allow users to carry out complicated commands intuitively (1).

Most computers use GUIs (1) so she will be able to ask for help from other family members/friends (1).

(c) Anika would like to update the operating system to a newer one. Discuss the   
factors that Anika should consider before making her decision about upgrading   
the operating system. [8]

* The upgrade may cost money.
* The newer operating system needs to be compatible with the hardware.
* The newer operating system is unlikely to be compatible with the software on the computer.
* Installing a new operating system on an older computer is likely to be complicated – does she have the skills/knowledge to do this / she may need to employ an expert.
* The new operating system is likely to run very slowly (have poor performance) as the hardware is older / the new OS will be more demanding.
* Even if the new operating system can be installed, other software may not work with older hardware.
* The newer operating system installed may still be an old operating system (e.g. installing Windows 95 on a Windows 3.1/DOS computer. This operating system would still have significant security risks.
* If the operating system installation fails / power failure during installation, the computer may become unusable with either the old or new operating system.
* (Old) hardware device drivers may be unavailable for the newer operating system.
* She may need to delete old files in order to make space for the new operating system.

| **Level** | **Mark** | **Descriptor** |
| --- | --- | --- |
| Level 0 | 0 | No rewardable material. |
| Level 1 | 1-2 | Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.  Issues are identified but chains of reasoning are not made, leading to a superficial understanding. |
| Level 2 | 3-5 | Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question.  There is consideration of relevant issues using logical chains of reasoning.  Considers the various elements of the question. |
| Level 3 | 6-8 | Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question.  There is a balanced and wide-ranging consideration of relevant issues, using coherent and logical chains of reasoning that shows a full awareness.  Carefully considers the various elements of the question. |

(d) Anika makes the upgrade to a newer operating system. She notices that a hard disk access light on the computer is constantly flashing and the computer is running very slowly. Explain the most likely cause of this problem. [2]  
  
The computer has insufficient RAM (1) so is having to make use of virtual memory / swap data between RAM and the hard disk / thrashing (1)

[Total 20 marks]