

6 (a) The operating system (OS) contains code for performing various management tasks.

The appropriate code is run when the user performs various actions.

Draw a line to link each OS management task to the appropriate user action.

OS management task	Action
Main memory management	The user moves the mouse on the desktop
Input/Output management	The user closes the spreadsheet program
Secondary storage management	The user selects the Save command to save their spreadsheet file
Human computer interface management	The user selects the Print command to output their spreadsheet document

[3]

(b) A user has the following issues with the use of his PC.

State the utility software which should provide a solution.

(i) The hard disk stores a large number of video files. The computer frequently runs out of storage space.

Utility software solution[1]

(ii) The user is unable to find an important document. He thinks it was deleted in error some weeks ago. This must not happen again.

Utility software solution[1]

(iii) The operating system reports 'Bad sector' errors.

Utility software solution[1]

(iv) There have been some unexplained images and advertisements appearing on the screen. The user suspects it is malware.

Utility software solution[1]

3 An operating system (OS) is usually pre-installed on a new computer.

(a) The OS performs a number of different tasks such as memory management and security management.

(I) State **three** memory management tasks the OS performs.

- 1
- 2
- 3

[3]

(II) State **three** security management tasks the OS performs.

- 1
- 2
- 3

[3]

(III) State **two** tasks, other than memory management and security management that are carried out by an OS.

- 1
- 2

[2]

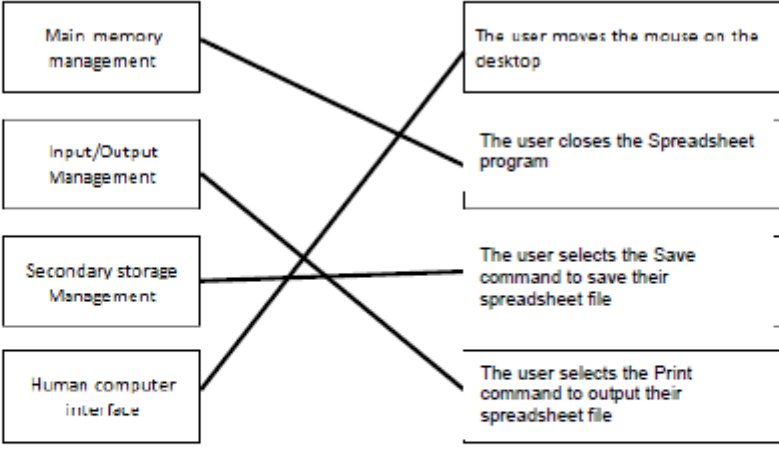
(b) Utility software is usually pre-installed on a new computer.

The following table lists four programs. Put **one** tick (✓) in each row to indicate whether or not the program is utility software.

Program	True	False
Disk Defragmenter		
Word Processor		
Library Program		
Compression Software		

[4]

Answers

Question	Answer	Marks
6(a)	 <p><u>One</u> mark for each correct line from each left hand box to max <u>three</u> marks.</p>	3
6(b)(i)	File compression software	1
6(b)(ii)	Backup software	1
6(b)(iii)	Disk repair software	1
6(b)(iv)	Anti-virus software	1

Question	Answer	Marks															
3(a)(i)	1 mark per bullet to max 3 <ul style="list-style-type: none"> <input type="checkbox"/> Allocates / deallocates RAM to programs/tasks/processes <input type="checkbox"/> Keeps track of allocated and free memory locations <input type="checkbox"/> Swaps data to and from the hard drive <input type="checkbox"/> Handles virtual memory <input type="checkbox"/> Paging // segmentation <input type="checkbox"/> Memory protection, preventing a process accessing memory not allocated to it 	3															
3(a)(ii)	1 mark per bullet to max 3 <ul style="list-style-type: none"> <input type="checkbox"/> Sets up user accounts <input type="checkbox"/> Checks usernames, passwords // Authentication <input type="checkbox"/> Implements access rights <input type="checkbox"/> <u>Automatic</u> backup <input type="checkbox"/> System restore / roll back (to previous stable state) 	3															
3(a)(iii)	1 mark per bullet to max 2 <ul style="list-style-type: none"> <input type="checkbox"/> Device / peripheral management <input type="checkbox"/> File management <input type="checkbox"/> Process management <input type="checkbox"/> Input / output management <input type="checkbox"/> Error detection / recovery <input type="checkbox"/> Provides a user interface <input type="checkbox"/> Facilitates communication between hardware and software / hardware devices 	2															
3(b)	1 mark for each correct box ticked <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Programs</th> <th>True</th> <th>False</th> </tr> </thead> <tbody> <tr> <td>Disk Defragmenter</td> <td>✓</td> <td></td> </tr> <tr> <td>Word Processor</td> <td></td> <td>✓</td> </tr> <tr> <td>Library program</td> <td></td> <td>✓</td> </tr> <tr> <td>Compression Software</td> <td>✓</td> <td></td> </tr> </tbody> </table>	Programs	True	False	Disk Defragmenter	✓		Word Processor		✓	Library program		✓	Compression Software	✓		4
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