Name:

Class Teacher:

Date:

OCR J276
GCSE Computer Science

REVISION BOOKLET – MARK SCHEME

1.7 SYSTEMS SOFTWARE

Content in J276 GCSE Computer Science:

EXAM QUESTIONS

QUESTION 1

A restaurant has a computer-based ordering system which is running slowly. A technician has said that the hard disc drive is fragmented. The technician has suggested using utility software to defragment the drive. Explain how the restaurant's hard disc could have become fragmented.

1	a		- Orders have been saved onto the system as they order food and then deleted once processed (1) - Once other orders have been made, new files are created (1) which may be bigger than the spaces left by the deleted files (1) - The order files are split up (1)	4	Up to a maximum of 4 marks. A maximum of three marks if there is no contextualisation Allow a mark if candidate's state that fragmentation increases access time (1)

Explain how defragmentation software could overcome the issue of the slow computer system.

	b		- Files on the hard disc drive are moved (1) - Empty spaces collected together (1) - Files are moved to be stored together (1) - Fewer disc accesses are needed (1)	3	Up to a maximum of 3 marks.

QUESTION 2

Amin buys a new computer with an operating system and some utilities. State **two** functions of the operating system.

2	a		e.g. - Provides interfaces between user and computer / Determines look and feel of the computer - Provides a platform for software to run - Manages peripherals used by the system - Manages memory	2	**Examiner's** **Comments** This question was fairly well answered.

The table below shows some of the utilities in Amin's computer. Tick **one** box in each row to show whether the utility is used for security or disk organisation.

b	Utility	Used for security	Used for disk organisation	4	This question was answered correctly by almost all candidates.
	Antivirus	?			
	Defragmenter		?		
	File transfer		?		
	Firewall	?			

Some of the software in Amin's computer is open source. Describe what is meant by open source software.

c	• The source code is distributed with the software • The customer can modify the source code • The customer can redistribute the source code (with the same licence / restrictions)	2	It was pleasing to see a reduction in the common misapprehension that being free of charge is an essential or defining characteristic of open source software. This shows, to some extent, that centres have taken note of the feedback provided from previous sessions.

QUESTION 3

Julian buys a new laptop with a system information utility and a diagnosis utility. Describe, using examples, the purpose of the system information and diagnosis utilities.

| 3 | | | System information:

• displays important data about the current state of the computer
• e.g. temperature, free memory, network speed, % processor used

Diagnosis:

• attempts to detect / resolve items that are not working correctly
• e.g. missing drivers, network connection | 4 | 1 mark each for explaining "system information" and "diagnosis" + 1 mark for each example – accept relevant examples, but not examples related to virus / malware for diagnosis.

Examples should be specific examples of the use of these utilities rather than general descriptions.

Examiner's Comments

In this part, many candidates appeared not to have a clear understanding of system information and diagnostic utilities which were featuring here for the first time, whereas they have previously performed well on questions about other system utilities in the specification. Centres may need to reconsider how they address this topic to broaden candidates' understanding. Candidates should also ensure that they demonstrate their understanding in their answers. Responses such as "a system information utility provides information about the system" do not enable the examiner to assess what the candidate understands and were not awarded marks. Candidates, on the whole fared better on describing the purpose of diagnostic utilities, although in the example examiners expected the diagnosis of system faults rather than the presence of malware. Some candidates misunderstood the requirement to provide an example – they gave an example of brand names of utilities, rather than an example of the use of the utility. Candidates should be aware that brand names will never be required as answers to examination questions. Answers that were expected were of the form "System information utilities display the current state of the computer" with as a possible example "the amount of RAM available". |