

5 The Operating System (OS) is responsible for hardware and security management in a computer system.

(a) (i) State **two** tasks that are performed by hardware management.

- 1
- 2
- [2]

(ii) State **two** tasks that are performed by security management.

- 1
- 2
- [2]

(b) (i) Describe **one** benefit of using library routines when developing software.

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- [2]

(ii) Describe **one** drawback of using library routines when developing software.

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- [2]

(c) Identify **two** presentation features found in a typical Integrated Development Environment (IDE).

- 1
- 2
- [2]

4 A student uses a laptop to write a program that is saved as a text file.

(a) The laptop has utility software and an Operating System (OS).

(i) Describe the file management tasks carried out by an OS.

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- [2]

(ii) Explain the need for back-up software.

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- [2]

(b) The student compresses the file before it is emailed to their teacher as an attachment.

(i) Explain the benefits to the teacher of the attachment being a compressed file.

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- [3]

(ii) Describe **one** lossless method of compressing a text file.

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- [3]

- (c) The student used a program library when writing their program.

Explain the benefits to the student of using library files when writing a program.

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..... [3]

- (d) The program code is written using an Integrated Development Environment (IDE).

- (i) One presentation feature found in a typical IDE is prettyprint.

Identify **and** describe **one other** presentation feature found in a typical IDE.

Feature

Description

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..... [2]

- (ii) One debugging feature found in a typical IDE is single stepping.

Identify **and** describe **one other** debugging feature found in a typical IDE.

Feature

Description

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- 6 A computer has an Operating System (OS).

Memory management and process management are two OS tasks.

Explain how memory management **and** process management support multi-tasking.

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