

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.

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[2]

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

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[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).

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[2]

8 A restaurant accesses software and stores data using cloud computing.

(a) (i) Give **two** benefits of storing data using cloud computing.

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[2]

(ii) Give **two** drawbacks of using cloud computing.

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[2]

(b) The restaurant uses touchscreens as input devices to allow staff to select items from a menu.

(i) Explain how a touchscreen converts the point of touch to a selection from the menu.

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[4]

(ii) The image files that are displayed on the touchscreen have been corrupted.

Identify **two** examples of utility software that could be used to recover the images.

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[2]

10 A programmer is developing a computer program.

- (a) Explain how the programmer can first use an interpreter **and** then a compiler to develop the computer program.

Interpreter

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Compiler

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- (b) The programmer releases the program as Free Software.

Describe what is meant by Free Software.

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- (c) A user downloads the computer program from the internet.

State what should be included as part of the download to make sure the program is authentic.

..... [1]

1 A program is being developed to meet a particular customer requirement.

- (a) The program contains these variables:

Variable	Data type
MyChar	CHAR
MyString	STRING
MyInt	INTEGER
MyDOB	DATE

Complete the table by filling in the gaps using functions and/or operators from the **insert**.

Each expression must be valid.

Expression
MyString ← 'X' MyString
MyChar ← ("ABCD", ,)
MyString ← (..... (MyDOB))
MyInt ← (..... (MyString) / 2)

[4]

- (b) Different test methods will be used at different stages of the program development.

Complete the table by identifying the test method that matches the test description.

The first row has been completed for you.

Test description	Test method
carried out as soon as a program module has been coded	alpha
carried out as program modules are being combined	
completed by the developers without referring to the code	
completed by the customer	

[3]

- (c) During the alpha testing stage, an Integrated Development Environment (IDE) is used to help locate an error that has been identified. The IDE report window feature is used to examine the values assigned to variables.

Explain how **two** other IDE features are used together with the report window feature to help locate the error.

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..... [3]