



2008 Computing Studies

Standard Grade – Credit

Finalised Marking Instructions

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KU	PS
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	1
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	2
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1. Bethany owns the Blue Gables Hotel. She is trying to encourage more guests to stay at the hotel.



She sends out *standard letters* offering special deals to people who have stayed in the hotel before. The letters all contain the same information apart from the personal details such as name and address which will be inserted.

- (a) Name the process that is described above.
- **Mail merge (not just merge)**
- (b) Before printing the letters, Bethany uses both the *spell checker* and the *grammar checker*.

State an example of a mistake that would be picked up by each of these proofing tools.

Spell Checker **wuold instead of would, Siobhan – a name, Balbeggie – a place**

Grammar Checker **I seen a sheep, The cars was parked, two/too/to, there/their, the the, capitals at start**

Or any other appropriate answer, note: An actual example is required

- (c) Bethany designs a poster to advertise her hotel.
- (i) State a suitable application package for her to use and explain your choice.

Desk top publishing – she can mix text and graphics in a flexible way
OR
Word processing – you can easily add graphics to your text eg clip art
OR
Graphics/drawing – you can use a text tool to add text to your graphics
OR
Presentation, Integrated – with explanation
Note: This is a 2 or 0 question

Not acceptable – brands, eg publisher, word, appleworks, etc.

1. (continued)

- (c) (ii) She includes the logo from the Tourist Information Web site on her poster.

Explain why Bethany might be breaking the law by using this graphic.

- The logo might be copyright protected/she might be breaking the Copyright, Designs & Patents Act.

Not acceptable – asking permission

- (iii) State how Bethany could include the logo from the Tourist Information Web site without breaking any laws.

- She could ask the Tourist Board for permission to use the logo.

- (d) The logo she finally includes is represented in black and white. It contains 267200 pixels in total.

Calculate the storage requirement of this graphic in **kilobytes**. Show all your working.

As image is in black and white you only require 1 bit per pixel.

$$\begin{aligned} \rightarrow 267200 \text{ bits} &= 33400 \text{ bytes (1) for division by 8} \\ &= 32.62 \text{ kilobytes (1) for division by 1024} \end{aligned}$$

No working but correct answer – 2 marks

Acceptable answers 32.62 or 32.6, do not accept 33

- (e) Bethany also includes one of her own photographs.

She wants to remove part of the picture as shown below.

State the most suitable tool for Bethany to use.

- She will crop the graphic



KU	PS
	1 0
	1 0
	2 1 0
	1 0

2. (continued)

- (d) The digital alarm clock lets you wake up to music playing from an audio CD. The clocks contain a *Digital* → *Analogue converter*.

Explain why the clocks must contain a Digital → Analogue converter.

- **To convert the data that is stored digitally on the audio CD (1) into analogue sound waves that can be heard through the speakers (1).**

- (e) A digital alarm clock is an example of an *embedded system*.

- (i) What is an embedded system?

- **An embedded system is a piece of equipment that contains a small computer or processor chip eg a washing machine.**

Not acceptable – ‘system’ on its own

- (ii) State the storage medium used by an embedded system.

- **Embedded systems store software in ROM/on a ROM chip.**

KU	PS
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1 0	

3. Mohammad is a pupil at Alba Academy. He has broken his ankle and will have to work from home for the next month.

His computing teacher has asked him to research *mobile Internet technologies* and produce a report.

(a) State **two** mobile Internet technologies.

Two from: laptops, palmtops/pda, mobile phones, smart phones

Not acceptable – brands

(b) He uses a *search engine* to help with his research.

What is a search engine?

- **A search engine is a site (service) on the Internet (1) which helps you search for information/find information on a particular topic (1) or produces a list of possible Web sites (1), using keywords**

(c) Mohammad becomes particularly interested in mobile Internet technologies that are manufactured in Japan.

(i) State a *complex* search that he could use in this situation.

- **“Mobile Internet Technologies” AND “Japan”**
or
“Mobile Internet Technologies” AND “manufactured in Japan”
or
“Mobile Internet Technologies” + “Japan”

**Note: 1 mark for the two keywords “ ”s or separator ;
1 mark for either AND or +**

(ii) State **one** advantage of using a complex search rather than a simple search.

- **Helps to refine/narrow down your search**
- **Gives more relevant information**
- **Finds fewer hits**

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2 1 0	
	2 1 0
	1 0

3. (continued)

- (d) He decides to word process his report and then *e-mail* it to his teacher as an *attachment*.

Mohammad realises that he should save his report using a *standard file format*.

- (i) State **two** suitable text formats that he could use.

Two from:

- **Rich Text Format (RTF)**
- **ASCII**
- **text (txt)**

Not acceptable – doc, wps, etc.

- (ii) Explain why he should use a standard file format.

- **So that the files can be easily transferred between different packages/different systems/different platforms.**

- (e) As well as saving a copy of his report on the *hard disk*, he also saves it on his *USB flash drive*.

State **two** reasons why USB flash drives have become so popular.

Two from:

- **very portable, can be attached to a keyring**
- **recognised easily by most computers by simply plugging in**
- **storage capacity suitable for a wide range of applications**
- **getting cheaper**
- **capacity increasing**
- **robust.**

- (f) Mohammad could also have stored a copy of his report on a CD-RW.

What do the letters CD-RW stand for?

- **Compact Disk (1) – Rewritable (1)**

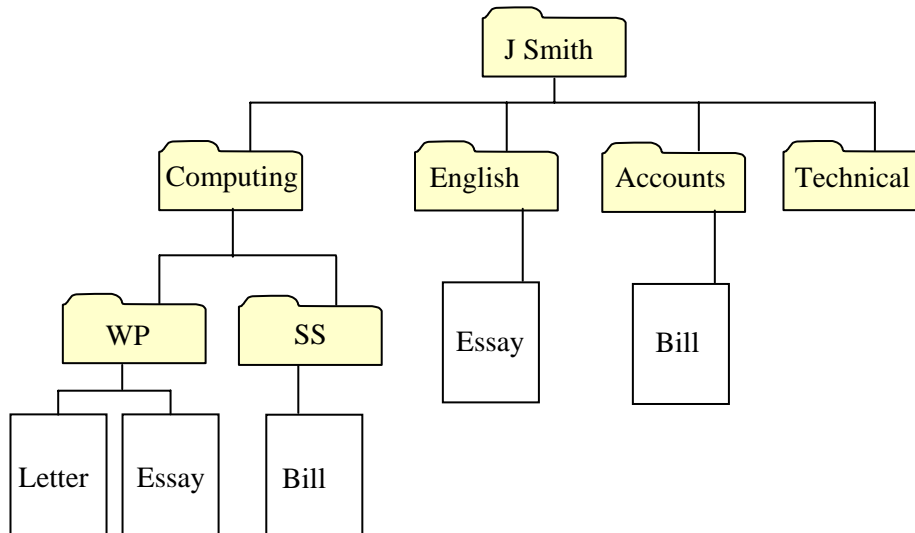
KU	PS
2	
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	1
	0
	2
	1
	0
2	
1	
0	

4. (continued)

(d) Another function carried out by an operating system is *file management*.

(i) State the type of filing system used to manage files shown in the diagram below.

- A hierarchical (1) filing system



(ii) State **two** reasons for using this kind of filing system.

Two from:

- can group similar files together
- easier to locate files
- two or more files can have the same name as long as they are in different directories
- more files can be stored than in a flat filing system
- security – passwords for different levels of access.

Not acceptable – ‘organised’ on its own

KU	PS
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2 1 0	

5. (continued)

- (c) *Validation* and *verification* are two error checking processes.

Complete the table below.

Process	Meaning	Example
validation	<i>Making sure that the data is possible/sensible/acceptable</i> <i>Not acceptable – valid</i>	Range Check
verification	Making sure that the data is entered correctly	<i>Double Entry</i> <i>Not acceptable – check digit</i>

- (d) (i) State **one** reason why banks are keen to promote *on-line banking*.

One from:

- **banks require less spacious premises or no premises at all**
- **they handle a lot less cash**
- **they do not need to employ as many staff.**

- (ii) Do you think customers are happy with on-line banking?

Yes No Tick (✓) **one** box

Explain your answer making **two** clear points.

- **Yes – they don't need to travel to an actual bank, they don't need to stick to conventional banking hours.**
- **No – they find on-line banking impersonal, they don't have access to the necessary equipment at home, security issues**

Or any suitable argument.

Note: They need to make a decision by ticking a box and then justify it accordingly.

- (e) Computers make it easier to collect *management information*.

State **one** example of management information which would be useful to a bank manager.

One from:

- **report generated of people who have overdrawn their current account**
- **people who have defaulted three or more times on paying their mortgage**
- **people who have taken out holiday insurance with the bank in the past year.**

Note: many answers are possible but the suggestion must be relevant to the question.

KU	PS
2 1 0	
1 0	
	2 1 0
	1 0

6. (continued)

- (c) State the type of formula contained in cell F6.
- The **IF** function or a **conditional** function.
- (d) At the training camp, they are shown a multimedia presentation about the importance of keeping fit.

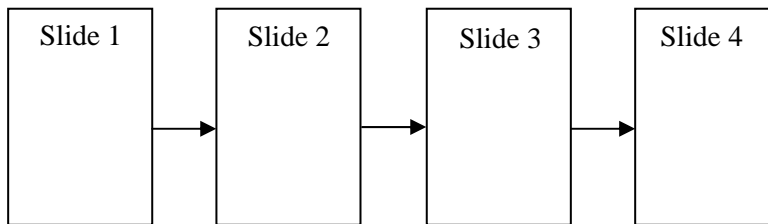
The presentation includes both *audio* and *video* elements.

State **two** ways that audio can be added to the presentation.

Two distinct ways from:

- use an **audio CD**
- record using a **microphone**
- use an **audio file which is downloaded from the Internet**
- use a **library of pre-recorded sounds in the program**

- (e) The slides in this presentation as linked as shown below.



- (i) State the type of linkage used above.
- **Linear linkage**
- (ii) Describe a way in which Slide 1 could directly link to Slide 3.
- **Insert a hyperlink/hotspot/action button**

Not acceptable – changing the order, delete slide 2

KU	PS
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2 1 0	
	1 0

6. (continued)

- (f) At the end of the training camp all athletes are given a copy of the presentation on DVD.

Give **two** reasons why this would be a suitable storage medium.

Two from:

- **this has a large enough capacity to store the presentation**
- **it is a portable backing storage medium**
- **it is a fairly robust backing storage medium**
- **fairly cheap to buy for distribution**
- **can't be deleted**
- **also acceptable – back-to-front perspective.**

- (g) The athletes are told about an application package which would make decisions and offer advice about nutrition.

Name this type of package.

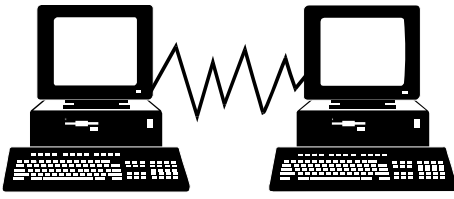
- **An expert system.**

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KU	PS
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2 1 0	
	1 0
1 0	

7. A new medical centre has been opened in Bankness.

Computers are used to store the patients' data.



The computers are linked together to form a *Local Area Network (LAN)*.

(a) The data held about patients is highly confidential.

(i) Which Act states that data must be kept secure?

- **Data Protection Act**

(ii) State **one** other requirement of this Act when storing personal data.

One from:

- **data should be accurate and up to date**
- **data should not be held on to for longer than necessary**
- **data should be used only for the specified purpose**
- **data should not be sold on to third parties**
- **or any other suitable answer**

Note – answer must relate to responsibility of user/controller

Not acceptable – any answer relating to right of data subjects

(b) One way of keeping data secure is the use of *physical* methods.

State **two** different physical methods.

Two from:

- **locking computer**
- **locking doors to computer room**
- **using a swipe card to gain entry to a computer room**
- **using any sensible biometric method.**

(c) The network in the medical centre is one where many users can share the main computer's resources at the same time.

(i) State the term used to describe this type of network.

- **A client server network.**

(ii) What piece of hardware is required on each of the stations to connect to the network?

- **Network Interface Card (NIC)**