

FOR OFFICIAL USE

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C

KU PS

Total Marks

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**0560/403**

NATIONAL MONDAY, 12 MAY  
QUALIFICATIONS 1.00 PM – 2.45 PM  
2008

**COMPUTING STUDIES  
STANDARD GRADE  
Credit Level**

**Fill in these boxes and read what is printed below.**

Full name of centre

Town

Forename(s)

Surname

Date of birth

Day Month Year

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Scottish candidate number

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Number of seat

Read each question carefully.

Attempt **all** questions.

Write your answers in the space provided on the question paper.

Write as neatly as possible.

Answer in sentences wherever possible.

Before leaving the examination room you must give this book to the invigilator. If you do not, you may lose all the marks for this paper.



KU	PS

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.

1  
0

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- (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 \_\_\_\_\_

2  
1  
0

Grammar Checker \_\_\_\_\_

- (c) Bethany designs a poster to advertise her hotel.

- (i) State a suitable application package for her to use and explain your choice.

Suitable Package \_\_\_\_\_

2  
0

Explanation \_\_\_\_\_

KU	PS
	1 0
	1 0
	2 1 0
1 0	

**1. (c) (continued)**

- (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.

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

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- (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.

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- (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

Part to be removed

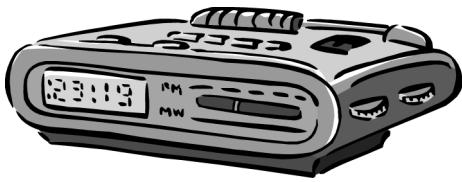


[Turn over

KU	PS

2. "Buzz" is a company which designs and manufactures digital alarm clocks.

Management is currently considering automating the entire process so they employ a *systems analyst*.



- (a) Describe **two** tasks the systems analyst will perform.

1 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2  
1  
0

- (b) State **two** economic implications to the company if they go ahead with the systems analyst's recommendations.

1 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2  
1  
0

- (c) When factories are designed for robots they look very different from those designed for humans.

State **two** ways in which they differ.

1 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2  
1  
0

KU	PS
	2
	1
	0
1	
0	
1	
0	

**2. (continued)**

- (d) The digital alarm clocks let 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.

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2  
1  
0

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

- (i) What is an embedded system?

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1  
0

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

1  
0

[Turn over

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

<sup>1</sup> \_\_\_\_\_

2 \_\_\_\_\_

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

## What is a search engine?

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(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.

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

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

1 \_\_\_\_\_

2 \_\_\_\_\_

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

\_\_\_\_\_

- (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.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

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

What do the letters CD-RW stand for?

\_\_\_\_\_

\_\_\_\_\_

[Turn over

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4. Rachel works in the administration department of her local college. She types up the students' projects and prints them out.

The college has recently bought a new printer for Rachel.



- (a) State the piece of software necessary for the printer to work correctly.

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1  
0

- (b) The *operating system* on her computer has *background job capability*.

Explain why this could be an advantage to Rachel.

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1  
0

- (c) One function of an operating system is *memory management*.

- (i) State how each storage location in memory is identified.

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1  
0

- (ii) Name the term used to describe the number of bits stored in each memory location.

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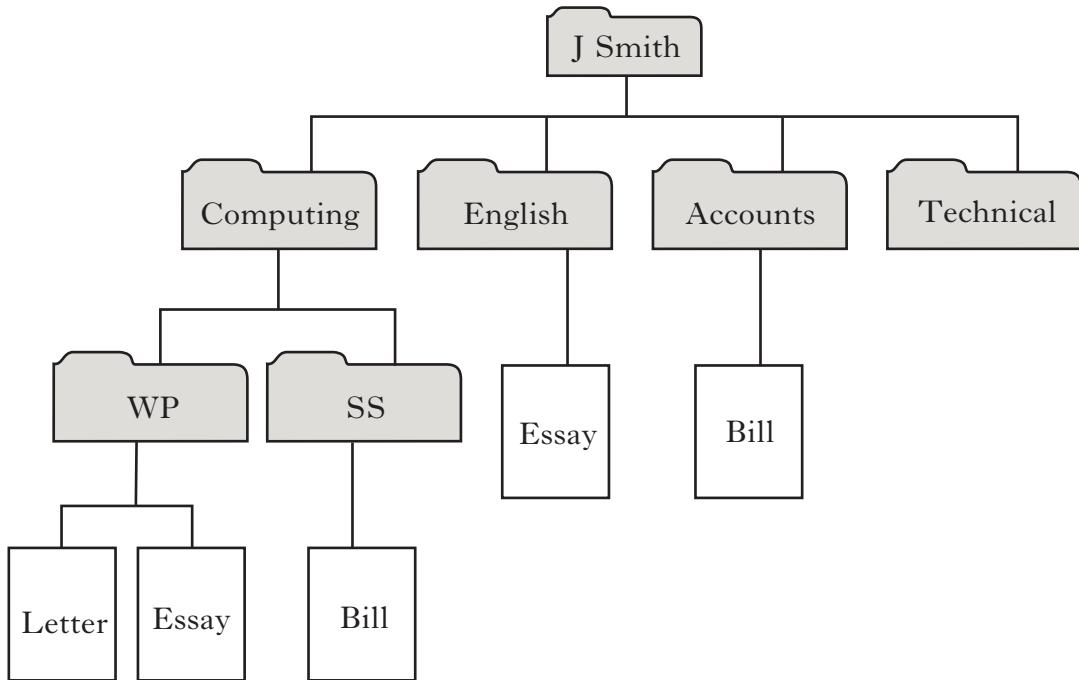
1  
0

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.

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

1 \_\_\_\_\_  
\_\_\_\_\_

2 \_\_\_\_\_  
\_\_\_\_\_

2  
1  
0

[Turn over



5. At the headquarters of a well known bank, a *mainframe computer* system is used to process data.

- (a) (i) State **two** reasons why it is necessary to use a mainframe computer system in this situation.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

2  
1  
0

- (ii) Clearly explain the difference between *data* and *information*.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2  
1  
0

- (b) Most banks have started issuing their customers with *smart cards*.

State **two** reasons for doing this.

1 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2  
1  
0

5. (continued)

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

Complete the table below.

Process	Meaning	Example
<b>validation</b>		Range Check
<b>verification</b>	Making sure that the data is entered correctly	

2  
1  
0

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

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1  
0

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

Yes     No    Tick (**✓**) **one** box.

Explain your answer making **two** clear points

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2  
1  
0

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

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

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1  
0

[Turn over

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6. All the best young athletes in the country have been encouraged to attend a special training camp. They will each have three attempts to impress the coaches at their chosen event.

A target is set for each event. To represent their country, the athletes must achieve the target.

Below is part of a spreadsheet set up for the 100 metres sprint.

	A	B	C	D	E	F
1	<b>100 metres sprint</b>					
2						
3	<b>Under 16 Boys</b>		<b>Target Time (secs)</b>		12.8	
4						
5	Name	Race 1	Race 2	Race 3	Best Time	Represent Country?
6	R Gracie	12.8	12.9	13.2	12.8	Yes
7	L MacAra	13.1	12.9	12.9	12.9	No
8	H Hunt	12.9	12.9	12.8	12.8	Yes
9	M Dykes	12.9	12.6	12.6	12.6	Yes
10	L Fraser	13.0	13.0	13.0	13.0	No

- (a) State the formula that will be used to calculate R Gracie's best time in cell E6.

\_\_\_\_\_

2  
1  
0

- (b) The formula in cell E6 is copied into cells E7 to E10.

- (i) State the type of *referencing* used. Explain your answer.

Type \_\_\_\_\_

Explanation \_\_\_\_\_

\_\_\_\_\_

2  
1  
0

- (ii) State another word for "copied" when referring to spreadsheets.

\_\_\_\_\_

1  
0

6. (continued)

- (c) State the type of formula contained in cell F6.

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1  
0

- (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.

1 \_\_\_\_\_

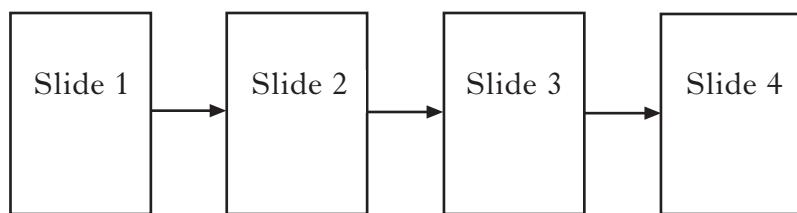
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2 \_\_\_\_\_

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2  
1  
0

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



- (i) State the type of linkage used above.

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1  
0

- (ii) Describe a way in which Slide 1 could directly link to Slide 3.

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1  
0

[Turn over

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.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

2  
1  
0

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

Name this type of package.

\_\_\_\_\_

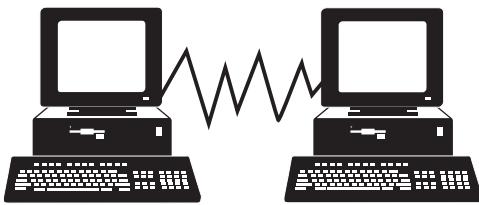
1  
0

KU	PS
1 0	
1 0	
1 0	
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?

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

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

State **two** different physical methods.

1 

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2 

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- (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.

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

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[END OF QUESTION PAPER]

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