



**2007 Computing Studies**

**Standard Grade – General**

**Finalised Marking Instructions**

© The Scottish Qualifications Authority 2007

The information in this publication may be reproduced to support SQA qualifications only on a non-commercial basis. If it is to be used for any other purposes written permission must be obtained from the Assessment Materials Team, Dalkeith.

Where the publication includes materials from sources other than SQA (secondary copyright), this material should only be reproduced for the purposes of examination or assessment. If it needs to be reproduced for any other purpose it is the centre's responsibility to obtain the necessary copyright clearance. SQA's Assessment Materials Team at Dalkeith may be able to direct you to the secondary sources.

These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments. This publication must not be reproduced for commercial or trade purposes.



1. (continued)

- (d) Throughout the letter, Gibson has been typed as “Gibbson”.  
What feature of the word processing package could be used to correct this mistake in **one operation**?

**Search and Replace/Find and Replace/Change and Replace**  
**/Search and Change**

- (e) The ferry company has enclosed details of its crossings.

<b>Journey</b>	<b>Departure</b>	<b>Arrival</b>
Ullapool – Stornoway	0900	1130
Ullapool – Summer Islands	1030	1110

State **two** advantages in using the *table* facility to create this layout.

- 1 **Easier to read across the lines**  
**Looks neater/Easy to add columns and rows**
- 2 **Easier than setting tab points (any 2 good reasons, one mark each)**

KU	PS
	1 0
	2 1 0

2. The Ferry Company keep a spreadsheet for each crossing.

	A	B	C	D	E	F
1	<b>Ferry Crossings 2007</b>					
2						
3	<b>Journey</b>	<b>Number of passengers</b>	<b>Cost per passenger</b>	<b>Number of cars</b>	<b>Cost per car</b>	<b>Total from passengers and cars</b>
4	Ullapool to Stornaway	300	£13.00	98	£23.00	£6,154.00
5	Ullapool to Summer Islands	150	£7.50	30	£15.00	£1,575.00
6	Oban to Mull	60	£8.00	52	£20.00	£1,520.00
7						
8						
9	Average number of cars per sailing			60		

DO NOT  
WRITE IN  
THIS MARGIN

(a) Cell F4 contains a formula. Part of it is shown below. Complete the formula.

$$= ( \underline{\text{B4}} * \underline{\text{C4}} ) + ( \underline{\text{D4}} * \underline{\text{E4}} )$$

**What is inside each bracket must be correct to gain one mark each.**

(b) Cell D9 contains a function. Part of it is shown below. Complete the function.

$$= \underline{\text{Average / AVE / AVG}} ( \underline{\text{D4}} : \underline{\text{D6}} )$$

**one mark for average, one mark for cell range**

(c) State **two** ways in which cell A3 has been formatted.

1 Centred/Bold/ wrap text / column width / row height

2 Do not accept wider/cell bigger

(d) What *attribute* has been applied to the numbers in cells C4 to C6?

Currency

Do not accept "£" sign and 2 decimal places OR money

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

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

3. One of the children in the Gibson family gets seasick on ferry journeys. Mrs Gibson notices that her local chemist has an *expert system*, which covers various illnesses including travel sickness.

(a) What is an expert system?

**A program which uses a large database of knowledge about one particular subject (one mark). It can make decisions and offer advice (one mark). (Give one mark each for any 2 distinct points.)**

(b) State **one** area, other than medicine, where an expert system could be used and what it could be used for in that **area**.

Area **Car mechanics/Chemical analysis/Geological**

What it would be used for \_\_\_\_\_

**Two marks for any area with suitable related use. Do not accept named application**

(c) On board the ferry there is a *multimedia* presentation about the island.

(i) State **one** reason for using *audio* in a presentation.

**To make it better with reason/more interesting/accessible to those with disability/no need for a presenter / more realistic/catches people's attention (one mark for suitable suggestion)**

(ii) A *hyperlink* is used between slides in the presentation.

What is a hyperlink?

**A link between pages. (Accept a description of what a hyperlink does.)**

(iii) On one of the islands it is possible to go white water rafting. The presentation includes this as a *video* clip.

State **one** reason for using a video clip in a presentation rather than a photograph.

**Moving images give a better representation of the activity.**

**More interesting**

4. (a) The ferry company uses a *database* to keep a file of all its customers. For each of the fields below state a suitable *field type*.

The first one has been done for you.

<u>Field Name</u>	<u>Example</u>	<u>Field Type</u>
Name	Harry Gibson	Text
Address	3 Ballater Drive	<u>Text/Alphanumeric</u>
Age	36	<u>Numeric/Number</u>
Outward Journey	13/10/07	<u>Date/(Date/Time)</u> <b>Do not accept time on its own</b>

3  
2  
1  
0

(b) Below is part of a record from the customer file.

<b>Name</b>	Harry Gibson
<b>Customer Code</b>	HG3679
<b>Departure</b>	Ullapool
<b>Destination</b>	Stornoway
<b>Outward Journey</b>	13/10/07
<b>Time</b>	1830 hours
<b>Type of Car</b>	Land Ranger

The ferry company wishes to know how many Land Rangers are travelling from Ullapool to Stornoway on 13/10/07.

Choose **five** words from the list below to complete the paragraph.

*Search          Sort          Name          Stornoway          Ullapool*

*Destination          AND          13/10/07          OR*

Perform a complex Search on

fields Departure equals Ullapool

AND Destination equals Stornoway

AND Outward Journey equals 13/10/07

AND Type of Car equals Land Ranger.

**5 correct = 4 marks**  
**4 correct = 3 marks**  
**3 correct = 2 marks**  
**2 or 1 correct = 1 mark**

4  
3  
2  
1  
0



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

5. The ferry has *sensors* on its doors which prevents the ferry from sailing if the doors are not sealed.

(a) (i) State the type of processing that is being used to control the ferry doors.

**Real-time**

---

(ii) State a reason for this.

**Action must be taken immediately (to prevent sailing if doors are not closed)**

---

(b) State a type of sensor which could be used in this situation.

**Pressure/light/infrared/optical (one mark for any suitable suggestion) Do not accept motion**

---

(c) The ferry sometimes has to transport cargo. Before loading, the cargo is kept in a warehouse. The warehouse uses automated vehicles which are guided by a light system.

Using **some** of the words below complete the paragraph about a light guidance system.

*control                  feedback                  sensor                  magnet                  instructions*

A **sensor** follows a white line. Should the vehicle move away from the line **feedback** causes the computer to send out **instructions** which bring it back to the correct position.  
**(All 3 correct 2 marks, 2 or 1 correct 1 mark)**

(d) State **two** advantages of using automated vehicles.

1 **Makes the company more efficient, vehicles don't need holidays**                  **Description of safety aspects**

---

2 **24/7 (one mark for any suitable suggestion)**  
**Do not accept accuracy**

---



6. (continued)

- (e) The shop saves information onto *backing storage*. Put the following types of backing storage into order, according to their *capacity*. One box has been completed for you.

Use **1** for the **smallest** and **4** for the **largest**.

USB Flash Drive 2

DVD Rewriteable 3

Hard Drive 4

CD Rewritable 1

**All 3 correct = 2 marks**  
**2 or 1 correct = 1 mark**

- (f) The shop needs to make printouts of its stock taking. The printouts will include figures which must be able to be read clearly.

- (i) Suggest a suitable type of printer.

Laser or inkjet

- (ii) State **one** reason for your answer.

Provides good resolution for figures/ high quality / inkjet

smudges

- (g) Some passengers like to have a picture of themselves put onto a sheet of paper which shows the ferry and a map of the island.

Number the steps below from 1 to 4 to show the correct order of how this could be achieved. The **first step** should be **numbered 1**.

Import photograph to desk top publishing package 2

Print document 4

Take photograph of customer with digital camera 1

Save document 3

**(All correct 3 marks, 3 correct 2 marks, 2 or 1 correct one mark)**

KU	PS
2 1 0	
1 0	
	1 0
	3 2 1 0



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

7. (a) Working out how many cars could travel on the ferry used to be done manually. Now a computer program calculates it.

Who would have examined the old system to see if computerisation was possible? Tick (✓) **one** box.

- Programmer
- Systems Analyst
- Engineer
- Network Manager

(b) Use **some** of the following words to complete the sentences below.

*programmer      engineers      network manager      systems analyst*

When computers were first installed at the ferry company's head office they were installed by                  **engineers**                          .

A          **programmer**                           was employed to write a program which calculates the weight on board the ferry.

There are now so many computers linked together it is necessary to employ a                  **network manager**                           to allocate usernames.

**(3 correct = 2 marks, 2 or 1 correct = 1 mark)**

(c) (i) Some customers pay for their ferry crossing using cheques which have *MICR (Magnetic Ink Character Recognition)* data printed on them.

State **one** advantage of MICR

**Difficult to forge/can be read by humans/quicker processing**

**of cheques                          Do not accept tampered with**

(ii) Others use *EFT* to pay for their fare.

What do the initials EFT stand for?

**Electronic                          Funds                          Transfer**

