

FOR OFFICIAL USE

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**0560/403**



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KU PS TOTAL

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NATIONAL  
QUALIFICATIONS  
2011

TUESDAY, 3 MAY  
1.00 PM – 2.45 PM

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.

Use **blue** or **black ink**.

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.



1. The Scottish Bothies Association looks after 120 mountain refuge huts (bothies) across Scotland. The association secretary uses a *database* to store information about each bothy. A sample record is shown below.

|                                  |               |
|----------------------------------|---------------|
| <b>Name</b>                      | Magoo's Bothy |
| <b>Area</b>                      | Sutherland    |
| <b>Location (grid reference)</b> | 306887        |
| <b>Toilet</b>                    | No            |
| <b>Sleeps (maximum)</b>          | 15            |
| <b>Contact Name</b>              | Ben Summers   |

(a) State the number of *records* in the database. \_\_\_\_\_

1

(b) One of the *fields* shown above is a key field.

(i) State the field you would recommend as the key field.

1

(ii) Explain your answer.

1

(c) The "Sleeps (maximum)" field must contain a numeric value between 1 and 20. State the type of *validation* applied to ensure the value is appropriate.

1

(d) The secretary has been asked to provide a list of all bothies in the Lochaber area that can sleep at least ten people and have toilet facilities. Describe the steps that need to be taken to create this list.

4

**1. (continued)**

- (e) The secretary must make sure that the information entered in the database is accurate and up-to-date.

- (i) State the Act that applies here.

1

- (ii) Describe **two** other responsibilities that the secretary has under this Act.

1

2

2

- (f) Many databases make use of *computed fields*.

State what is meant by a “computed field”.

1

- (g) The Scottish Bothies Association often sends out *standard letters* to its members reminding them of meetings and other important dates.

State the steps involved in producing a standard letter.

3

**[Turn over]**

2. A Duke of Edinburgh Award group plans to create a *multimedia* presentation of their gold expedition in Sutherland.

(a) They choose a suitable *template* for their presentation and set it up so that the location and date of the expedition appears at the bottom of each slide.

(i) Explain why they may have decided to use a template.

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1

(ii) State the feature of the package that was used to place the location and date on each slide, in **one** operation.

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1

(b) They decide to use *linear linkage* in the presentation.

State what is meant by the term “linear linkage”.

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1

(c) The presentation includes examples of *word wrap* and *text wrap*. Describe what is meant by each feature.

Word wrap \_\_\_\_\_

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Text wrap \_\_\_\_\_

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2

**2. (continued)**

- (d) Chris, the group's photographer, has many still images to be included in the presentation. They are currently stored on his old *USB Flash Drive*.

(i) State what the initials USB stand for.

1

- (ii) One of the images is black and white. It measures 512 pixels by 400 pixels. Calculate the storage requirements for this image. **(Show all your working).**

3

- (iii) Some of the images will be *scaled*, while others will be *cropped*.

Describe the difference between scaling a graphic and cropping a graphic.

Scaling a graphic \_\_\_\_\_

\_\_\_\_\_

Cropping a graphic \_\_\_\_\_

\_\_\_\_\_

2

- (e) Chris plans to replace his USB Flash Drive with more up-to-date *backing storage*. Apart from cost, state **two** other features he should take into account when making his purchase.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

2

3. SnoPark Leisure has placed an order for some new snowboards. Part of the order is shown in the spreadsheet below.

|    | A               | B       | C      | D          | E        |
|----|-----------------|---------|--------|------------|----------|
| 1  | SnoPark Leisure |         |        |            |          |
| 2  |                 |         |        |            |          |
| 3  | VAT             | 20%     |        |            |          |
| 4  |                 |         |        |            |          |
| 5  | Item            | Price   | VAT    | Number     | Cost     |
| 6  | VRocker         | £470.00 | £94.00 | 5          | £2820.00 |
| 7  | SkiBanana       | £400.00 | £80.00 | 3          | £1440.00 |
| 8  | K3Luna          | £250.00 | £50.00 | 3          | £900.00  |
| 9  | FallenAngel     | £225.00 | £45.00 | 2          | £540.00  |
| 10 |                 |         |        |            |          |
| 11 |                 |         |        | Total Cost | £5700.00 |
| 12 |                 |         |        | Discount   | £855.00  |
| 13 |                 |         |        | Final Cost | £4845.00 |
| 14 |                 |         |        |            |          |

- (a) A *formula*, using both types of *cell reference*, was entered into cell C6 to calculate the amount of VAT to be added to each product. *Replication* was then used in cells C7 to C9.

- (i) State what is meant by the term “replication”.

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1

- (ii) State the formula that was used in cell C6 to allow effective replication.

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2

- (iii) Explain why both types of cell reference were needed.

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2

**3. (continued)**

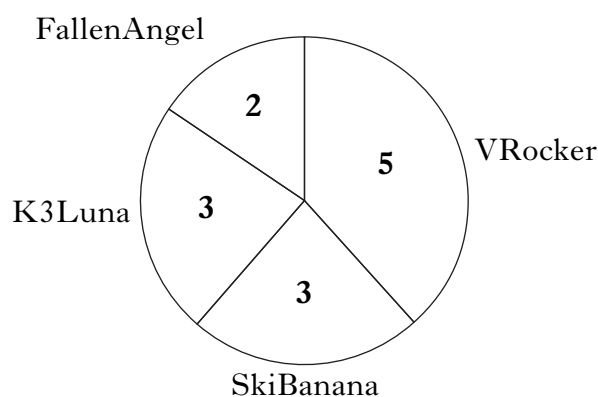
- (b) A discount is applied to all orders.

If the total number of snowboards ordered is greater than ten, then a discount of 15% is given. If not, they get a discount of 5%.

State the formula that was entered in cell E12.

= IF (SUM(D6: \_\_\_\_\_ ) > \_\_\_\_\_, E11\*\_\_\_\_\_, E11\*\_\_\_\_\_ )

- (c) Some of the data in the spreadsheet was used to create the *chart* shown below.



- (i) State the **two** ranges of cells used to create the chart.

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- (ii) Suggest a suitable title for the chart.

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- (iii) The K3Luna has been incorrectly spelled. It should be K3Lunar. When this mistake is corrected in the spreadsheet, it automatically corrects the chart.

State the type of *data linkage* involved.

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[Turn over

| KU | PS |
|----|----|
|    |    |
|    | 4  |
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|    | 1  |
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|    | 1  |
|    |    |
|    |    |

- (a) The ski-pass is a *smartcard*. State **two** features specific to a smartcard.



- (b) Each time Ricci takes a ski lift to the top of the run, his ski-pass is automatically scanned, and details of the run, such as distance and type, are instantly recorded in a database.



State the type of *processing* involved.

- (c) The database may be accessed, at the same time, by several employees in different locations around the ski resort.

- (i) State the type of database involved.

- (ii) Describe **two** examples of *management information* that may be available to employees at the resort when using this database.

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(d) When he arrives home, Ricci used his *ISP* to access the resort's *website*.  
 Apart from access to the *Internet*, state **two** other facilities that are available from an ISP.

2 \_\_\_\_\_

Describe this process.

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(i) As well as being freely available, state another feature of freeware.

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[0560/403]



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**L**

- State **two** advantages for the company in using an expert system.

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2

- # AltPro



NIC

Hard drive – 128 Gb

Word size – 64

- 1

- 2

- 1

## 6. (continued)

- (c) On completion, the operating system programs are *translated*. State the type of *translator* that Sindi should use at the **end** of the development phase. Give a reason for your answer.

Type \_\_\_\_\_

Reason \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

2

- (d) One of the functions of an operating system is *memory management*.

- (i) Describe how the operating system can distinguish one memory location from another.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1

- (ii) State **one** other function of an operating system.

\_\_\_\_\_  
\_\_\_\_\_

1

- (e) Operating system software can be held either in ROM or on disk. The AltPro has a ROM-based operating system.

State **one** advantage this gives the AltPro user.

\_\_\_\_\_  
\_\_\_\_\_

1

[Turn over

6. (continued)

- (f) A selection of *specialised* input and output devices are available for use with the AltPro.

State **one** input OR **one** output device you would recommend for a *virtual reality* application. Give an example of how this device would be used.

Device \_\_\_\_\_

Use \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

| KU | PS |
|----|----|
|    |    |
|    | 2  |
|    |    |

[END OF QUESTION PAPER]

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