CAMBRIDGE
INTERNATIONAL EXAMINATIONS

INFORMATION AND COMMUNICATIONS TECHNOLOGY

PRACTICAL ASSESSMENT A2002

STANDARD LEVEL
DATA ANALYSIS

5192/A

TIME   I hour

INSTRUCTIONS TO CANDIDATES

Make sure that your name, centre number and candidate number are shown on each printout that you are asked to produce.

Carry out **every** instruction in **each** task.

Tasks are numbered on the left-hand side of the page, so that you can see what to do, step by step. On the right-hand side of the page for each task, you will find a box which you can tick (✓) when you have completed the task; this check list will help you to track your progress through the assignment.

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UNIVERSITY *of* CAMBRIDGE
Local Examinations Syndicate

This question paper consists of 3 printed pages.

[Turn Over]

You work for an international company called Hothouse Design. You need to calculate some costs for the mail order department of a customer, Rootrainer Trees, to include in their publicity material.

All currency values should be in £ sterling with the £ sign visible.

✓

1   Create a data model which looks like this: ☐

Tax Rate Type	Country	Cost	Ordered	Total Cost	Tax	Delivery	Total

The cell to the right of *Tax* will hold the standard rate of tax in the United Kingdom.

The cells below *Type* contain the type of tree, below *Country* the country to which the trees will be sent, below *Cost* the Cost of each tree and below *Ordered* the number of trees ordered. ☐ **1.1.1**

2   In the cell under *Total Cost*, enter a formula which calculates the *Cost* multiplied by the number *Ordered* ☐ **1.1.3**

3   In the cell under *Tax*, enter a formula which: ☐ **1.1.3**

- if the *Country* contains the text *UK*, calculates the *Total Cost* multiplied by the *Tax Rate*

- if the *Country* does not contain the text *UK*, contains the number zero.

4   In the cell under *Delivery*, enter a formula which: ☐ **1.1.4**

- if the *Country* contains the text *UK*, it calculates 4.8 + (*Total Cost* x 0.032)

- if the *Country* does not contain the text *UK*, it calculates 12.25 + (*Total Cost* x 0.044)

✓

5   In the cell under *Total*, enter a formula which adds the *Total Cost*, *Tax* and the *Delivery*.   ☐   **1.1.3**

6   Format the *Tax Rate* as a Percentage to 2 decimal places.   ☐   **3.1.1**

7   Format the cells which involve currency in £.   ☐   **3.1.1**

8   Format the cells in the *Ordered* column as Integer values.   ☐   **3.1.1**

9   Replicate down all formulae entered in stages 2-5 so that at least 12 rows of data can be entered.   ☐   **1.1.1**

10   Set your page orientation to landscape.   ☐   **3.3.1**

11   Select a view of the sheet which shows all formulae. Adjust the column widths and row heights to ensure that all formulae are visible.   ☐   **3.2.1**

12   Save the data model with an appropriate filename and print a copy of the sheet showing (in full) the formulae used. Make sure that the printout fits on a single printed page.   ☐   **4.1.1**

13   Enter the following data into the model to test that it works correctly.   ☐   **1.2.1**

Tax Rate	17.50%						
Type	**Country**	**Cost**	**Ordered**	**Total Cost**	**Tax**	**Delivery**	**Total**
Lime	UK	£1.08	100				
Lime	USA	£1.08	450				
Lime	UK	£0.87	24				
Beech	UK	£1.20	20				
Beech	USA	£0.77	2000				
Ash	Italy	£0.95	140				
Lime	UK	£1.08	10				
Ash	Thailand	£0.95	25				
Ash	Mexico	£0.95	45				
Lime	UK	£1.44	2				
Beech	Thailand	£1.57	1000				
Ash	UK	£1.09	50				
Ash	UK	£0.95	12				

14   Save this test data and print a copy showing the values. Make sure that the printout fits on a single printed page.   ☐   **4.1.1**

15   Produce a printout showing only the rows where the *Country* is the *UK* and the number of trees *Ordered* is greater than 40.   ☐   **2.1.1** **4.1.1**

16   Produce a printout showing only the rows for trees ordered from the *USA* or *Mexico*.   ☐   **2.1.1** **4.1.1**

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TIME   I hour

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[Turn Over]

Hothouse Design requires you to create a data model which will enable the marketing department to analyse the costs of holidays in Europe.

1. Create a new file with the following layout:

✔

☐ **1.1.1**

Destination	Number of holidays sold	Flight costs	Accommodation costs	Insurance rates	Total cost	Discount if over $25000
Lanzarote						
Florence						
Belgium						
Paris						
Zurich						
Austria						
Milan						
Lisbon						
Total amount						
Average cost of a flight						
Total number of destinations						

2. Enter a formula next to the side heading *Total amount*. This calculates the total amount of all the holidays, using the data in the *Total cost* column.

☐ **1.1.4**

3. Enter a formula next to the side heading *Average cost of a flight*. This calculates the average cost of a flight using the data in the *Flight costs* column.

☐ **1.1.3**

4. Enter a formula next to the side heading *Total number of destinations*. This calculates the total number of destinations, using the data in the *Number of holidays sold* column.

☐ **1.1.3**

5. Save this file as **HOLIDAY**.

☐ **4.1.1**

6. Enter the following on your model below the data:

☐ **1.2.1**

Insurance code	A	B	C
Insurance cost	50	40	30

7. Name this range of cells.

☐ **1.1.1**

8. Enter a formula to calculate the total cost of a holiday; this will use *the Number of holidays; Flight costs; Accommodation costs;* and look up the *Insurance rate* in the named range of cells. Copy this formula for each holiday.

☐ **1.1.1**

9. Use an IF function to place the statement **Yes** or **No** under the heading *Discount if over $25000*. When the holiday is greater than $25000, the message will display **Yes**; otherwise the message will display **No**. Copy this formula for each holiday.

☐ **1.1.3**
  2.1.1
  1.1.1
  1.1.4

[Turn Over]

✔

10. Enter the following test data under the headings: ☐ **1.2.1**

Lanzarote	50	206	200	B		
Florence	20	170	190	C		
Belgium	65	190	160	B		
Paris	40	125	200	A		
Zurich	20	170	150	C		
Austria	90	200	260	A		
Milan	50	200	250	A		
Lisbon	30	200	160	B		
Total amount						
Average cost of a flight						
Total number of destinations						

11. Save this file as **HOLIDAY2**   ☐ **4.1.1**

12. Print the spreadsheet values – ensure all data is fully displayed.   ☐ **4.1.1**

13. Change the display to formulae and print in landscape – ensure all data is fully   ☐ **3.1.1**
displayed.   **3.2.1**
                                                                                                 3.3.1
14. Select the holidays which are less than 20000 or greater than 45000 and extract their   ☐ **2.1.1**
details.

15. Save this file as **HOLIDAY3** and print the extract.   ☐ **4.1.1**

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PRACTICAL ASSESSMENT C2002

STANDARD LEVEL
DATA ANALYSIS

5192/C

TIME   I hour

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[Turn Over]

You work for an international company called Hothouse Design which has a new project for a business customer called Mobile Solutions. The project concerns designing and promoting a range of new mobile phone packages.

You are going to build a financial model that will calculate the profit from the sales of phones.

✔

1 Create a data model using an appropriate spreadsheet software package. The layout should be the same as the one below. ☐ **1.1.1**

Information

Launch Date	01/12/02
Selling Price	$150.00
Fixed Costs	$50,000.00
Variable Costs	$100.00

Model that calculates the profit in the initial stages of launching the package on to the market.

Month	Number of Sales	Sales Income	Fixed Costs	Variable Costs	Profit or Loss
2002 to 2003		Number of Sales x Selling Price		Number of Sales x Variable Costs	Sales Income - (Fixed Costs + Variable Costs)
November	0	$0.00	$50,000.00	$0.00	-$50,000.00
December	500				
January	1000				
February	1500				
March	2000				
April	2500				
May	3000				
June	3500				
July	4000				
August	4500				
September	5000				
October	5500				
Annual Total					

2 In the first row *November*, enter a formula that will calculate the *Sales Income*.
You will need *Number of Sales x Selling Price*. ☐ **1.1.3**

3 In the first row *November*, enter a formula that will calculate the *Variable Costs*.
You will need *Number of Sales x Variable Costs*. ☐ **1.1.3**

✔

4   In the first row *November*, enter a formula that will calculate the   ☐   **1.1.3**
         Profit or Loss.
         You will need *Sales Income - (Fixed Costs + Variable Costs).*

5   Copy the formulae you have entered for *Sales Income*, *Variable*   ☐   **1.1.1**
         Costs and *Profit or Loss* into the months December to October.

6   Enter formulae that will calculate the annual total for the *Number of Sales*   ☐   **1.1.3**
         and *Profit or Loss*.

7   Enter the data shown in the table. Check you have entered all text and   ☐   **1.2.1**
         data with accuracy. The fixed costs are $50,000.00 for each month. The   **1.1.2**
         first row should give the results shown in the table above.

8   Format the columns *Sales Income*, *Fixed Costs, Variable Costs*   ☐   **3.1.1**
         and *Profit or Loss* to two decimal places with a dollar sign.

9   Adjust column widths so that all the data is shown.   ☐   **3.2.1**

10   Change the paper orientation to landscape.   ☐   **3.3.1**

11   Enter an **IF** statement to the right of the total profit or loss figure.   ☐   **1.1.4**
         The **IF** statement should contain the following:
            -   If the value in the profit cell is less than 0, it indicates **Loss**
            -   If the value in the profit cell is greater than or equal to 0, it
                indicates **Profit**

12   At the bottom of the page add your name and today's date.   ☐   **4.1.1**
         Save the spreadsheet model. Print the model showing all values.

13   Print the spreadsheet showing all formulae.   ☐   **4.1.1**

14   Fixed costs will have to increase for every month. Change the *Fixed*   ☐   **1.2.1**
         Costs from $50,000.00 to $150,000.00. You should find that the *Annual*
         Total Profit or Loss is negative.

15   Save the spreadsheet using a different file name and then print it.   ☐   **4.1.1**

16   Produce a printout showing only the rows where the profit is   ☐   **2.1.1**
         greater than $0.00. Make sure your name and today's date is added at   **4.1.1**
         the bottom of the page.

17   Produce a printout showing only the rows where the profit is   ☐   **2.1.1**
         greater than $0.00 and the Variable Costs are less than   **4.1.1**
         $525,000.00. Make sure your name and today's date are added at the
         bottom of the page.