

Edexcel GCE

Applied Information and Communication Technology

Unit 3: The Knowledge Worker

23–27 May 2011

Time: 2 hours 30 minutes

Paper Reference

6953/01

You must have:

Short treasury tag, Woollen_exam.txt, Carved_exam.txt,
Jewellery_exam.txt, Basketware_exam.txt, Kraftz_exam.xls, Cover sheet

Instructions

- Complete your candidate details on the cover sheet provided.
- All printouts must contain your name, candidate number, centre number and activity number.
- At the end of the examination:
All printouts should be placed in the correct order.
Use a treasury tag to attach your printouts (**as shown**) to Page 2 of the cover sheet.

Information

- There are **five** activities in this examination totalling **88** marks. **2** further marks are allocated to Standard Ways of Working.
- The marks for **each** question in each activity are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

Advice

- Read through the Scenario carefully.
- Work through the activities in order.
- Attempt **ALL** activities.
- Label your printouts clearly as instructed.
- Printing must be undertaken within the examination time.

Turn over ►

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Scenario

Kornish Kraftz

Steve Gates left university with a degree in Business & Marketing. Since then he has worked for a top advertising firm, 'Badger Tate'. The idea for 'Kornish Kraftz' came to him while visiting his younger brother Jim who was working as a tour guide in Cornwall.

Jim lived in what was once a small fishing village, although these days little fishing occurs. The recession and fishing quotas has virtually destroyed the traditional way of making a living for the local population. Most of the village now relies on tourism for its income. Many of the traditional crafts such as knitting, basket-weaving, carving wooden objects and jewellery-making have survived within the traditional fishing families.

Steve identified a business opportunity selling locally produced items to tourists. Through Jim, he arranged for a number of craftsmen and women to supply him with merchandise. Steve arranged the finance to open a shop in Falmouth. The shop sold basketware, carved objects, woollen items and handmade jewellery and Jim was given the job of running it.

'Kornish Kraftz' flourished and made a good profit. Three years later Steve felt it would be nice to expand the business. He decided to look into the feasibility of opening shops in other towns. He identified potential outlets in Redruth, St Ives, Newquay, Mousehole, Land's End, St Austell, Bodmin, Truro, Bude and Penzance.

'Kornish Kraftz' depends heavily on the tourist trade and Steve expects the expanded business to be the same. To help him decide which of these potential outlets would be the most profitable, he searched for other businesses, equally dependent on the tourist trade, with outlets in the same towns.

He found a chain of souvenir shops and a surfer supplies franchise and decided on the souvenir shops as the best option. He contacted the owner of the chain who supplied Steve with last year's sales figures for the souvenir shops. Using these figures, Steve calculated a rating for each of the potential outlets in comparison with the sales figures for his 'Kornish Kraftz' shop in Falmouth. He rated the Falmouth shop as 1 and the others higher or lower depending on sales.

As a marketing expert Steve had tried a number of ways to promote the Falmouth shop. He had tried advertising in the local press, issuing leaflets, local radio adverts and billboard posters. He studied the effect that each of these methods had on sales.

As he is about to expand his business, Steve needs to increase the supply of the products sold by 'Kornish Kraftz'. He has spent a lot of time recruiting more craftsmen and women. Although this would significantly increase the products available, there is a limit to how many of each item that can be produced every month.

Steve will need more staff to run the potential outlets. The number of staff required will vary depending on the potential sales and size of the outlets.

Steve has asked the company he uses to collect stock from the craftsmen for an estimate of how much they would charge to deliver to each of the potential outlets. He has also collected figures for rent and utility charges from the estate agent who found him the potential outlets.

Steve has tried to create a model to help him make decisions. His main job has taken him away on a business trip. He has employed you as an IT specialist to complete the model and advise him on which shops to open. He has also asked you to advise on how best to promote the expanded business.

Description of the model

Worksheet	Description
Values	On the Values worksheet you can choose whether to open a shop and the type of advertising you wish to use. It will also calculate annual costs, revenue and profit.
Monthly Figures	This worksheet calculates costs and revenue by month. The costs will be itemised.
Advertising	This worksheet contains the data and formulae which the model will use when calculating advertising costs.
Totals	This worksheet contains the costs itemised for the Falmouth shop, and calculated costs when other shops are opened.
Woollen Products, Carved Products, Basketware and Jewellery	These worksheets contain sales figures for the various items in each category and predicted values if other shops are opened.

Some cells in the model are password protected. Should you wish to experiment with the model, the password is *edexcel*. Be aware that if you change the contents of any protected cell the model may not work.

Your Task

You have been asked by Steve Gates of 'Kornish Kraftz' to complete a model that he has started. You are to advise him on which new shops to open and what advertising to use so that 'Kornish Kraftz' maximises its profit.

The Data

The sales figures for the previous year at the Falmouth shop have been collected for each product type and product. These can be found in the files **Woollen_exam.txt**, **Carved_exam.txt**, **Jewellery_exam.txt** and **Basketware_exam.txt**

Instructions to Candidates

All printouts **must** have a header and footer. The header must contain the activity number. The footer must contain your name, candidate number and centre number.

Minimum font size of 10 should be used throughout.

All spreadsheet printouts should show gridlines and row and column headers.

For some of your spreadsheet printouts you may need to adjust column widths.

To do this you will need to unprotect the worksheets. The password is *edexcel*.

Activity 1 – Understanding the situation (suggested time 20 minutes)

You should look at all the information available and make sure that you understand the current situation and the task you are to undertake.

On **one** sheet of A4:

(a) List the key facts relevant to the problem you have to solve. (11)

(b) Outline the decisions you have to make. (2)

Note: Bullet pointed answers are acceptable.

Save and print your work.

(Total for Activity 1 = 13 marks)

Activity 2 – Sources of information (suggested time 20 minutes)

The model uses the Falmouth shop sales figures for last year as a basis for predicting sales in the other shops.

One factor that could affect the accuracy of predictions is the weather. If the weather is poor, fewer tourists may visit the area.

(a) Explain **three** other factors that could affect the accuracy of these predictions. (6)

Steve chose to base his sales ratings for the new outlets on figures supplied by a chain of souvenir shops. The alternative would have been to use figures from a surfer supplies franchise.

(b) Explain **four** reasons why Steve made this decision. (8)

Save and print your work.

(Total for Activity 2 = 14 marks)

Activity 3 – Computer modelling (suggested time 50 minutes)

The model is stored as **Kraftz_exam.xls**

Open the spreadsheet model and familiarise yourself with it.

(a) Importing Data

- Create worksheets to hold imported data from the text files. Name them 'Import Woollen', 'Import Carved', 'Import Basketware' and 'Import Jewellery'.
- Import data from the text files (Woollen_exam.txt, Carved_exam.txt, Jewellery_exam.txt and Basketware_exam.txt) into the corresponding newly-created worksheets starting at cell A1.
- On **one** sheet of A4 each, print off these worksheets showing the **data**. Remember to show gridlines and row and column headers.

(5)

(b) Woollen Products, Carved Products, Basketware and Jewellery

For each of the worksheets 'Woollen Products', 'Carved Products', 'Basketware' and 'Jewellery' in turn:

- Enter a formula into cell D7 to copy the correct value from the corresponding newly-created worksheet (eg copy cell B2 in 'Import Woollen' into cell D7 of 'Woollen Products')
- Replicate this formula throughout the unprotected (yellow) cells
- On **one** sheet of A4, print off columns D–G and rows 7–18 of the worksheet showing **formulae**.

Note: remember to do this for the **four** worksheets.

(4)

(c) Values

- Enter suitable formulae into cells G6–G8 of the 'Values' worksheet to show a value for total cost, total revenue and total profit.
- On **one** sheet of A4, print off column G and rows 6–8 of the 'Values' worksheet showing **formulae**.

(3)

(d) **Advertising**

- In cell B22 of the 'Advertising' worksheet enter a formula which will:
 - check cell B21 of the 'Values' worksheet
 - if it contains "Yes", display the value contained in cell B7 of the 'Advertising' worksheet
 - if it contains "No", display 0.
- Replicate the formula in such a way as similar formulae are entered into cells (B22:E32). **Hint:** some absolute cell referencing will be required.
- On **one** sheet of A4, print off columns A–C and rows 22–32 of the 'Advertising' worksheet showing **formulae**.

(7)

(e) **Totals**

- In cell H26 of the 'Totals' worksheet enter a formula which will:
 - check cell B7 of the 'Values' worksheet
 - if it contains "Yes", display the value contained in cell H7 of the 'Totals' worksheet
 - if it contains "No", display 0.
- Replicate the formula in such a way as similar formulae are entered into cells (H26:H36).
- On **one** sheet of A4, print off columns G–H and rows 26–36 of the 'Totals' worksheet showing **formulae**.

(6)

(f) **Using the model**

- Use the model to decide which shops to open by selecting yes or no in cells B8:B17.
- Use the model to decide which forms of advertising to use by selecting yes or no in cells B21:E21.
- With your solution showing, print off the 'Values' worksheet showing data.

(8)

(g) **Printouts**

- Collect all of your printouts together. Ensure that you have printed them correctly and that they are in the order you have been asked to print them.

(7)

(Total for Activity 3 = 40 marks)

***Activity 4 – Report (suggested time 30 minutes)**

Write a report for Steve Gates of 'Kornish Kraftz', recommending which shops to open and which forms of advertising to use.

The report should include:

- a suitable title
- an introduction explaining what the report is about
- a recommendation of which shops to open
- the recommended methods of advertising
- justifications of why you made these recommendations
- factors that might impact on the profitability of the company
- a chart showing the monthly costs, revenue and profit for your proposed solution
- a concluding statement.

Proof read your report.

Marks will be awarded for the Quality of your Written Communication (QWC).

(Total for Activity 4 = 15 marks)

Activity 5 – Evaluation (suggested time 10 minutes)

Write an evaluation of the model considering:

- how well you thought it performed
- what else you would like it to do and why this would help.

Save and print your work.

(Total for Activity 5 = 6 marks)

Standard Ways of Working.

All printouts must contain the activity number, your name, candidate number and centre number.

Pages must be securely fastened to the cover sheet and in the correct order.

Minimum font size of 10 should be used for all word processed documents.

(Standard Ways of Working = 2 marks)

TOTAL FOR PAPER = 90 MARKS
