

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**General Certificate of Secondary Education**

**APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY**

**4872**

(Double Award)

UNIT 1: ICT Knowledge and Understanding

Tuesday

**7 JUNE 2005**

Morning

1 hour 30 minutes

Additional materials:

Candidates answer on the question paper.

Candidate Name	Centre Number	Candidate Number												
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**TIME** 1 hour 30 minutes

**INSTRUCTIONS TO CANDIDATES**

- Write your name in the space above.
- Write your Centre number and Candidate number in the boxes above.
- Answer **all** questions.
- Read each question carefully and make sure you know what you have to do before starting your answer.

**INFORMATION FOR CANDIDATES**

- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is **100**.
- No marks will be awarded for using brand names of software packages or hardware.

<b>FOR EXAMINER'S USE</b>	
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>4</b>	
<b>5</b>	
<b>6</b>	
<b>7</b>	
<b>8</b>	
<b>9</b>	
<b>TOTAL</b>	

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**This question paper consists of 13 printed pages and 3 blank pages.**

Coloured Crystal is a company that manufactures decorative glassware.

- 1 Fig.1 shows a letter that Sara Jones, the Sales Manager, has written using a word processor.

**Coloured Crystal**

3 May 2005

Mrs A Raza  
Beautiful Rooms  
36A High Street  
Othertown  
Othershire  
OT1 6RG

Dear Mrs Raza

Thank you for your enquiry about our products. Please find enclosed a catalogue giving details and prices of current items. I am sure you will agree that they will add an extra dimension to your range of quality products.

If you would like to set up an account please telephone our office on the number below and we will be delighted to make an appointment for one of our representatives to visit you at your convenience.

I would like to particularly recommend our *Clouds and Sunshine* range on pages 32-39. This is our most popular range in the price range you mentioned.

May I take this opportunity of wishing you every success in your business.

Yours sincerely

Sara Jones  
Sales Manager

**Address:** Unit 13 Engine House Business Park, Anytown, Anyshire, AY3 7TH  
**Fax:** 022 4580 354  
**Telephone:** 022 4580 354  
**e-mail:** info@ccrystal.co.uk  
**Website:** www.ccrystal.co.uk

Fig. 1

- (a) Circle the following features on the letter and label them as shown in the table below. You need only label **one** example for each feature.

The first has been done for you as an example.

A	Centred text
B	Italic text
C	Bold text
D	Fully justified text
E	A footer

[4]

- (b) Sara is not happy with the third paragraph, as she has used the word 'range' three times.

Identify the feature of the word processor Sara could use to help her find alternative words to use.

..... [1]

- (c) Sara decides she would like to move the third paragraph above the second, so that the text now reads as shown in Fig. 2.

Thank you for your enquiry about our products. Please find enclosed a catalogue giving details and prices of current items. I am sure you will agree that they will add an extra dimension to your range of quality products.

I would like to particularly recommend our *Clouds and Sunshine* range on pages 32-39. This is our most popular range in the price range you mentioned.

If you would like to set up an account please telephone our office on the number below and we will be delighted to make an appointment for one of our representatives to visit you at your convenience.

May I take this opportunity of wishing you every success in your business.

**Fig. 2**

Describe how Sara could use the word processor to make this change efficiently.

.....

.....

.....

.....

..... [3]

2 Coloured Crystal has four departments shown below.

(a) Draw lines to match each department to **one** way it will use ICT. The first one has been done for you.

Department	Use of ICT
Sales	Using CAD/CAM to design and make items
Finance	Using a word processor to write letters to customers
Purchasing	Using a spreadsheet to calculate annual profits
Operations	Keeping details about suppliers in a database

[3]

(b) Coloured Crystal's computer systems include the basic hardware devices shown in Fig. 3:

- |             |                |              |
|-------------|----------------|--------------|
| • CD writer | • Floppy drive | • Hard drive |
| • Keyboard  | • Mouse        | • Printer    |
| • Processor | • RAM          | • Monitor    |

Fig. 3

Choose items from the list in Fig. 3 to match each of the following statements:

(i) **Two** input devices.

Input device 1 .....

Input device 2 .....

(ii) **Two** output devices.

Output device 1 .....

Output device 2 .....

(iii) The component where all calculations and decisions are made.

.....

(iv) The main memory of the computer, used to store programs and data as they are being used.

.....

(v) **Two** storage devices used to make backup copies of files.

Storage device 1 .....

Storage device 2 .....

[8]

(c) Some of the computers have printers attached using the parallel port.

(i) Give **one** other type of port that might be better than the parallel port for this purpose.

.....

(ii) Give **one** advantage of using this port rather than the parallel port.

.....

.....

[2]

(d) What additional hardware is needed in each computer to connect it to a network?

..... [1]

3 The management of Coloured Crystal need to make sure that their employees do not suffer any accidents or illness as a result of their use of computers.

Give **three** health and safety problems that could occur in an office as a result of the use of computers. Give **one** different way of preventing each problem.

Problem 1 .....

.....

Prevention .....

.....

Problem 2 .....

.....

Prevention .....

.....

Problem 3 .....

.....

Prevention .....

..... [6]

- 4 Amjid Atwal, the marketing manager at Coloured Crystal, uses a spreadsheet to create graphs and charts to show how sales of different products have performed. A section of his spreadsheet file is shown in Fig. 4:

	A	B	C	D	E
1		<b>Sales (£1000's)</b>			
2	<b>Product range</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
3	Clouds and Sunshine	10,546	12,652	12,854	14,652
4	Crystal Clear	4,123	4,825	4,365	4,725
5	Hint of Spice	2,158	3,524	4,095	4,258
6	Millennium	7,542	5,284	3,214	1,364

**Fig. 4**

- (a) What was the value of sales in the Hint of Spice range in 2003?

..... [2]

- (b) When the data was typed in for each year the numbers were entered without the thousands comma. For example, the number in cell B3 was entered as 10546.

Describe how the spreadsheet has been set up to display the numbers as shown in Fig. 4.

.....  
 .....  
 ..... [2]

- (c) Describe how Amjid would create a pie chart to show the sales of the different ranges in 2004.

.....  
 .....  
 .....  
 .....  
 ..... [3]

(d) Amjid is writing a report using a word processor.

Describe how he could add the chart to this report.

.....  
.....  
.....  
.....  
..... [3]

(e) Amjid wants to show the information in the spreadsheet as a chart, comparing the sales of the different ranges over the four years. The spreadsheet software offers him choices of different styles of chart, for example bar charts, line charts and pie charts, in two and three dimensions (2D and 3D).

Discuss the advantages and disadvantages of different styles of chart for this purpose.

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.....  
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.....  
.....  
..... [6]

5 The staff who work with computers at Coloured Crystal need to be careful to protect the computer systems from viruses.

(a) What is a computer virus?

.....  
.....  
..... [2]

(b) Give **two** ways a computer virus can spread from one computer to another.

Way 1 .....  
.....  
Way 2 .....  
..... [2]

(c) Describe how the company could prevent a computer virus entering its computer system.

.....  
.....  
.....  
..... [2]



6 Coloured Crystal use CAD/CAM to design and make many of their products.

(a) Explain the terms:

CAD .....

.....

CAM .....

..... [4]

(b) Give **three** advantages and **two** disadvantages to the company of using CAD/CAM.

Advantage 1 .....

.....

Advantage 2 .....

.....

Advantage 3 .....

.....

Disadvantage 1 .....

.....

Disadvantage 2 .....

..... [5]

- 7 The Sales department uses a database to store information about Coloured Crystal's customers and their orders. Part of that database is shown in Fig. 5 below:

	<b>A</b> ↓			<b>B</b> ↓	
	Order Number	Date of Order	Customer Number	Date Goods Sent	Date Payment Received
	265489	26/03/05	016859	29/03/05	
<b>C</b> →	265490	26/03/05	100584	31/03/05	20/04/05
	265491	26/03/05	058941	27/03/05	19/04/05
	265492	27/03/05	100584	29/03/05	20/04/05

Fig. 5

- (a) Complete the table below to identify the database components that are labelled. Use words from this list:

**autonumber**                      **default**                      **field**                      **field name**  
**query**                              **record**                      **string**                      **validation**

Label	Database component
A	
B	
C	

[3]

- (b) Identify the key field in Fig. 5.

..... [1]

- (c) Coloured Crystal asks customers to pay for their goods within 28 days of them being sent. A reminder invoice is sent if payment is not received on time. Order number 265489 in Fig. 5 shows an example of an order that has not yet been paid for.

Describe how the Sales staff of Coloured Crystal can use the database software to produce a list of all orders that have not been paid for on time.

.....

.....

.....

.....

.....

.....

..... [4]

- (d) Fig. 5 is just one of a number of tables in the relational database used by the Sales department. The complete database allows staff to find out details about the customers and the products they have ordered as well as when the orders were placed.

Describe **two** other tables that would be needed in this database.

Table 1 .....

.....

.....

Table 2 .....

.....

..... [4]

- (e) Explain the benefits of using data entry forms in this relational database.

.....

.....

.....

.....

.....

..... [3]

8 Coloured Crystal has a small website which was created a number of years ago. It consists of a few pages giving details about the company and pictures of some of its products. The company employs a consultant to improve this site.

(a) The web pages contain text and pictures. Give **three** other features a web page could include.

- Feature 1 .....
- Feature 2 .....
- Feature 3 ..... [3]

(b) Give **three** items of information that should be included on the home page.

- Item 1 .....
- Item 2 .....
- Item 3 ..... [3]

(c) Describe **two** methods the company could use to create electronic images of their products to use on the website.

- Method 1 .....
- .....
- .....
- Method 2 .....
- .....
- ..... [4]

(d) The consultant suggests that Coloured Crystal should have a section on their website that allows customers to buy goods online using a credit card. The consultant explains that encryption will be needed.

- Explain what encryption is and why it will be needed.
- .....
- .....
- .....
- .....
- .....
- ..... [4]

- 9 Coloured Crystal employs a number of Sales staff to visit retail outlets all over Europe. Their job is to persuade these outlets to stock Coloured Crystal's products and to negotiate contracts.

The Sales staff make use of a number of modern technologies to help them do this job most effectively.

Describe the following technologies and explain how each could be useful to Coloured Crystal's Sales staff.

(a) World Wide Web .....  
.....  
.....  
.....  
.....  
..... [4]

(b) Mobile phone technologies .....  
.....  
.....  
.....  
..... [4]

(c) Multimedia .....  
.....  
.....  
..... [4]





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