

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**  
**General Certificate of Secondary Education**

**APPLIED INFORMATION AND  
 COMMUNICATION TECHNOLOGY**



**4872**

(Double Award)

UNIT 1: ICT Knowledge and Understanding

Wednesday

**7 JUNE 2006**

Morning

1 hour 30 minutes

Additional materials:

Candidates answer on the question paper.

Candidate  
Name

Centre  
Number

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Candidate  
Number

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**TIME** 1 hour 30 minutes

**INSTRUCTIONS TO CANDIDATES**

- Write your name, Centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Do not write in the bar code. Do not write in the grey area between the pages.
- **DO NOT WRITE IN THE AREA OUTSIDE THE BOX BORDERING EACH PAGE. ANY WRITING IN THIS AREA WILL NOT BE MARKED.**

**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>TOTAL</b>	

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

*Clear & Bright* is a company that designs, manufactures and sells windows and conservatories. It has:

- a factory where the frames are made
- an office for administration and customer enquiries
- a team of sales staff who sell *Clear & Bright* products to customers throughout the United Kingdom.

1 Kiran works in the office at *Clear & Bright*. She uses a computer to create advertising leaflets. Her computer system includes the items shown in Fig. 1 below:

• DVD rewriter	• monitor	• processor
• hard disk drive	• mouse	• RAM
• keyboard	• printer	• scanner

**Fig. 1**

(a) Write down the **two** items from the list in Fig. 1 that are **backing storage** devices. Give **one** reason why Kiran needs each device. Your reasons must be different.

Backing storage device 1 .....

Reason .....

.....

Backing storage device 2 .....

Reason .....

..... [4]

(b) Write down the **two** items from the list in Fig. 1 that are **output** devices. Give **one** reason why Kiran needs each device. Your reasons must be different.

Output device 1 .....

Reason .....

.....

Output device 2 .....

Reason .....

..... [4]

(c) Write down the **three** items from the list in Fig. 1 that are **input** devices. Give **one** reason why Kiran needs each device. Your reasons must be different.

Input device 1 .....

Reason .....

.....

Input device 2 .....

Reason .....

.....

Input device 3 .....

Reason .....

..... [6]

(d) Suggest **one** input device, that is not listed in Fig. 1, that would be useful to Kiran. Explain why it would be useful.

Additional input device .....

Why it would be useful .....

.....

.....

..... [3]

(e) Recently Kiran's computer system has been upgraded to include:

- a 400 Gb hard disk drive instead of an 80 Gb hard disk drive
- 2 Gb RAM instead of 512 Mb RAM.

Explain why the upgrades make Kiran's computer more appropriate for her needs.

.....

.....

.....

.....

.....

..... [4]

2 Joanne also works in the office. Her computer is a **stand-alone** system. She uses it throughout her working day, creating information leaflets and other advertising material.

(a) What is a **stand-alone** computer system?

.....  
..... [1]

(b) Identify the **type** of applications software that would be **most** suitable for creating information leaflets.

..... [1]

(c) Joanne often uses **templates** provided with her software.

(i) What is a template?

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

(ii) Give **one** advantage and **one** disadvantage to Joanne of using these templates to create her leaflets.

Advantage .....

Disadvantage .....

..... [2]

(d) Joanne spends many hours creating each leaflet. It is important that her work on the computer is not lost.

(i) Give **two** reasons why work saved on a computer system might be lost.

Reason 1 .....

Reason 2 .....

..... [2]

(ii) Suggest **one** action Joanne should take to avoid losing the work she has saved on the computer.

.....  
..... [1]

(e) People who regularly use computers can suffer from health problems such as:

- repetitive strain injury (RSI)
- back pain
- eye strain and headaches.

Identify **four** actions Joanne should take to avoid these health problems.

Action 1 .....

.....

Action 2 .....

.....

Action 3 .....

.....

Action 4 .....

..... [4]

3 *Clear & Bright* uses computer-controlled machines to make components in its factory. Using computer-controlled machines has a number of advantages and disadvantages over the use of manually-controlled machines.

The table below shows six statements about the effects of the use of computer-controlled machines in factories. Place a tick in each row of the table to show whether the statement is true or false.

Statement	True? (✓)	False? (✓)
Goods are made more accurately		
All goods made are exactly the same		
Factories are expensive to set up		
Factories are expensive to run		
All the factory workers have lost their jobs		
Goods are produced more quickly		

[6]

[Turn over

4 Naveen is employed by *Clear & Bright* to create and maintain a company website. His computer has access to the Internet.

(a) Give **two** advantages and **one** disadvantage to *Clear & Bright* of having a website.

Advantage 1 .....

.....

Advantage 2 .....

.....

Disadvantage .....

..... [3]

Naveen needs to protect his computer system from viruses.

(b) What is a virus?

.....

.....

.....

..... [3]

(c) Naveen installs anti-virus software onto his computer.

Identify **one** step he should take to ensure this software keeps his computer system free from viruses.

.....

..... [1]

(d) A person who creates and spreads a computer virus is committing a criminal offence.

Name the Act of Parliament that makes it an offence to create and spread a computer virus.

..... [1]

(e) **Hacking** is also a criminal offence.

(i) Describe what is meant by the term **hacking**.

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

(ii) Give **one** type of software Naveen should install on his computer system to protect it from hackers.

..... [1]

5 *Clear & Bright* store details of potential customers on a computer.

(a) Identify the **type** of applications software that is **most** suitable for this purpose.

..... [1]

(b) The software gives the choice of four data types:

- text
- numeric
- date
- Boolean (yes/no).

Complete the table below to show the most suitable data type for each field shown.

The first one has been done for you as an example.

Field	Data type
date visited	<i>date</i>
customer name	
customer address	
price quoted	
Has the order been received?	

[4]

[Turn over

- 6 Zac is one of the sales staff at *Clear & Bright*. He has a stand at a large home improvement exhibition. He has prepared an interactive multimedia presentation to show customers the range of products offered by *Clear & Bright*.

One page of Zac's presentation is shown in Fig. 2 below:



Fig. 2

- (a) Circle the following features on Fig. 2 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	<b>Bold text</b>
B	A bulleted list
C	A graphic
D	A hyperlink



(b) Zac's presentation is **interactive**.

(i) Describe what is meant by **interactive**.

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

(ii) Give **one** advantage and **one** disadvantage to Zac's customers of this presentation being interactive.

Advantage .....

.....

Disadvantage .....

..... [2]

(c) Fig. 2 contains information in the form of **text** and **graphics**.

Give **two** other types of media that can be added to a multimedia presentation. For each type, explain how it might be used to enhance Zac's presentation about *Clear & Bright* products.

Type 1 .....

How it might be used .....

.....

.....

.....

Type 2 .....

How it might be used .....

.....

.....

..... [6]

7 Zac visits potential customers who are interested in *Clear & Bright* products. He has a portable computer and a Personal Digital Assistant (PDA).

(a) Explain why a portable computer is more suitable for Zac than a desktop computer.

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

(b) Give **two** tasks that Zac could use his PDA for to help him in his work.

Task 1 .....  
Task 2 ..... [2]

(c) Explain why it is useful to Zac to have both a portable computer and a PDA.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [4]

(d) Zac uses a Computer Aided Design (CAD) package to show customers what a conservatory will look like on their house.

(i) Give **two** features of a CAD package that make it suitable for this purpose.

Feature 1 .....  
Feature 2 ..... [2]

(ii) Give **one** advantage and **one** disadvantage of using a CAD package rather than showing photographs of existing conservatories.

Advantage .....  
.....  
Disadvantage .....  
..... [2]

- (e) If customers do not make an order for *Clear & Bright* products during his visit, Zac contacts them after a few days to see if they are still interested. He can send a letter, send an email or use his mobile telephone.

Describe the advantages of each of these methods for this task.

Sending a letter .....

.....  
.....  
.....  
.....  
.....  
.....

Sending an email .....

.....  
.....  
.....  
.....  
.....  
.....

Using a mobile telephone .....

.....  
.....  
.....  
.....  
.....  
.....

[6]

- 8 Ken works in the office at *Clear & Bright*. He uses a spreadsheet to calculate the monthly pay for each of the sales staff.

Part of Ken's sheet for April 2006 is shown in Fig. 3 below. Fig. 4 shows the **same** sheet, with formulas.

	A	B	C	D	E	F
1	<b>Basic Annual Salary</b>	£12,000.00		<b>Month:</b>	April	
2	<b>Commission %</b>	0.5		<b>Year:</b>	2006	
3	<b>Bonus</b>	£500.00				
4						
5						
6	<b>Employee Reference</b>	<b>Total Sales This Month</b>	<b>Basic Salary</b>	<b>Commission</b>	<b>Bonus</b>	<b>Total Pay</b>
7	S1074	£23,626.01	£1,000.00	£118.13	£0.00	£1,118.13
8	S4246	£17,542.69	£1,000.00	£87.71	£0.00	£1,087.71
9	S5206	£35,272.17	£1,000.00	£176.36	£500.00	£1,676.36
10	S5652	£36,461.17	£1,000.00	£182.31	£500.00	£1,682.31
11	S8460	£29,542.63	£1,000.00	£147.71	£500.00	£1,647.71

Fig. 3

	A	B	C	D	E	F
1	<b>Basic Annual Salary</b>	12000		<b>Month:</b>	April	
2	<b>Commission %</b>	0.5		<b>Year:</b>	2006	
3	<b>Bonus</b>	500				
4						
5						
6	<b>Employee Reference</b>	<b>Total Sales This Month</b>	<b>Basic Salary</b>	<b>Commission</b>	<b>Bonus</b>	<b>Total Pay</b>
7	S1074	23626.01	=\$B\$1/12	=\$B\$2/100*B7	=IF(B7>=25000,\$B\$3,0)	=SUM(C7:E7)
8	S4246	17542.69	=\$B\$1/12	=\$B\$2/100*B8	=IF(B8>=25000,\$B\$3,0)	=SUM(C8:E8)
9	S5206	35272.17	=\$B\$1/12	=\$B\$2/100*B9	=IF(B9>=25000,\$B\$3,0)	=SUM(C9:E9)
10	S5652	36461.17	=\$B\$1/12	=\$B\$2/100*B10	=IF(B10>=25000,\$B\$3,0)	=SUM(C10:E10)
11	S8460	29542.63	=\$B\$1/12	=\$B\$2/100*B11	=IF(B11>=25000,\$B\$3,0)	=SUM(C11:E11)

Fig. 4

Refer to Fig. 3 and Fig. 4 when answering the questions on this page.

(a) Complete the table below to give an example of each of the types of cell listed.

The first line has been completed for you.

Type of cell	Example
A cell containing a formula	C7
A cell containing text	
A cell that has been formatted as currency	
A cell that has been formatted as a number to 1 decimal place	
A cell that has been formatted to wrap text	

[4]

(b) Ken has mistyped the Total Sales This Month for employee number S1074. The figure should be 23262.01.

(i) Which cell in the spreadsheet will Ken need to change to put this mistake right?

..... [1]

(ii) Which **two** other cells will then automatically change?

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

(c) Sometimes *Clear & Bright* sales staff earn a bonus.

What do the sales staff have to do to earn this bonus?

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

(d) The basic salary for the month is calculated by dividing the annual salary by 12. This formula is shown in cells C7 to C11.

Explain the purpose of the \$ signs in these formulas.

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

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