



Centre Number

Candidate Number

General Certificate of Secondary Education
2005

Information and Communication Technology

Full Course

Paper 2

Higher Tier

[G5804]



FRIDAY 27 MAY, AFTERNOON



1 hour.



- Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
- Write your answers in the spaces provided in this question paper.
- Answer **all twelve** questions.



The total mark for this paper is 100, including a maximum of 5 marks for quality of written communication.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
QWC	
Total Marks	

2 Alison Jones runs a small publishing business. She has 5 employees. She wants to make sure her employees are working in a safe environment.

(a) List and give the **cause** of **three** possible **injuries** which the employees could suffer because of working at the computer for a long time.

Injury	Cause

[6]

(b) List **three** ways in which Alison can help prevent her employees from having health problems in the workplace.

1. _____ [1]

2. _____ [1]

3. _____ [1]

Examiner Only	
Marks	Remark

The organisation of data in a **relational database** can cut down on **data redundancy** and improve **data integrity**.

Examiner Only	
Marks	Remark

(b) What is **data redundancy**?

[2]

(c) What is **data integrity**?

[2]

(d) The database system accepts **data** and outputs **information**.

(i) What is the difference between **data** and **information**?

[2]

(ii) Give **two** examples of **information** which could be produced from using the data held *in this system*.

1.

2.

[2]

5 Using a word from the list below, what is the likely **filetype** of each of the following files? Explain your choice.

HTML

RTF

JPEG

MPEG

1.

```
<html>
<head>
<!-- TemplateBeginEditable name="doctitle" -->
<title>Untitled Document</title>
<!-- TemplateEndEditable -->
<meta http-equiv="content-type" content="text/html; charset=iso-8859-1">
<!-- TemplateBeginEditable name="head" --><!-- TemplateEndEditable -->
</head>

<body>
<table width="100%" border="0">
  <tr>
    <td width="22%" height="41">&nbsp;</td>
    <td width="78%"><div align="center"><font color="#000033" size="3" face="Verdana, Arial,
      of ICT - Scheme of work Portfolio<font></div></td>
  </tr>
  <tr>
    <td align="left" valign="top"><p>&nbsp;</p>
    <ul>
      <li><font color="#000066" size="1" face="verdana, Arial, Helvetica, sans-serif">Year
        8 Scheme of work<font></li>
      <li><font color="#000066" size="1" face="verdana, Arial, Helvetica, sans-serif">
        Year 9 Scheme of work<font></li>
      <li><a href="acescheme.doc"><font color="#000066" size="1" face="verdana, Arial, He
```

Filetype: _____ [1]

Explanation: _____ [1]

2.



Filetype: _____ [1]

Explanation: _____ [1]

Examiner Only	
Marks	Remark

6 Owen is studying GCSE ICT. He has completed all of his Powerpoint assignment work and finds that it is 3.1 Megabytes in size. He is going to e-mail it to his teacher, but her e-mail cannot accept files which are more than three Megabytes in size.

(a) Owen decides to compress his file so that he can e-mail it.

(i) What is **data compression**?

_____ [1]

When Owen's teacher receives the e-mail, she receives it as a **zip** file.

(ii) What software will she need to **open** the file?

_____ [1]

(b) Owen calls his work a **multimedia** presentation.

(i) List **two multimedia** features that could be included in a presentation.

1. _____

2. _____ [2]

In addition to his computer system, Owen requires a **modem**.

(ii) What is a **modem**?

_____ [1]

(iii) Name **one** piece of software that Owen requires to connect to the Internet.

_____ [1]

7 A local electricity company uses **batch processing** to create their customers' quarterly bills.

Examiner Only	
Marks	Remark

(a) Why is **batch processing** suitable for completing this task?

[2]

(b) Meter readings are input into the computer system, part of the contents of the **Transaction** and **Master files** are shown below:

Transaction file

Customer Number	Date	Meter Reading
89909	12/12/04	345667
89910	12/12/04	234559
89930	12/12/04	278999
89945	12/12/04	125677

Master File

Customer Number	Customer Name	Address	Town	Post Code	Last Meter Reading
89909	Mr M Conway	21 Blacks Road	Belfast	BT3 7UJ	345000
89910	Mr G Mc Fall	1 Docks Lane	Larne	BT67 81K	234000
89930	Miss N Stewart	65 Riverside	Banbridge	BT46 9AI	278000
89945	Mr R Heatly	1 Park Avenue	Newry	BT56 9UH	125000

(i) What is a **transaction file**?

[1]

--	--

(c) Bills are sent to over twenty thousand customers every quarter. You can see a sample of an electricity bill below.


Northern Electricity

Mrs R Blackwood
1 Beeches Avenue
Newry
Co Down
BT55 7UU

Customer Number 89946

Tariff Home Energy

Date 21st March 2005



Date	Present Reading	Previous Reading	Units Used	Units Price (pence)	Total
19 th March	6000	5000	1000	9.5	£95.00
VAT at 5.00% on £95.00					£ 4.75
Total Payable					£99.75

(i) What type of output device would you recommend for producing twenty thousand electricity bills quickly?

_____ [1]

(ii) Give **two** features of this output device which makes it suitable for producing bills.

1. _____

2. _____ [2]

(iii) What is **real-time** processing?

_____ [1]

(iv) Give **one** example of **real-time** processing.

_____ [1]

Examiner Only	
Marks	Remark

- 8 Look at the picture below. This computer is in an office and is connected to the Internet.



Input, output and storage hardware can be seen in the picture.

- (a) List **three** items of **computer hardware** which you can see in the picture and state the **function** of each.

Hardware	Function

[6]

Examiner Only

Marks Remark

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11 Adam, Caoimhe, Ruth and John all connect to the Internet using different technologies.

- Adam uses **PSTN** from home
- Caoimhe uses **ADSL** from home
- Ruth uses **ISDN** from home
- John's connection is through a 2 Megabit **optical fibre** link at his school

(a) Expand the acronym **ISDN**.

_____ [1]

(b) Expand the acronym **ADSL**.

_____ [1]

(c) Using the table below place each of the technologies in order of bandwidth, smallest (or narrowest) first.

	Technology
1	
2	
3	
4	

[4]

(d) All four students are asked to visit a website. The website has video footage which the students must watch.

(i) Ruth decides to add the website to a list of favourites.
Give **one** advantage for Ruth of doing this.

_____ [1]

Examiner Only	
Marks	Remark

