| Surname | |
| Other Names | |
| Candidate Signature | |

**AQA**

General Certificate of Secondary Education
June 2013

# Information and Communication Technology (Short Course)

**45204**

### Unit 4   Systems and Applications in ICT

**Thursday 6 June 2013      9.00 am to 10.00 am**

**You will need no other materials.**
You may use a calculator.

## Time allowed
● 1 hour

## Instructions
● Use black ink or black ball-point pen.
● Fill in the boxes at the top of this page.
● Answer **eight** questions in total.
● Answer **all** questions in Sections A and B.  In Section C answer **either**
  Question 8 **or** Question 9, which should be answered in continuous
  prose.  In this question you will be marked on your ability to:
  – use good English
  – organise information clearly
  – use specialist vocabulary where appropriate.
● You must answer the questions in the spaces provided.  Do not write
  outside the box around each page or on blank pages.
● Do all rough work in this book.  Cross through any work you do not want
  to be marked.

## Information
● The marks for questions are shown in brackets.
● The maximum mark for this paper is 60.

**45204**

## Section A

Answer **all** questions in the spaces provided.

1

| | | | | |
|---|---|---|---|---|
| **A** | CD-RW drive | **I** | Plotter |
| **B** | Flash memory | **J** | RAM |
| **C** | Hard disk drive | **K** | Smart mobile phone |
| **D** | LAN | **L** | Software |
| **E** | Laser printer | **M** | Speaker |
| **F** | Modem | **N** | Touch screen |
| **G** | Mouse | **O** | Tracker ball |
| **H** | Netbook | **P** | WAN |

Choose your answers from the **list given above**.

Write the letter for your answer in the box or boxes given.

**1 (a)** Give **two** of the above that are input devices.

Answers ☐ ☐

*(2 marks)*

**1 (b)** Give **two** of the above that are output devices.

Answers ☐ ☐

*(2 marks)*

**1 (c)** Give **two** of the above that are backing storage devices.

Answers ☐ ☐

*(2 marks)*

**1 (d)** Give **one** of the above that is a mobile digital device.

Answer ☐

*(1 mark)*

7

**2 (a)** For each row of the table below, choose the letter from **A**, **B**, **C**, **D**, **E**, **F** or **G** which best matches the description.

| | |
|---|---|
| **A** Bar code reader | **E** OMR reader |
| **B** Biometrics | **F** Online forms |
| **C** Chip and pin | **G** RFID tags |
| **D** Magnetic stripe card | |

| | **Description** | **Letter** |
|---|---|---|
| (i) | Used to read a small image of lines (bars) and spaces on products in a supermarket | |
| (ii) | Uses a four digit code as part of the method of cardholder verification at the point-of-sale | |
| (iii) | Technologies that measure and analyse human body characteristics, such as DNA, fingerprints, eye retinas and irises, voice patterns, facial patterns and hand measurements, for authentication purposes. | |

*(3 marks)*

**2 (b)** In the space below, add **three** more **suitable** fields to the data capture form for people applying to join AQA Leisure Centre. Care should be taken to include enough space to fill in the details.

# AQA Leisure Centre

Last name  __ __ __ __ __ __ __ __ __ __

First name  __ __ __ __ __ __ __ __ __ __

Address 1  __ __ __ __ __ __ __ __ __ __ __ __ __

Address 2  __ __ __ __ __ __ __ __ __ __ __ __ __

Address 3  __ __ __ __ __ __ __ __ __ __ __ __ __

Postcode  __ __ __ __ __ __ __ __ __ __

*(3 marks)*

**6**

**Turn over ▶**

**3 (a)** Some of the stages of the system life cycle have been labelled **A** to **F** in the table below.

| Label | Stage |
|-------|-------|
| **A** | Analysis |
| **B** | Design |
| **C** | Evaluation |
| **D** | Feasibility study |
| **E** | Implementation |
| **F** | Maintenance |

**3 (a)** Write down the labels to show the order in which these stages occur.

| Label |
|-------|
|  |
|  |
|  |
|  |
|  |
|  |

*(3 marks)*

**3 (b)** Tick **two** boxes to show which of the following **best** describe the steps that take place during the testing stage of the system life cycle.

|  | Tick **two** boxes only |
|---|---|
| Data from the test plan are input to check the system works as expected | ☐ |
| Desired outcomes and performance criteria are created | ☐ |
| The actual outcomes are compared with the expected results in the test plan | ☐ |
| The test plan is created | ☐ |
| The test plan is evaluated against the performance criteria | ☐ |

*(2 marks)*

**3 (c)** Name **one** method of collecting information during the feasibility study.

.............................................................................................................................
*(1 mark)*

<div style="float:right">6</div>

**4 (a)** Reading fiction on electronic devices, such as e-book readers, has become increasingly popular over the last few years. Many people now prefer reading e-books to traditional paper books.

**4 (a) (i)** Give **two advantages** to people of using e-book readers to read fiction, rather than reading paper books.

Advantage 1 .........................................................................................................

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

Advantage 2 .........................................................................................................

.............................................................................................................................
*(2 marks)*

**4 (a) (ii)** Give **one disadvantage** to people of using e-book readers to read fiction, rather than reading paper books.

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

.............................................................................................................................
*(1 mark)*

**Question 4 continues on the next page**

**Turn over ▶**

**4 (b)** In recent years, wikis have become an increasingly popular source of information.

**4 (b) (i)** Tick **one** box to show which of the following **best** describes what is meant by a wiki.

|  | Tick **one** box only |
|---|---|
| A website where the content is never updated | |
| A website where the content is updated on the first day of every month | |
| A website where the creator is the only person who can add, modify, or delete its content | |
| A website where users can add, modify, or delete its content | |

*(1 mark)*

**4 (b) (ii)** Give **one** reason why people should be careful about using the content of a wiki for research.

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

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

*(1 mark)*

**5**

**5** Word processing and DTP are two of the most common pieces of software used today. Below is a list of documents that are usually produced using word processing or DTP software.

Catalogue             Magazine

Essay                    Letter

Poster                   Memo

**5 (a) (i)** From the list given above, give **two** of the documents that you would expect to be produced using word processing software.

Document 1 ......................................... Document 2 ...............................................

*(1 mark)*

**5 (a) (ii)** Give **one** reason why word processing software would be suitable for producing these documents.

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

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

*(1 mark)*

**5 (b) (i)** From the list given opposite, give **two** of the documents that you would expect to be produced using DTP software.

Document 1 .......................................... Document 2 ...............................................

*(1 mark)*

**5 (b) (ii)** Give **one** reason why DTP software would be suitable for producing these documents.

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

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

*(1 mark)*

**5 (c)** Mail merging is used with both word processing and DTP software.

Explain what is meant by *mail merging*.

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

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

*(2 marks)*

6

**Turn over for the next section**

**Turn over ▶**

**Section B**

Answer all questions in the spaces provided.

**6**    A supermarket allows customers to order groceries online.  The first stage of the process involves customers placing an order using their computer.

**6 (a)**    Tick **one** box to show how the customer usually pays for the groceries they have ordered online.

|  | Tick **one** box only |
|---|---|
| They go to the supermarket and pay by cash | |
| They pay by using credit card details when they place the order | |
| They pay the driver when the groceries are delivered | |
| They send a cheque to the supermarket | |

*(1 mark)*

**6 (b)**    Give **one disadvantage** to the **customer** of ordering their groceries online compared to shopping at the supermarket.

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

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

*(1 mark)*

**6 (c) (i)**    When a customer visits the supermarket's website to order groceries, a cookie is usually created.

Tick **one** box to show which of the following **best** describes what a cookie is.

|  | Tick **one** box only |
|---|---|
| An application that sends an invoice to the customer | |
| A program used to detect hackers | |
| A series of pictures of the supermarket | |
| A small text file | |

*(1 mark)*

**6 (c) (ii)** Some customers regularly block cookies.

Give **one** reason why a customer may not want to allow the supermarket's cookie.

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

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

*(1 mark)*

**6 (d)** Describe some advantages to customers of buying their groceries online.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*(5 marks)*

**Turn over ▶**

9

**7** The headteacher of a school has asked the student Year Book committee to produce a spreadsheet showing the cost of producing next summer's year book. She has asked to see the spreadsheet before any work on the Year Book starts. The committee's first attempt is shown below.

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Yer book 2013** | | | |
| 2 | | | | |
| 3 | Estimated number of Year Books that w | 160 | | |
| 4 | Estimate number of Year books to print | 200 | | |
| 5 | | | | |
| 6 | Costs | Per book | Total | |
| 7 | Printing costs | £5.00 | £1,000.00 | |
| 8 | Professional photographer | | £600.00 | |
| 9 | Cost of artwork for the front cover | | £150.00 | |
| 10 | Early sample pages -printed at school | | £100.00 | |
| 11 | | | | |
| 12 | Total costs | | £1,850.00 | |
| 13 | | | | |
| 14 | Income | Per book | Total | |
| 15 | Sale of Year Books | £7.00 | £1,120.00 | |
| 16 | Adverts put in Year book | | £500.00 | |
| 17 | Donations | | £210.00 | |
| 18 | | | | |
| 19 | Total income | | £1,830.00 | |
| 20 | | | | |
| 21 | Profit/Loss | | -£20.00 | |
| 22 | | | | |
| 23 | | | | |

**7 (a)** Give **two** reasons why the spreadsheet given above is **not** ready to be shown to the headteacher.

Reason 1 ...........................................................................................................................

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

Reason 2 ...........................................................................................................................

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

*(2 marks)*

**7 (b)** Below are two graphs that the students have produced to show the income from the Year Book.

**Graph A**
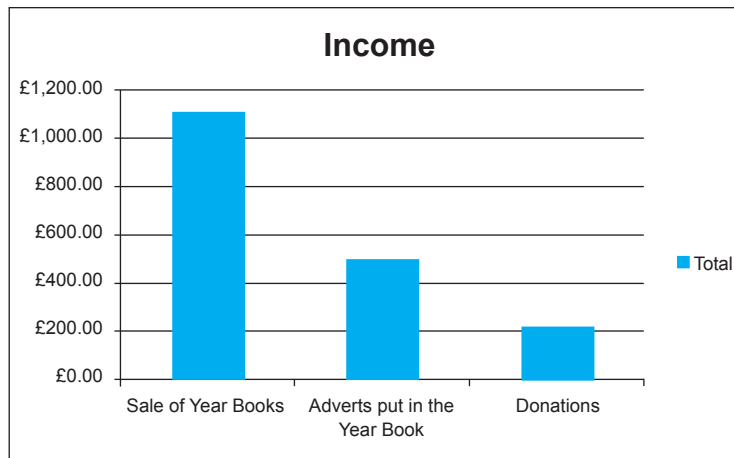


**Graph B**
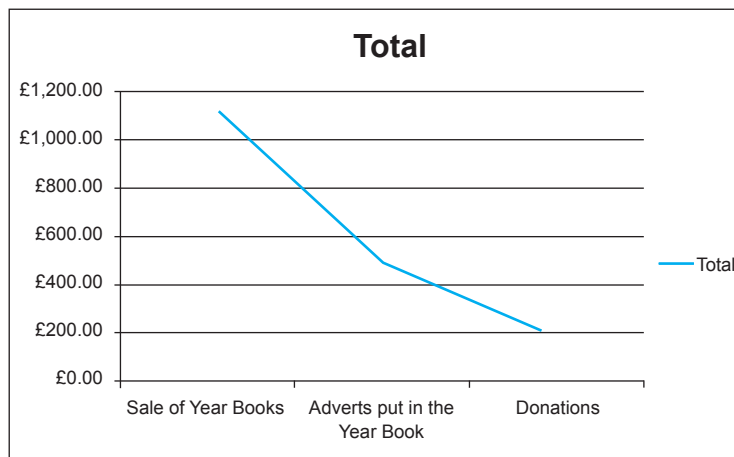


**7 (b)** Give **two** reasons why the students should show **Graph A** to the headteacher rather than **Graph B**?

Reason 1 ........................................................................................................................

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

Reason 2 ........................................................................................................................

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

*(2 marks)*

**Turn over ▶**

**7 (c)** Explain how the students could use the spreadsheet model to ask 'what if' questions to help maximise the profit. It is important to explain which values they should change and the effects this would have on the profit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*(5 marks)*

9

## Section C

You should answer **either** Question 8 **or** Question 9, but **not** both.
You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.

**Either**

**8**    Describe how ICT can help the monitoring and managing of sustainable resources and recycling.

*This space is available for planning your answer, if you wish to use it.*

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

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

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

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

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

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

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

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

**Turn over ▶**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*(12 marks)*

**12**

**Turn over ▶**

**Or**

**9** Discuss possible advantages and disadvantages of using social networking sites.

*This space is available for planning your answer, if you wish to use it.*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*(12 marks)*

**12**

**END OF QUESTIONS**

**There are no questions printed on this page**

**DO NOT WRITE ON THIS PAGE**
**ANSWER IN THE SPACES PROVIDED**

**There are no questions printed on this page**

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**