OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY (Double Award)
ICT Knowledge and Understanding

4872

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:
None

Monday 21 June 2010
Morning

Duration: 1 hour 30 minutes
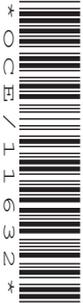
Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

**INSTRUCTIONS TO CANDIDATES**

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

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.
- This document consists of **20** pages. Any blank pages are indicated.

2

Chris Lansey is the librarian in charge of the public library in Great Albridge.

1 Chris and her staff use a computer system to check books in and out of the library. Some of the main components of this system are shown in Fig. 1.

Bar-code reader	DVD writer	Hard disk drive
Keyboard	Mouse	Printer
Processor	RAM	Monitor

Fig. 1

Write down the item **from the list in Fig. 1** that is described in (a) to (g) below:

(a) The input device used to automatically read details from books and borrowers' cards.

.... **[1]**

(b) Two other input devices.

1 ....

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

(c) The output device used to create hard copies of letters written by members of staff.

.... **[1]**

(d) One other output device.

.... **[1]**

(e) Two backing storage devices. Write these down in order of the speed data is transferred, fastest first.

Fastest ....

Slowest .... **[3]**

(f) (i) The storage device that is **not** backing storage.

.... [1]

(ii) Describe the purpose of this storage device.

....

....

....

.... [2]

(g) The **two** devices that have a significant effect on the speed of the computer system.

For each one explain why it affects the speed of the computer system.

Device 1 ....

Why it affects the speed ....

....

....

....

Device 2 ....

Why it affects the speed ....

....

....

.... [6]

2 Great Albridge Library has an information system for library users. Fig. 2 shows one of the menu pages from this system.

Great Albridge Library Information System ───── A

Book Search Menu

❏ <u>Search by author</u>

❏ <u>Search by title</u>

Press the option you require

Back to
Main
Menu
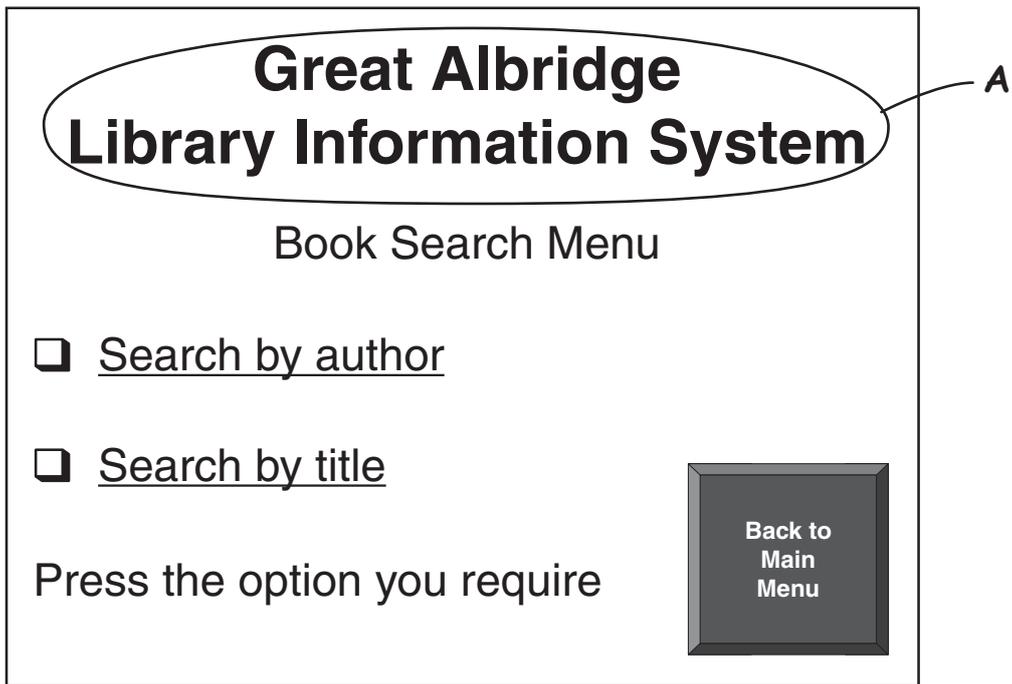
Fig. 2

(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.

Feature	Label
Bold text	**A**
A bullet	B
A button	C
Centred text	D
Hyperlinked text	E

[4]

(b) The library information system uses a touch screen.

   (i) What is a touch screen?

   ....

   .... **[1]**

   (ii) Give **two** advantages of using a touch screen for the library information system.

   1 ....

   ....

   2 ....

   .... **[2]**

(c) Some parts of the information system contain multimedia elements, including sound. The computer system does not include speakers.

   (i) Give an alternative device that the library could use to allow users of the multimedia information system to hear the sounds.

   .... **[1]**

   (ii) Explain why your suggestion is more suitable than speakers.

   ....

   ....

   ....

   .... **[2]**

(d) One type of multimedia element is sound.

   List the **three** other types of multimedia element.

   1 ....

   2 ....

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

3 The library has ten networked computers for members of the public to use.

(a) Give **three** advantages of networking these computers.

1 ....

....

2 ....

....

3 ....

.... **[3]**

(b) Chris, the librarian, needs to be aware of health and safety issues when providing computer systems for the public to use.

(i) Give **three** features Chris should look for when purchasing chairs for use in this area.

Feature 1 ....

....

Feature 2 ....

....

Feature 3 ....

.... **[3]**

(ii) Explain why these features are necessary.

....

....

....

....

.... **[2]**

(c) Explain why it is important to consider the lighting in the computer area.

....

....

....

....

.... **[2]**

Turn over

4 **(a)** Members of the public are allowed to bring USB flash memory sticks into the library to use with the public computers.

   (i) Explain why this would be useful to the users.

   ....

   ....

   ....

   ....**[2]**

   (ii) Give **one** alternative medium that could be used instead of a USB flash memory stick.

   ....**[1]**

   (iii) Give **two** advantages of using a USB flash memory stick compared to the alternative medium you suggested in (ii).

   1 ....

   ....

   2 ....

   ....**[2]**

(b) The public computers in the library have access to the internet.

Explain some of the problems this could cause **and** the measures that Chris needs to put in place to minimise the risks of these problems occurring.

....

....

....

....

....

....

....

....

....

....

....

....

....

....

.... **[8]**

Turn over

5 Chris wishes to update the encyclopaedias available in the library. She can:

- Purchase a set of traditional books. The encyclopaedia she wants comes in 32 volumes.
- Take out a subscription for on-line access to the encyclopaedia.
- Purchase the encyclopaedia on DVD.

(a) Apart from cost, give **one** advantage and **two** disadvantages of using books when compared to accessing the information using a computer.

Advantage ....

....

....

Disadvantage 1 ....

....

....

Disadvantage 2 ....

....

.... **[3]**

(b) Apart from cost, give **one** advantage and **one** disadvantage of using on-line access compared to using the DVD.

Advantage ....

....

....

Disadvantage ....

....

.... **[2]**

(c) Electronic encyclopaedias were first made available on CD.

Give **one** advantage of using DVD rather than CD.

....

.... **[1]**

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6 Chris uses database software to store details of the books in the library and of the people who borrow books from the library.

Fig. 3 shows some details of the three tables used in the library database.

Users Table				
Key?	Field name	Field type	Field length/format	Validation
✓	UserID	Numeric	Integer	Created automatically
	Last Name	Text	15 characters	None
	First Name	Text	15 characters	None
	Title	Text		Mr/Mrs/Miss/Dr/Revd
	Address1		25 characters	None
	Address2		15 characters	None
	Address3		15 characters	None
	PostCode	Text	8 characters	None

Books Table				
Key?	Field name	Field type	Field length/format	Validation
✓				
	Author	Text	25 characters	None
	Title	Text	150 characters	None
	Fiction/Non-Fiction	Boolean	1	
	Age	Text	6 characters	Adult/Teen/Child/Infant
	Publisher	Text	25 characters	None

Loans Table				
Key?	Field name	Field type	Field length/format	Validation
	LoanID	Numeric	Integer	Created automatically
	Date Out	Date	dd/m/yyyy	None
	Date Back	Date	dd/m/yyyy	None

Fig. 3

(a) Refer to the **Users Table** in Fig. 3

  (i) Which field type would be used for the address fields in the Users Table?

  .... **[1]**

  (ii) What field length would be used for the title field in the Users Table?

  .... **[1]**

(b) Refer to the **Books Table** in Fig. 3.

    (i) Give suitable details for the key field in the Books Table.

        ....

        ....

        ....

        .... **[2]**

    (ii) One of the fields in the Books Table is a Boolean type. What is a Boolean field?

        ....

        .... **[2]**

(c) Refer to the **Loans Table** in Fig. 3

    (i) Name **two** additional fields that are necessary in this table, other than those shown.

        1 ....

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

    (ii) Identify the key field for this table.

        .... **[1]**

(d) Describe fully the links that are required between these tables.

....

....

....

....

....

....

....

....

....

....

.... **[6]**

7 The library database stores data about users, books and loans.

(a) Chris uses a password to access the library database.

(i) What is the purpose of the password?

....

.... **[1]**

(ii) Which law would Chris be breaking if she did not have a password on the database?

....

.... **[1]**

(iii) Chris needs a strong password.

Explain what is meant by a strong password and what Chris needs to do to make sure her password is strong.

....

....

....

....

....

....

....

....

....

.... **[5]**

(b) Fig. 4 shows part of the **Books Table**.

Author	Title	Publisher	Age Group
Barry, Michael	Stormy days	Meakin	Adult
Blake, Marianne	Flower arranging for beginners	Blewitt Thatcher	Adult
Carter, Amelia	ICT for GCSE students	CEP	Teen
Fisher, Paul	Going for gold	Blewitt Thatcher	Child
Iqbal, Majid	The code breakers	Meakin	Teen
Makele, Vincent	Teddy goes to the park	Meakin	Infant

Fig. 4

(i) The table in Fig. 4 has been sorted. Give the name of the field that has been used to sort this data.

.... [1]

(ii) Chris sorts the table of books in ascending order by Age Group and then Title.

What is the title of the book from Fig. 4 that would come at the top of the list?

.... [1]

(iii) The library has a large number of books written by Vincent Makele. Chris wants to produce a list of all his books for infants, in alphabetical order of title.

Describe what Chris needs to do to produce this list using the database software.

....

....

....

....

....

....

....

....

....

.... [5]

8 Chris is organising a story-telling afternoon for young children. She is using desktop publishing software to produce a flyer to advertise this event.

(a) Chris has been given a printed photograph to include on the flyer.

Describe what she needs to do to add this photograph to the flyer she is creating on the computer.

....

....

....

.... **[2]**

Fig. 5 shows the first draft of the flyer when she has added the photograph.

Great Albridge Library

Story Telling

Monday 26th July 2010, 2.30 – 4.00pm

Tearaway Teddy
and other tales

For children up to 8 years
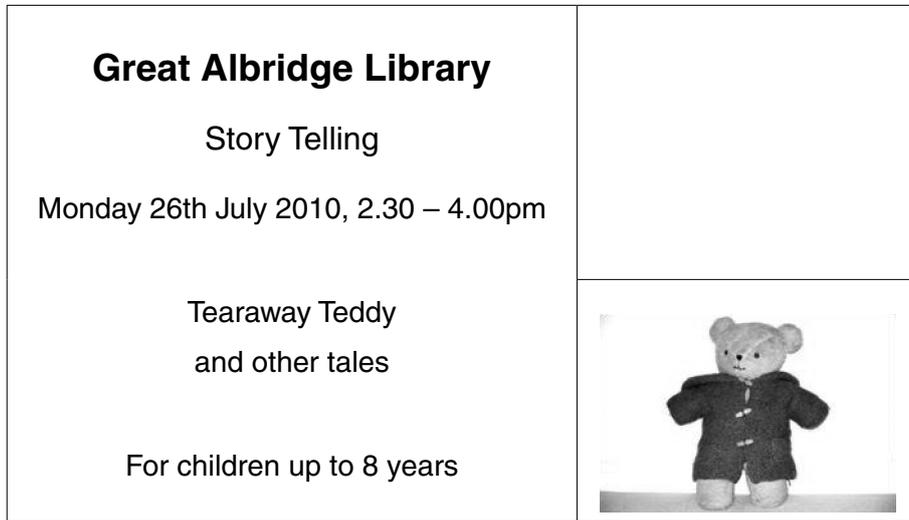
Fig. 5

(b) Give **two** ways Chris could make the words 'Tearaway Teddy' stand out from the rest of the writing.

1 ....

....

2 ....

.... **[2]**

Refer to Fig. 5. The photograph is not the right shape for the space Chris has on the flyer.

(c) Chris resizes the photograph to fit in the space by dragging the top of the photograph up to the top of the flyer. The result is shown in Fig. 6.

Great Albridge Library

Story Telling

Monday 26th July 2010, 2.30 – 4.00pm

Tearaway Teddy
and other tales

For children up to 8 years
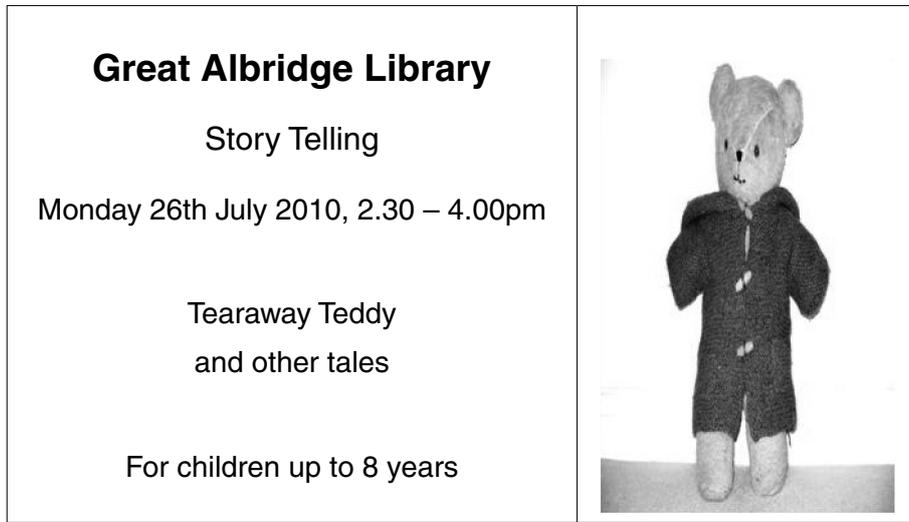
Fig. 6

(i) Explain why this is not an appropriate way to fit the photograph in the space.

....

....

....

.... **[2]**

(ii) Describe a more suitable method Chris should use to fit the photograph in the space.

....

....

....

.... **[2]**

9 Chris usually advertises special events by producing flyers.

One of the other library staff suggests to Chris that, because so many people now use the internet, she need only advertise events on the library website. This would save the time and printing cost involved in producing flyers.

Explain why Chris might still decide to produce flyers.

....

....

....

....

....

....

....

.... **[4]**

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