Cambridge IGCSE

CANDIDATE NAME	

CENTRE NUMBER						CANDIDATE NUMBER				

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/13**

Paper 1 Theory **May/June 2017**

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

MODIFIED LANGUAGE

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces at the top of this page and any additional pages you use.

Write in dark blue or black pen.

Do not use staples, paper clips, glue or correction fluid.

DO **NOT** WRITE IN ANY BARCODES.

No marks will be awarded for using brand names of software packages or hardware.

Answer **all** questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **13** printed pages and **3** blank pages.

1   Using the list, write down the most appropriate output device to produce the following.

3D printer   dot matrix printer   graph plotter   keyboard

monitor   mouse   speaker   SSD

   (a) High resolution drawings in hard copy.

   .... [1]

   (b) Sound from a computer.

   .... [1]

   (c) A solid object.

   .... [1]

   (d) Scenes from a video game.

   .... [1]

2   Tick whether the following statements are **true** or **false**.

	true (✓)	false (✓)
An actuator is an item of software.		
Hardware is the physical components of a computer system.		
Software controls the operation of the computer.		
A spreadsheet is an example of systems software.		

[2]

3 The following icons are used on the slides in presentation software.

Write down the most appropriate meaning for each icon.

Icon	Meaning
🏠	
▶	
▶|	
🖨	

[4]

4 Different terms are used in document production.

Complete the following sentences.

(a) The unit used to measure the size of a font is called

.... [1]

(b) A page can be portrait or landscape. This is called

.... [1]

(c) The special margin that is placed at the top or edge to clear the text from the fold in a page is called the

.... [1]

(d) When the first line of a paragraph appears as the last line of a page this is called

.... [1]

5 People can manage their bank accounts in different ways. One way is telephone banking.

(a) A person wishes to use telephone banking without speaking to an operator to transfer money from one bank account to another.

Describe the steps needed to do this.

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.... [6]

(b) When a debit card is read by computer, data on the card can be used for transactions.

List **four** items of data found on a debit card which can be read by computer.

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3...

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[4]

6 Midwest School library has a database system. Students who borrow books present their library cards containing their details. The librarian wishes to improve security by introducing biometric methods.

(a) Name **two** direct input methods the cards could use.

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2...

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[2]

(b) Give **two** examples of biometric input.

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[2]

(c) Name and describe in detail the files the library database system would use.

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.... [4]

(d) The fields date_borrowed and date_due_back are contained in the database.

The date_due_back field is calculated from the date_borrowed field. The student can borrow a book for 14 days.

Write a formula for the calculated field **date_due_back**.

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.... [2]

7 A school is creating a spreadsheet as a method of recording academic performance of students in IGCSE Geography.

The spreadsheet lists each student's name and their target level. The levels range from 1 to 9, where 9 is the best level.

Teachers enter the current working level. If the working level is the same or better than target level then "well done" is displayed in the comment cell, otherwise "needs improvement" is displayed.

	A	B	C	D	E	F	G
1	**Name**		**Target Level**	**Working Level**	**Comment**		
2	Peter	Smith	9	6			
3	Frances	Brown	5	7			

(a) Write a formula for cell E2 to automatically display "needs improvement" or "well done".

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.... [3]

(b) The school is going to use the data from the spreadsheet in its reports to parents. The school plans to mail merge the report with the data.

Describe **four** advantages of using mail merge.

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.... [4]

(c) The teacher needs to check the data source and template before the data is merged.

Describe **three** checks that need to be done.

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[3]

8   A club is setting up a database to store details of its members.

(a) Complete the data dictionary of the database, adding the most appropriate data type for each field.

Field name	Data type
Membership_number	Number
Member_name	
Membership_fee_paid	Boolean
Telephone_number	
Expiry_date_of_membership	
Membership_fee_amount	

[4]

(b) The club secretary wishes to find all the junior members who have paid their membership fee which would be less than $100.

He searches for these members by typing in the following search criteria.

Membership_fee_amount < 100 AND Membership_fee_paid ="Y"

He now wishes to invite selected members to a special evening. These members will be those with a membership number over 200 as well as members whose membership expiry date is before 1 Jan 2017.

Write search criteria to list all the members that should be invited.

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.... [5]

(c) Discuss the benefits and drawbacks of storing membership details on a computer database.

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9 Describe the differences between ROM and RAM.

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10 Using computers can cause problems for the health and safety of users.

(a) Evaluate your own use of computers in terms of health. Include any strategies you have devised.

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(b) Name **three** safety issues associated with your use of computers. For each issue describe a way of minimising the risk.

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[6]

11 Systems can be implemented in different ways; one of these is direct changeover.

Name **three** other methods of implementation. For each method give an advantage when compared with direct changeover.

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[6]

12 With the increased use of the internet, software copyright rules are being broken more often.

 (a) Explain what is meant by software copyright.

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.... [2]

 (b) Software piracy is one major consequence of the failure to comply with copyright rules.

Describe the ways software can be protected from piracy.

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.... [4]

13 Key-loggers are thought to be security risks but they can be used to monitor and track the use of employees on a computer system.

(a) Describe how a key-logger monitors computer usage.

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.... [2]

(b) A small minority of employees in a company have been using the computers for non-business use, so the company has had to introduce other methods of monitoring their use of ICT.

Apart from key-logging list **three** other ways that employees could be monitored in their use of ICT.

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[3]

14 Recently mobile phones have been used to pay for goods in stores and supermarkets. One method of payment involves holding the phone close to a reader in the store.

Discuss the advantages and disadvantages of this method of payment compared with other methods of credit/debit card transactions.

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