UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE
NAME

CENTRE
NUMBER

CANDIDATE
NUMBER

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/11**

Paper 1 **October/November 2011**

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, 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.

For Examiner's Use

This document consists of **15** printed pages and **1** blank page.

UNIVERSITY *of* CAMBRIDGE
International Examinations

[Turn over

1   Name the methods used to represent information on **A**, **B**, **C** and **D** using the words from the list.

A

B

C

D
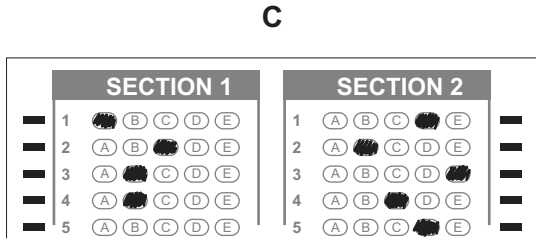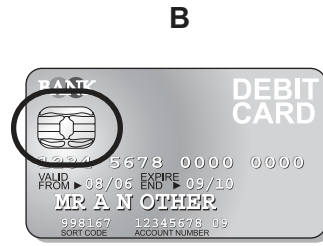
Bar code	Chip	DVD ROM	Flash memory

Graphics tablet	Light pen	Magnetic stripe	Optical marks

A   ....

B   ....

C   ....

D   ....

[4]

2   Ring **two** items which are output devices.

Buzzer   Graphics tablet   Joystick

Monitor   Optical character reader   Web cam

[2]

3   Tick **TRUE** or **FALSE** next to each of these statements.

	TRUE	FALSE
Computer programs are examples of hardware		
An internet browser is an example of software		
A pointer is used to select items in a command line interface		
A PDA is larger than a desktop computer		

[4]

4 Complete the following sentences using the most appropriate device from this list.

A remote control	**A joystick**	**A keyboard**
A chip reader	**A graphics tablet**	**A microphone**

(a) .... is used in the recording of voices for presentation software.

(b) .... is used to control a multimedia projector.

(c) .... is used to write a letter.

(d) .... is used to read information from a bank card.

(e) .... is used in a flight simulator.

[5]

5 Describe the role of a proxy server when a LAN is connected to the internet.

....

....

....

....

.... [3]

6 Susan uses a memory stick to transfer her work from school to home. Give **three** reasons why memory sticks are often preferred to CDs for storing work.

....

....

....

....

.... [3]

7 A floor turtle can use the following instructions:

INSTRUCTION	MEANING
FORWARD *n*	Move *n* mm forward
BACKWARD *n*	Move *n* mm backward
LEFT *t*	Turn left *t* degrees
RIGHT *t*	Turn right *t* degrees
PENUP	Lift the pen
PENDOWN	Lower the pen
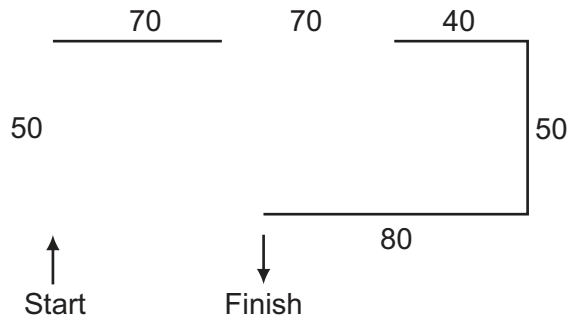
Complete the set of instructions to draw this shape by filling in the blank lines.

PEN UP

FORWARD 50

RIGHT 90

....

....

....

....

....

[5]

0417/11/O/N/11

8 Describe what is meant by a blog and a wiki.

(a) Blog ....

....

....

.... [2]

(b) Wiki ....

....

....

.... [2]

9 Tick **TRUE** or **FALSE** next to each statement to indicate if it is an example of online processing.

	TRUE	FALSE
Withdrawing money from an ATM		
Producing utility bills		
Booking a plane ticket		
Producing payslips		

[4]

10 Describe the three types of test data:

Normal ....

....

Abnormal ....

....

Extreme ....

.... [3]

11 The head teacher of a school wants to build a weather station. She wants to use a computer to collect the results

    (a) Describe **three** reasons why she wants to use a computer rather than allow students to collect the results.

        1 ....

          ....

        2 ....

          ....

        3 ....

          .... [3]

    (b) The results will be stored in a spreadsheet. The head teacher wants a word processed report. The report will contain a description of the weather and will use the spreadsheet results.

        Describe how the report will be created.

        ....

        ....

        ....

        ....

        ....

        ....

        ....

        .... [5]

(c) Spreadsheet data is often used for modelling purposes. Give **three** reasons other than reducing danger why computer models are sometimes used rather than the real thing.

1 ....

....

2 ....

....

3 ....

.... [3]

12 A supermarket uses POS terminals. The stock levels in the supermarket are updated automatically. Describe the steps involved in updating the stock level of a product when the bar code is read.

....

....

....

....

....

....

....

....

.... [5]

13 A shop owner uses a spreadsheet to calculate his profits. This is part of the spreadsheet.

	A	B	C	D	E	F	G
1	**Producer**	**Food type**	**Number in stock**	**Cost Price**	**Selling Price**	**Profit**	**Total profit**
2	Logekks	Potato flakes	123	$2.30	$2.90	$0.60	$73.80
3	Squarebranch	Chocolate bar	158	$0.75	$0.95	$0.20	$31.60
4	Roofs	Beefburgers	135	$1.25	$1.55	$0.30	$40.50
5	Kapats	Gravy	89	$3.20	$3.95	$0.75	$66.75
6	Startle	Yoghurt cream	119	$1.50	$1.85	$0.35	$41.65
7							
8		**Total in stock**	624		**Overall profit**		$254.30

(a) Give the cell reference of the cell that contains 158.

.... [1]

(b) Give the cell reference of a cell that contains a label.

.... [1]

(c) Write down the formula in cell F5.

.... [1]

(d) Write down the formula in cell G2.

.... [1]

(e) Formulae similar to that used in cell G2 have been used in cells G3 to G6. These were not typed. Describe how these were entered.

....

....

....

.... [2]

14 John owns a small company. He wishes to replace the existing computerised system with a new one. He has employed a systems analyst, Iqbal, to plan this.

(a) Iqbal will need to collect information about the existing system. Describe **three** methods he could use to do this.

1 ....

....

2 ....

....

3 ....

.... [3]

(b) Iqbal has completed the Analysis of the existing system. Describe **three** items of file structure which he would need to design for the new system.

1 ....

....

2 ....

....

3 ....

.... [3]

(c) After a system is designed it will be implemented. Describe each of the following methods of implementation.

(i) Direct changeover

....

....

(ii) Parallel running

....

....

(iii) Phased implementation

....

....

(iv) Pilot running

....

.... [4]

15 OMR, OCR and MICR are methods of direct data entry.
Describe each method, giving an example of an application where each might be used.

(a) OMR ....

....

....

....

....

.... [3]

(b) OCR ....

....

....

....

....

.... [3]

(c) MICR ....

....

....

....

....

.... [3]

16 A company uses robots to manufacture cars.

(a) Give **three** advantages to the company of using robots rather than humans to manufacture cars.

....

....

....

....

....

.... [3]

(b) Give **three** disadvantages to the company of using robots rather than humans to manufacture cars.

....

....

....

....

....

.... [3]

17 Jasvir and her family have three computers in their home. She wants to connect the computers to create a network and access the internet. List **four** additional items she would need to set up this system. Your answers must include hardware and software.

1 ....

2 ....

3 ....

4 .... [4]

18 An automatic washing machine is controlled by a microprocessor.

    (a) Other than a temperature sensor, name **two** sensors used in the machine.

        1 ....

            ....

        2 ....

        .... [2]

    (b) Explain why computers are unable to read the data directly from these sensors and name the device which would enable them to do so.

        ....

        ....

        ....

        ....

        ....

        .... [3]

    (c) Describe how the microprocessor uses data from the temperature sensor.

        ....

        ....

        ....

        ....

        ....

        .... [3]

19 Describe **two** methods of data verification.

1 ....

....

....

....

2 ....

....

....

.... [4]

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