

# Oxford Cambridge and RSA Examinations

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## General Certificate of Secondary Education

**Information and Communications Technology**  
PAPER 1 (Unit 1)  
FOUNDATION TIER

**1453 (3453)**

### Specimen Paper

Additional materials:  
Answer paper

**TIME** 1 hour 30 minutes

### INSTRUCTIONS TO CANDIDATES

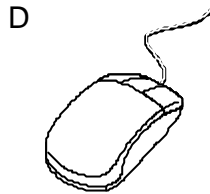
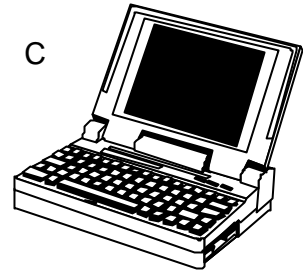
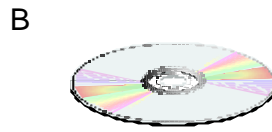
Answer **all** questions.

### INFORMATION FOR CANDIDATES

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

Total marks for this paper is 80.

1 Name the objects A,B,C,D and E, using words from the list.



plotter

joystick

video

mainframe computer

mouse

floppy disc

laptop computer

keyboard

CD-ROM

printer

graphics tablet

CD-ROM drive

A \_\_\_\_\_ B \_\_\_\_\_

C \_\_\_\_\_ D \_\_\_\_\_

E \_\_\_\_\_

[5]

2 Ring **one** item which is used to store data.

robotic arm

monitor

plotter

floppy disc

[1]

3 Ring **two** items which contain personal data.

**keyboard**

**pupil record**

**driving licence**

**car park ticket**

**floor turtle**

**scanner**

[2]

4 Ring **two** changes caused by the introduction of video recorders in the home.

**The quality of the TV programmes has improved.**

**People can decide when they want to watch a TV programme.**

**People have more leisure time.**

**More home video recordings are made.**

**More channels are available by satellite and cable television.**

**Television screens have become larger.**

[2]

5 Give **three** ways computers may be useful to pupils in a science lesson.

Way 1 \_\_\_\_\_

\_\_\_\_\_

Way 2 \_\_\_\_\_

\_\_\_\_\_

Way 3 \_\_\_\_\_

\_\_\_\_\_

[3]

6 Tick whether the following statements are **TRUE** or **FALSE**.

	TRUE	FALSE
A CD-ROM can store more data than a floppy disc.		
A modem is used to communicate using the telephone system.		
DTP packages are used to create newspapers.		
A midi system is used to store data when printing to a slow printer.		
Discs must be formatted before they are used.		
A field in a school database is used to store all the data on a pupil.		

[6]

7 Write down **two** problems which can be caused by pupils having access to other pupils' computer files.

Problem 1 \_\_\_\_\_

\_\_\_\_\_

Problem 2 \_\_\_\_\_

\_\_\_\_\_

[2]

8 You keep a database of your friends' names, addresses and dates of birth etc. Write down **two** ways in which this information might be used.

Way 1 \_\_\_\_\_

\_\_\_\_\_

Way 2 \_\_\_\_\_

\_\_\_\_\_

[2]

**9** A school stores information about pupils who have left the school. Write down **three** ways in which the school might use this information.

Way 1 \_\_\_\_\_

\_\_\_\_\_

Way 2 \_\_\_\_\_

\_\_\_\_\_

Way 3 \_\_\_\_\_

\_\_\_\_\_

[3]

**10** A school secretary sits in front of a computer all day. Give **two** pieces of advice which should help prevent medical problems.

Advice 1 \_\_\_\_\_

\_\_\_\_\_

Advice 2 \_\_\_\_\_

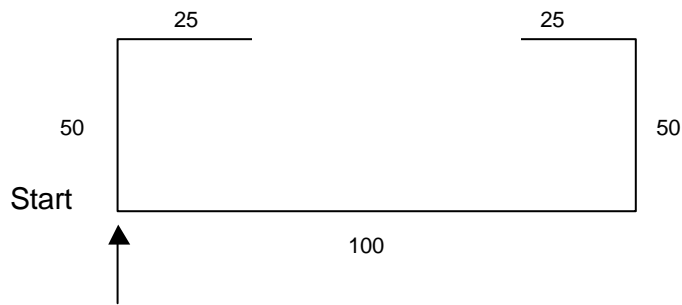
\_\_\_\_\_

[2]

11 A floor turtle can use the following instructions.

FORWARD $n$	Move $n$ cm forward
BACKWARD $n$	Move $n$ cm backward
LEFT $t$	Turn left $t$ degrees
RIGHT $t$	Turn right $t$ degrees
PEN UP	Lift the pen off the paper
PEN DOWN	Place the pen on the paper

Write a set of instructions which makes the turtle draw the following shape.



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[4]

**12** For each of the following state **one** way the package could be used during the production of a school play.

Spreadsheet package

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Data handling package

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[2]

**13** Describe **two** ways in which software companies try to prevent illegal copying of their discs.

Way 1 \_\_\_\_\_

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Way 2 \_\_\_\_\_

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[2]

**14** Give **two** ways in which information technology can help disabled people.

Way 1 \_\_\_\_\_

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Way 2 \_\_\_\_\_

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[2]

15 A pupil is using a computer to create a piece of Geography coursework. Describe **two** ways in which this computer can help the pupil to find out information.

Way 1 \_\_\_\_\_

\_\_\_\_\_

Way 2 \_\_\_\_\_

\_\_\_\_\_

[2]

16 A spreadsheet is used to process data about the number of cars using two car parks over a year.

	A	B	C	D
1	Month	Car park A	Car Park B	Most popular car park
2				
3	January	120	145	if ( B3>C3 , "A" , "B" )
4	February	140	135	
5	March	174	201	
6	April	134	120	
7	May	167	130	
8	June	278	290	
9	July	290	315	
10	August	312	289	
11	September	216	290	
12	October	213	278	
13	November	126	178	
14	December	78	98	

(a) Cell D3 shows how the most popular car park for January is calculated. After typing the formula in D3, describe a quick way of putting similar formula into D4 to D14.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[2]

**(b)** Describe how a chart or graph is created to show the use of the car parks over a period of one year.

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[2]

**(c) (i)** Give **one** different situation which can be modelled using a computer.

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[1]

**(ii)** Give **two** reasons why a computer model would be useful in this case.

Reason 1 \_\_\_\_\_

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Reason 2 \_\_\_\_\_

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[2]

**17** Describe **two** precautions which must be taken to ensure that a computer room is safe for pupils to use.

Precaution 1 \_\_\_\_\_

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Precaution 2 \_\_\_\_\_

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[2]

**18 (a)** Give **one** situation where automatic data logging equipment could be used to record data over a long period of time.

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[1]

**(b)** Give one reason why automatic data logging equipment should be used to record data over a long period of time?

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[1]

**19** Computers can be used in science laboratories to collect data from experiments.

**(a)** Give **one** example of an experiment in which data logging is used.

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[1]

**(b)** Describe how Information Technology is used create a report on the experiment.

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[2]

**20 (a)** What is a computer virus?

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[2]

(b) Write down **two** ways in which you could prevent a computer virus affecting your machine.

Way 1 \_\_\_\_\_

\_\_\_\_\_

Way 2 \_\_\_\_\_

\_\_\_\_\_

[2]

**21** A school is going to buy a number of laptop computers for pupils to borrow and use at home.

Give **two** problems that this may cause.

Problem 1 \_\_\_\_\_

\_\_\_\_\_

Problem 2 \_\_\_\_\_

\_\_\_\_\_

[2]

**22** A small buggy connected to a computer is placed in a maze. The buggy will travel through the maze and learn the correct path. State **one** sensor which should be attached to the buggy and describe how it would detect an obstacle.

Sensor \_\_\_\_\_

Detection \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[2]

**23** A school secretary uses a computer all day. What **two** pieces of advice would you give to prevent the secretary having medical problems through the use of the computer? Give a reason for each piece of advice.

Advice \_\_\_\_\_

\_\_\_\_\_

Reason \_\_\_\_\_

\_\_\_\_\_

Advice \_\_\_\_\_

\_\_\_\_\_

Reason \_\_\_\_\_

\_\_\_\_\_

[4]

**24** A school needs to convert a classroom into an Information Technology room containing 20 computers.

**(a)** What factors should be taken into account when choosing a suitable classroom?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[2]

**(b)** Cost will be one factor in choosing the type of computers to buy. What other factors should be considered?

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

[2]

- (c) Explain how the introduction of the new computer system will affect the staff and pupils.

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[2]

- 25 (a) Give **two** advantages of using an encyclopædia stored on CD-ROM rather than as a book.

Reason 1 \_\_\_\_\_

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Reason 2 \_\_\_\_\_

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[2]

- (b) Give **two** reasons why it is preferable to use the book.

Reason 1 \_\_\_\_\_

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Reason 2 \_\_\_\_\_

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[2]

26 Many computers include a CD-ROM drive as well as a floppy disc and a fixed hard drive. Tick the boxes which best describe the situations in the following table.

	<b>floppy disc</b>	<b>hard disc</b>	<b>CD-ROM</b>
cannot be written to			
is the cheapest			
retrieves data the fastest			
is not portable			

[4]

**TOTAL MARK 80**