

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

Leave blank
-------------

General Certificate of Secondary Education  
June 2004

**INFORMATION AND COMMUNICATION TECHNOLOGY  
SPECIFICATION A (SHORT COURSE)  
Higher Tier**

3527/H



Monday 24 May 2004 1.30 pm to 3.00 pm

**H**

**No additional materials are required.**  
You may use a calculator.

For Examiner's Use	
Number	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
TOTAL	
Examiner's Initials	

Time allowed: 1 hour 30 minutes

**Instructions**

- Use a blue or black ink or ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** the questions in the spaces provided.

**Information**

- The maximum mark for this paper is 80.
- Mark allocations are shown in brackets.

---

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

---

- 1 (a) Name **three** input devices.

Input device 1: .....

Input device 2: .....

Input device 3: .....

*(3 marks)*

- (b) Name **three** output devices.

Output device 1: .....

Output device 2: .....

Output device 3: .....

*(3 marks)*

- (b) Name **two** storage devices.

Storage device 1: .....

Storage device 2: .....

*(2 marks)*

8

For **Questions 2 to 4**, write the letter or letters for the answers in the spaces given.

**2** Which **one** of the following loses its contents when the computer is switched off?

- A ROM
- B RAM
- C Hard disk drive
- D Floppy disk drive

Answer.....

(1 mark)

1

**3** Which **one** of these methods of data capture is sometimes used to read the answers to multiple choice exam papers?

- A OMR
- B Bar codes
- C Data Logging
- D Questionnaires

Answer.....

(1 mark)

1

**4** Which **one** of these features is **not** usually found in database software?

- A Ability to link tables together
- B Ability to carry out a complex search
- C Ability to control the format of reports
- D Ability to replicate cells

Answer.....


(1 mark)

1


**TURN OVER FOR THE NEXT QUESTION**

**Turn over ▶**

5 In the space below, finish the design of a Data Capture Form for people applying to join a Video Rental Club. Care should be taken to include suitable fields and enough space to fill in their details.



# Vic's Videos



**First Name**

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(8 marks)

- 6 (a) Explain what is meant by the following terms:

Data: .....

.....

.....

Information: .....

.....

.....

(2 marks)

- (b) Tick **one** box next to **each** item in the table below to show whether it is data or information.

		<b>Data</b>	<b>Information</b>
(i)	97/49/02		
(ii)	The book costs £6		
(iii)	171302		
(iv)	£cost6bookthe		

(4 marks)

6

**TURN OVER FOR THE NEXT QUESTION**

**Turn over ▶**

- 7 A computer system controls a robot turtle. At the front, the turtle holds a pen. When the turtle moves, the pen leaves a line on the paper beneath it.

The turtle is moved by typing commands into the computer system.

The commands which are used to move the turtle are as follows:

**PENUP**

**PENDOWN**

**FORWARD** distance (in mm)

**BACKWARD** distance (in mm)

**LEFT** angle (in degrees)

**RIGHT** angle (in degrees)

**PENUP** would lift the pen up from the paper. No line would be drawn until there is a **PENDOWN** command.

**PENDOWN** would put the pen down onto the paper and a line would be drawn until there is a **PENUP** command.

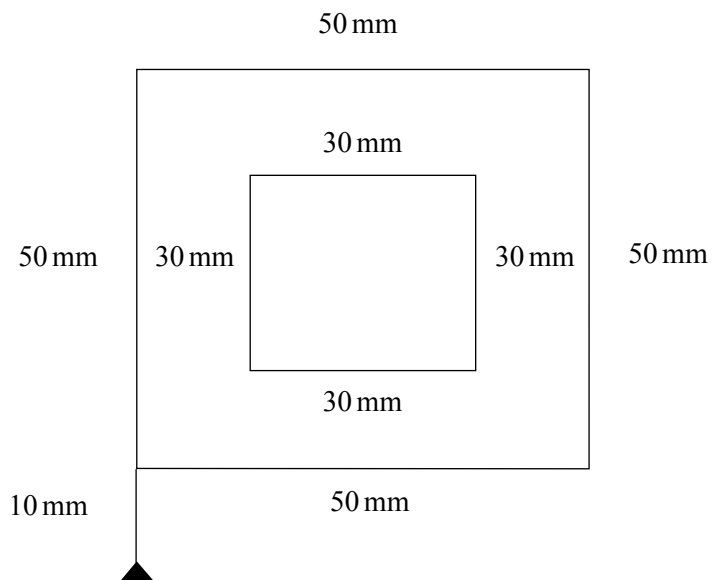
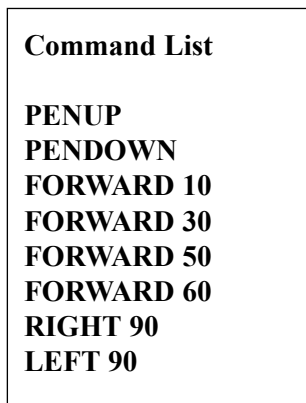
**FORWARD 5** would move the turtle forward 5 mm.

**BACKWARD 5** would move the turtle backward 5 mm.

**LEFT 45** would turn the turtle left through an angle of 45 degrees.

**RIGHT 45** would turn the turtle right through an angle of 45 degrees.

The inner shape is square with each side 30 mm long. There is a gap of 10 mm between the sides of the 30mm square and the sides of the 50 mm square.





8 A graphic design company is buying a computer system which will be used to produce detailed designs for a wide range of products. The company has been advised to buy a system with the following hardware specification:

- At least 1 Gigabyte of RAM
- 21-inch high resolution colour monitor
- At least 200 Gigabyte hard disk
- At least 3 GHz processor
- CD-R

Explain why each of these is necessary for this application:

(a) At least 1 Gigabyte of RAM

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

(b) 21-inch high resolution colour monitor

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

(c) At least 200 Gigabyte hard disk

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

(d) At least 3 GHz processor

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

(e) CD-R

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



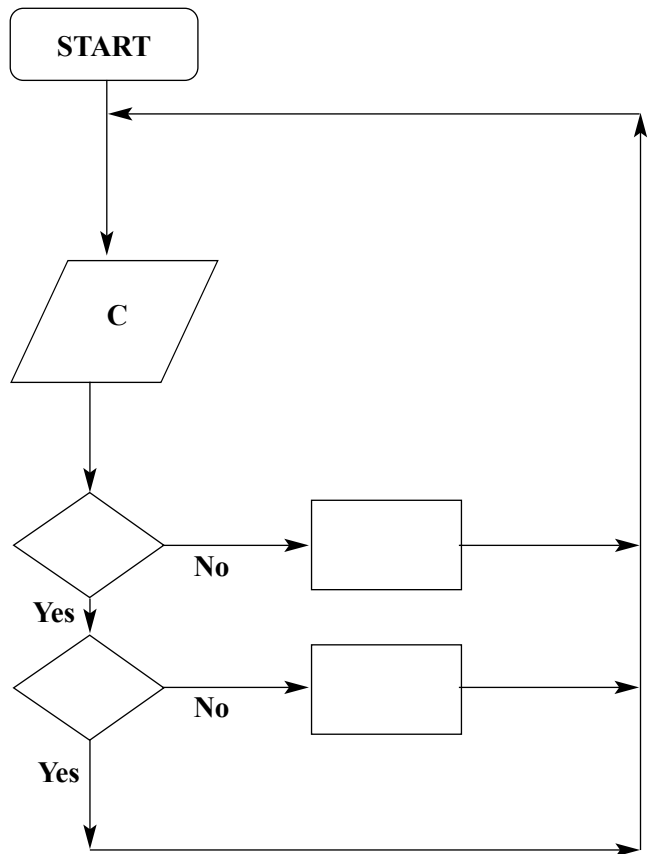
9 A supermarket stores food it needs to keep cool in large chilling cabinets. The temperature of these must be kept between 1°C and 4°C. If the temperature rises too high the chilling units in these cabinets are turned on.

The supermarket manager uses a feedback and monitoring system to control the temperature of the chilling cabinets.

(a) Using **the letter** next to the phrases given below, complete the diagram to show how this system works.

The first box has been completed for you.

- A: Turn on the chilling units
- B: Remove the chilling units
- C: Read the temperature inside the chilling cabinet
- D: Is the temperature less than 4 °C?
- E: Is the temperature at least -2 °C?
- F: Turn off the chilling units
- G: Is the temperature greater than 1 °C?
- H: Print out the temperature
- I: Open the supermarket



(4 marks)

(b) What device would be used to read the temperature inside the chilling cabinets?

..... (1 mark)

(c) How often should the temperature be read?

..... (1 mark)

10 A garden centre wants to use a software package to improve its advertising leaflet. This leaflet will give details of the garden centre’s opening hours, contact details and a range of the products it sells.

(a) State the best type of software to use to improve the leaflet.

.....  
(1 mark)

(b) Name **four** features of the software that make it suitable for improving the leaflet. Give a different reason for each.

Feature 1: .....

Reason 1: .....

.....

Feature 2: .....

Reason 2: .....

.....

Feature 3: .....

Reason 3: .....

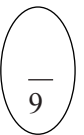
.....

Feature 4: .....

Reason 4: .....

.....

(8 marks)



11 Mrs Green uses a spreadsheet to investigate the cost of running her car for a year. The spreadsheet is shown below.

	A	B	C	D	E
1	<b>Car expenses 2004</b>				
2					
3	<b>Estimated miles for the year</b>		12000		
4					
5	<b>Item</b>	<b>Number</b>	<b>Average cost</b>	<b>Total cost for the year</b>	
6	Service	2	£80.00	£160.00	
7	Petrol (per litre)	1500	£0.81	£1,215.00	
8	Oil (per litre)	5	£2.39	£11.95	
9	Insurance (each month)	12	£31.73	£380.76	
10	Tax (six months)	2	£88.00	£176.00	
11	Tyres	3	£43.75	£131.25	
12	Various extras	10	£11.00	£110.00	
13			Total	£2,184.96	
14					
15	<b>Depreciation</b> (the reduction in value of the car)			£1,000.00	
16					
17	<b>Total cost</b> of running the car for the year			£3,184.96	
18					
19	<b>Cost of running the car per mile travelled</b>			£0.26541333	
20					

(a) (i) The average cost of a tyre is increased. Name the cell whose contents would have to be changed.

..... (1 mark)

(ii) Name **two** cells whose contents would change automatically as a result.

Cell 1: .....

Cell 2: .....

(2 marks)

(b) Give **three** cell formats that have been used in this spreadsheet.

Format 1: .....

Format 2: .....

Format 3: .....

(3 marks)

(c) Give **two** advantages of using a spreadsheet to work out the cost of running the car, compared with working out the cost by hand.

Advantage 1: .....

.....

Advantage 2: .....

.....

(2 marks)

Turn over ▶



13 Sarah Brown wants to change her password which gives her access to the school network. She has thought of four possible new passwords which are:

- Sarah
- Brown456
- MTV999
- Qszxfg7596

(a) State which of these passwords would be the **most secure** and give a reason for your choice.

Password: .....  
(1 mark)

Reason: .....  
.....  
(1 mark)

(b) State which of these passwords would be the **least secure** and give a reason for your choice.

Password: .....  
(1 mark)

Reason: .....  
.....  
(1 mark)

(c) The school also uses virus protection software to help prevent the loss of data from its network.

(i) Explain what is meant by the term virus. ....  
.....  
.....  
(2 marks)

(ii) Describe how a virus might get onto the school network. ....  
.....  
.....  
(1 mark)





**THERE ARE NO QUESTIONS PRINTED ON THIS PAGE**