Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

General Certificate of Secondary Education
June 2004

**INFORMATION AND COMMUNICATION TECHNOLOGY 3527/F
SPECIFICATION A (SHORT COURSE)
Foundation Tier**

AQA
ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Monday 24 May 2004 1.30 pm to 3.00 pm

F

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

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.

3527/F

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

1 (a) Tick **five** boxes to show which of the following are output devices.

	Tick **five** boxes only
Screen	
Keyboard	
Scanner	
Dot-matrix printer	
Plotter	
Speaker	
ROM	
Motor	
Floppy disk	

(5 marks)

(b) Name **two** input devices given in the table above.

....

....

(2 marks)

(c) Name **two** input devices **not** given in the table above.

....

....

(2 marks)

(d) Name **one** storage medium given in the table above.

....

....

(1 mark)

(e) Name **one** storage medium **not** given in the table above.

....

....

(1 mark)

2 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) The use of **colour** would be one feature that would make this type of software suitable for producing the advertising leaflet. Give **four** other features of the software that make it suitable for producing the leaflet.

Feature 1: ....

....

Feature 2: ....

....

Feature 3: ....

....

Feature 4: ....

....
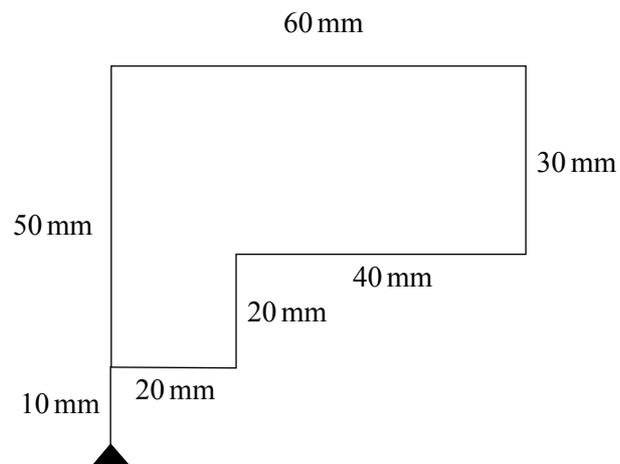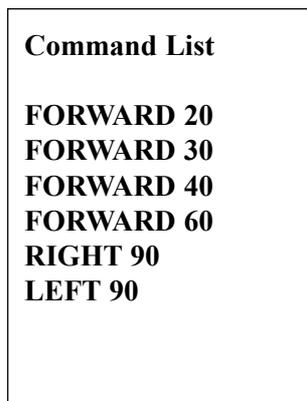
(4 marks)

5

TURN OVER FOR THE NEXT QUESTION

3 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:

FORWARD distance	(in mm)
LEFT angle	(in degrees)
RIGHT angle	(in degrees)

FORWARD 5 would move the turtle forward 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.

Command List

FORWARD 20
FORWARD 30
FORWARD 40
FORWARD 60
RIGHT 90
LEFT 90

60 mm

30 mm

50 mm

40 mm

20 mm

20 mm

10 mm

Using **only** the commands in the Command List opposite, write down the set of instructions needed to draw this shape. You may need to use some of the commands in the list more than once.

....

....

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(6 marks)

6

Turn over ▶

4 A form tutor uses a spreadsheet to investigate the cost of taking pupils on a day trip to a theme park. The spreadsheet is shown below.

	A	B	C	D
1	**Theme Park Plan**			
2	**Date of trip**	**27 July 2004**		
3	**Number of pupils**	30		
4				
5	**Item**		**Cost**	
6	Coach		£100.00	
7	Entry (per pupil)	£8.95	£268.50	
8	Lunch (per pupil)	£3.95	£118.50	
9				
10		**Total cost**	£487.00	
11				
12	**Total cost per pupil**		£16.23	
13				

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

Cell: ....
(1 mark)

(ii) Name the **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 the trip, compared with working out the cost by hand.

Advantage 1:..

....

Advantage 2:..

....
(2 marks)

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.

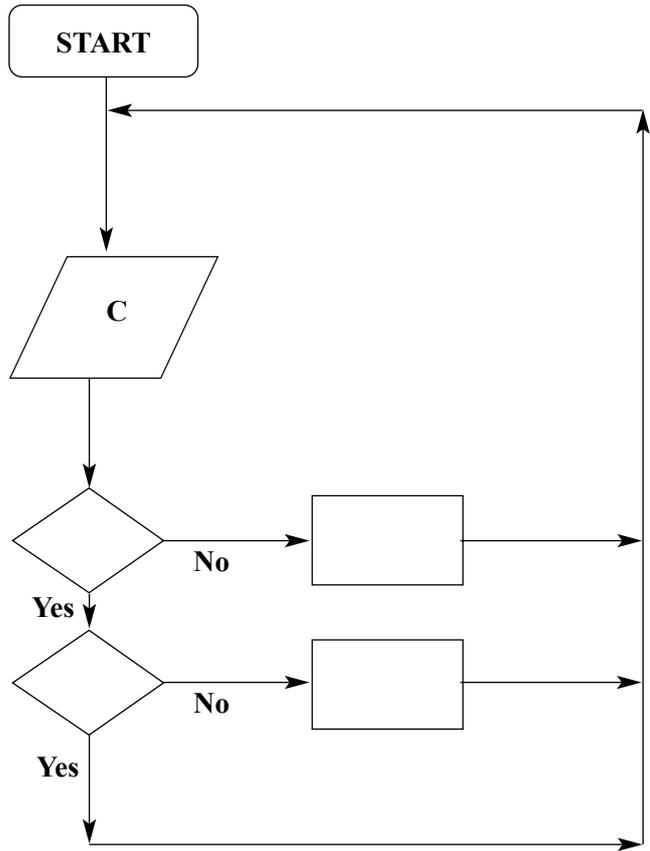**Vic's Videos**

First Name

(8 marks)

8

0204/3527/F

6 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

START

C

No

Yes

No

Yes

(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)

6

7   A company sells books, magazines and CDs on the Internet.

(a)   Describe **three advantages** of selling books on the Internet rather than from a shop.

Advantage 1: ....

....

....

Advantage 2:...

....

....

Advantage 3: ....

....

....
(3 marks)

(b)   Describe **two disadvantages** of selling books on the Internet rather than from a shop.

Disadvantage 1: ....

....

....

Disadvantage 2: ....

....

....
(2 marks)

$\overline{5}$

TURN OVER FOR THE NEXT QUESTION

8   Give **three** responsibilities placed on **data users** by the 1998 Data Protection Act.

Responsibility 1: ....

....

....

Responsibility 2: ....

....

....

Responsibility 3: ....

....

....

(3 marks)

$\overline{3}$

For Questions 9 to 12, write the letter or letters for the answers in the spaces given.

9   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)*

10   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)*

11   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)*

12   Which **two** of the following are methods of data validation?

A   Range check
B   Presence check
C   Police check
D   Data logging
E   Calibration
F   Data verification

Answers   ………..   ………

(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 **two** ways a virus might get onto the school network.

1: ....

2: ....
(2 marks)

8

14 (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.

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

(4 marks)

$\overline{6}$

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

15 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 drive
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)

5

16 More and more people are making increased use of computers both at work and at home. This has made people more aware of computer related health issues.

(a) Tick **two** boxes to show health problems that can occur as a result of using a computer for long periods of time.

	Tick **two** boxes only
Wrist problems	
Flu	
Headaches	
Toothache	
Hay fever	

(2 marks)

(b) Back problems can also occur as a result of using a computer for a long period of time. Describe what steps can be taken to help prevent this.

....

....

....

(2 marks)

4

END OF QUESTIONS

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE