Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

General Certificate of Secondary Education
June 2003

INFORMATION AND COMMUNICATION TECHNOLOGY   **3527/F**
(SPECIFICATION A)
(SHORT COURSE)
FOUNDATION TIER

F

AQA
ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Friday 20 June 2003 1.30 pm to 3.00 pm

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.

For Examiner's Use	
Number	Mark
1-5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
TOTAL	
Examiner's Initials	

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

For Questions 1 to 5, write the letter or letters for the answers in the spaces given.

1 Which **two** of the following could be used to prevent unauthorised access to information stored on a computer system?

    A   virus check
    B   password
    C   lock on the computer room
    D   data logging
    E   data capture forms

    Answer .... *(2 marks)*

2 Which **one** of the following would you use to help you look for suppliers of CDs on the Internet?

    A   a word processor
    B   a search engine
    C   an e-mail
    D   a fax

    Answer .... *(1 mark)*

3 Which **two** of the following are important features of ROM?

    A   Its contents will be lost when the computer is switched off.
    B   Its contents will **not** be lost when the computer is switched off.
    C   It can be read from and written to.
    D   It can be read from but **not** written to.
    E   It can be written to but **not** read from.

    Answer .... *(2 marks)*

4 Which **one** of the following software packages would be the **best** for a school to use to create its own information pages that can be accessed on the Internet?

    A   database management
    B   modelling
    C   web design
    D   drawing

    Answer .... *(1 mark)*

5 What is the process of gaining illegal access to a computer system called?

    A   data logging
    B   hacking
    C   copyright
    D   virus detection

    Answer .... *(1 mark)*

7

6 CD-ROM   Light pen
        Graphics digitiser   Monitor
        Hard disk   Mouse
        Joystick   Plotter
        Keyboard   RAM
        Laser printer   Speaker

(a) From the list given above, choose **four** of the devices that are *input peripherals*.

Input peripheral 1...

Input peripheral 2...

Input peripheral 3...

Input peripheral 4...

(4 marks)

(b) From the list given above, choose **three** of the devices that are *output peripherals*.

Output peripheral 1..

Output peripheral 2..

Output peripheral 3..

(3 marks)

(c) From the list given above, choose **two** that are *storage media*.

Storage media 1 ....

Storage media 2 ....

(2 marks)

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

7 A video shop used a DTP (Desk Top Publishing) package to change **Flyer A** into **Flyer B**.

Flyer A   **Flyer B**

Vic's Videos

Special Offers

Hire two videos and get a
third video free.

Pay for a one-night hire and
keep the video for 2 nights.

Hire three videos and get a
large drink and large popcorn
free.

Don't delay
Hire today

Vic's Videos

Special Offers

- Hire two videos and
  get a third video free.

- Pay for a one-night
  hire and keep the
  video for 2 nights.

- Hire three videos and
  get a large drink and
  large popcorn free.

**Don't delay
Hire today**

(a) Give **five** changes that have been made to **Flyer A**.

Change 1 ....

Change 2 ....

Change 3 ....

Change 4 ....

Change 5 ....

(5 marks)

(b) Give **two other** changes that could have been made to improve the presentation of **Flyer A** using
a DTP package.

Change 1 ....

Change 2 ....

(2 marks)

7

8 The 1998 Data Protection Act was introduced to help to protect people's right to privacy. From the list below, **write the letters** for the answers in the spaces given.

A: Data is obtained for specified and lawful purposes.
B: Data is accurate and up-to-date.
C: Data where national security is concerned.
D: Data is never to be given to anyone.
E: Data must not be more than six months old.
F: Data held on individuals must be sent to them on request.
G: Data can be prevented from being used for direct marketing.
H: Data that individuals want removed from their record must be removed immediately.
I: Data is not to be transferred outside the UK.
J: Data is to be kept secure against loss, damage or unauthorised processing.
K: Data used for health, education and social work.

(a) Give **three** responsibilities placed on data users by the 1998 Data Protection Act.

Responsibility 1 ....

Responsibility 2 ....

Responsibility 3 ....   *(3 marks)*

(b) Give **two** rights the 1998 Data Protection Act gives to data subjects.

Right 1 ....

Right 2 ....   *(2 marks)*

(c) Give **two** exemptions from the 1998 Data Protection Act.

Exemption 1..

Exemption 2..   *(2 marks)*

7

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

9 A gym and health centre is about to open in early autumn. The membership secretary needs a data capture form for new members to complete. The details from the data capture form will be put into their members database.

In the space below design **part** of the data capture form for new members. Care should be taken to include **eight** suitable fields and enough space to fill in their details.

(8 marks)

10 Firefighters use simulators to gain experience of driving their fire engines at high speeds.

(a) Give **two** reasons why a simulator would be used to gain experience of high speed driving rather than driving on the road.

Reason 1...

....

Reason 2...

....

(2 marks)

(b) All simulators rely on rules built into the controlling software. Which **three** of the following are rules that could reasonably be built into this driving simulation?

	Tick **three** boxes only
It takes longer to stop on wet roads rather than dry roads	
All motorway driving must be fast	
Fire engines must have a safety check every month	
How visibility will change in foggy conditions	
The maximum speed of the fire engine	
The telephone number of the local police	

(3 marks)

(c) Name **two other** situations (other than driving) in which computer simulation might reasonably be used.

Situation 1 ....

....

Situation 2 ....

....

(2 marks)

$\dfrac{\quad}{7}$

Turn over ▶

11 Mrs Brown uses a spreadsheet to help her calculate the cost of decorating and buying some new furniture for her son's bedroom. Her first attempt is shown below.

	A	B	C	D	E	F	G
1	Item to be purchased	Unit cost	Number needed	Total cost per item			
2							
3	Wallpaper (per roll)	£6.95	6	£41.70			
4	Wallpaper paste (per packet)	£2.99	2	£5.98			
5	Paint (per tin) - red	£4.49	2	£8.98			
6	Paint (per tin) - white	£3.99	3	£11.97			
7	Paintbrush	£1.49	3	£4.47			
8	Carpet (per sq metre)	£12.99	9	£116.91			
9	Lampshade	£8.50	2	£17.00			
10	Quilt	£22.99	2	£45.98			
11	Quilt cover	£17.25	3	£51.75			
12	Curtains (pair)	£34.45	2	£68.90			
13	Wardrobe	£99.99	2	£199.98			
14	Bed	£199.99	1	£199.99			
15	Computer desk	£199.00	1	£199.00			
16	Chest of drawers	£33.75	3	£101.25			
17							
18	Total cost for the bedroom			£1,073.86			

(a) Which cell contains the unit cost of a paintbrush?

	Tick **one** box only
A6	
B6	
A7	
B7	

(1 mark)

(b) All the cells in this spreadsheet contain either text, number or formulae.
State which **one** of these is contained in the following cells:

(i) B14 ....

(ii) A14 ....
(2 marks)

(c) State the formula which would be contained in each of the following cells:

(i) D3 ....

(ii) D18 ....
(2 marks)

(d)   Mrs Brown has only £550 to spend on the bedroom. Explain clearly how she could use the spreadsheet to investigate "what if" situations to help her keep within her budget.

....

....

....

....

(2 marks)

7

12   (a)   Explain clearly the difference between *data* and *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**
25th June 2002		
25062002		
Jane was born on the 25th of June 2002		

(3 marks)

5

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

13 From the list given below, choose which term best matches the definition in the left-hand column of the table which follows. Write your answers in the spaces provided in the right-hand column.

calibration	magnetic strips	questionnaires
data capture forms	MICR	sensor
data logging	OCR	tabulation
feedback	OMR	
logging interval	period of logging	

Definition	Term which best matches the definition
The collecting and storage of data at regular, fixed intervals over a period of time.	
The continuous checking of data from sensors to control the output of a computer system.	
A method of inputting data in which reflected light is used to detect character patterns.	
A method of matching readings from a sensor to an accepted scale in known units.	

(4 marks)

 ―
 4

14 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) Outline **two** health problems that can occur as a result of people using a computer for long periods of time.

Problem 1..

....

Problem 2..

....

(2 marks)

(b) Describe what steps can be taken to help overcome **one** of the problems you have outlined in (a) above.

....

....

....

(2 marks)

 ―
 4

15 A school uses a database to store information on its pupils. Part of the database file for year 7 pupils is shown below.

Pupil Number	Surname	Forename	Sex	Date of Birth	Tutor Group	Contact Telephone Number
7001	Ahmed	Parvaiz	M	06-09-90	7 TD	343536
7002	Amos	Linda	F	12-12-90	7 BG	353647
7004	Brown	Lucy	F	23-11-90	7 TD	352427
7006	Collins	Katie	F	16-04-99	7 LK	348876
7007	Currie	John	M	31-01-91	7 HJ	343422
7010	Dixon	David	M	10-10-90	7 LK	342121
7011	Durham	Sarah	F	17-08-91	7 OP	356789
7015	Ford	Jodi	F	25-04-91	7 OP	354678

(a) How many *records* are shown in this database file?

....

(1 mark)

(b) How many *fields* are shown in this database file?

....

(1 mark)

(c) (i) Which field is the *key field* in this database file?

....

(1 mark)

(ii) Explain why the field you have chosen is suitable to be used as a key field.

....

....

(1 mark)

(d) The database contains an error in one of the Date of Birth entries.

(i) State clearly what the error is. ....

....

(1 mark)

(ii) Explain how you know this is an error.

....

....

(1 mark)

(iii) Explain how data validation could have been used to prevent this error.

....

....

....

(2 marks)

Turn over ▶

16 The geography department in a school have bought **two** new software packages, one for producing charts and the other for web design.

(a) Which **three** of the following would you most expect the *chart* software to be able to do?

	Tick **three** boxes only
Produce accurate maps of Europe	
Construct pie charts from tables of data	
Produce labels and axes, legends and headings	
Word process complex documents	
Use brushes to colour a picture	
Edit the number scales on the axes	

(3 marks)

(b) Two features of the *web design* software are *hyperlinks* and *hot spots*. Explain these terms:

(i) Hyperlink ....

....

(ii) Hot spot ....

....

(2 marks)

(c) Outline **two other** features (other than saving and printing) that you would expect the *web design* software to have.

Feature 1 ....

....

Feature 2 ....

....

(2 marks)

7

END OF QUESTIONS