

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

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General Certificate of Secondary Education
June 2003



**INFORMATION AND COMMUNICATION TECHNOLOGY
(SPECIFICATION A)
(SHORT COURSE)
HIGHER TIER**

3527/H

H

Friday 20 June 2003 1.30 pm to 3.00 pm

<p>No additional materials are required. You may use a calculator.</p>

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)

- | | | |
|----------|--------------------|-----------|
| 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 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 **five** suitable fields and enough space to fill in their details.

(5 marks)

5

- 10 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	<input type="checkbox"/>
B6	<input type="checkbox"/>
A7	<input type="checkbox"/>
B7	<input type="checkbox"/>

(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

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

- 11 A garage specialises in selling second hand cars. A database is used to store information on the cars for sale. Part of the database file is shown below.

Make	Model	Colour	Number of doors	Registration number	Price	Additional feature
Audi	A4	Green	5	S772 FGS	£7249	Alloys
BMW	318 SE	Blue	4	M223 BMW	£4995	Full service history
BMW	520 SE	Green	4	T125 GHB	£12495	Full electric pack
Citroen	Saxo	White	3	S132 HNM	£2450	Full service history
Fiat	Punto SX	Red	3	P56 TVB	£2195	Electric windows
Ford	Focus Zetec	Blue	5	Y579 PLM	£6995	Air conditioning
Ford	Mondeo	Blue	5	M673 FRD	£985	Full service history
Ford	Scorpio Ghia	Black	4	R778 THY	£5999	Metallic paint
Honda	Accord LS	Silver	4	S454 SAN	£6999	Full electric pack
Honda	Civic	White	3	S349 JNF	£2499	Power assisted steering
Nissan	Micra	Red	3	W789 PTE	£3999	Very low mileage
Peugeot	306 GTi	Yellow	3	P458 RTE	£4785	One owner
Renault	Laguna	Silver	5	S110 BHW	£3999	Alloys
Rover	218S	Grey	5	M12 GHR	£999	Power assisted steering
Rover	420	Red	4	P134 HYT	£2999	Diesel
Rover	620 SLi	Green	4	R230 DDE	£3295	Full service history
Vauxhall	Astra Estate	Red	5	V941 XDS	£5499	One owner
Vauxhall	Sintra	Blue	7	T652 NBF	£6999	One owner
Volkswagen	Sharan	Green	7	P992 HGT	£4999	Low mileage
Volkswagen	Polo1.4E	Green	5	TJ51 TRE	£7999	Factory sun roof

- (a) Explain what is meant by the following terms. You may find it helpful to give examples.

(i) Record.....
.....

(ii) Field.....
.....
(2 marks)

- (b) (i) Which field is the *key field* in this database?

.....
(1 mark)

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

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

- (c) In order to search the database, the following commands are used.

List
For
Equals
Greater than
Less than
And
Or

So the search
List Model For Colour Equals Silver

would produce the result

Accord LS
Laguna

What would be the results of the following searches?

- (i) **List Make For Number of doors Equals 7**

.....
.....
.....

(2 marks)

- (ii) **List Model, Registration number For Price Less than £2000**

.....
.....
.....

(2 marks)

- (d) Write down the instructions needed to produce the following.

- (i) A list of the model of cars that have a full service history as an additional feature.

.....
.....
.....

(2 marks)

- (ii) A list of the make and model of cars, where the price of the car is between £3000 and £5000.

.....
.....
.....

(3 marks)

Turn over ▶

12 The geography department in a school have just 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)



13 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)

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4

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

14 Data validation is a very important part of commercial data processing.

(a) Tick **one** box in each part below that best describes how data validation works.

(i) Data validation is the checking of data during

	Tick one box only
input	
output	
processing	

(ii) The data is checked by

	Tick one box only
software	
hardware	
people	

(iii) The data is checked to make sure

	Tick one box only
it is always correct	
it is reasonable	
it is encrypted	

(3 marks)

(b) *Presence check* and *range check* are two validation checks. For **each**, say how they are used to detect possible errors.

(i) Presence check

.....

(1 mark)

(ii) Range check

.....

(1 mark)

15 A library uses an extensive database system that was written to meet its specific needs. The system allows a variety of people to find out about the books the library owns. The database can be interrogated in many ways and can generate a wide variety of reports.

(a) Name **three** fields which you would expect the books database to contain.

Field 1

Field 2

Field 3

(3 marks)

(b) Give **two** ways in which a person wanting to borrow books might use the system.

Way 1

.....

Way 2

.....

(2 marks)

(c) Give **one** advantage to the library staff of having this system.

.....

.....

(1 mark)

6

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

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END OF QUESTIONS