

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
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TOTAL	



General Certificate of Secondary Education
Higher Tier
June 2010

Information and Communication Technology (Specification A) (Short Course)

3527/H

H

Written Paper

Monday 21 June 2010 9.00 am to 10.30 am

You will need no other materials.
You may use a calculator.

Time allowed

- 1 hour 30 minutes

Instructions

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You are reminded of the need for good English and clear presentation in your answers.



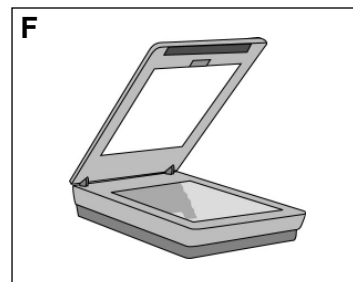
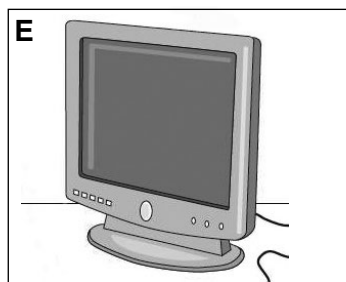
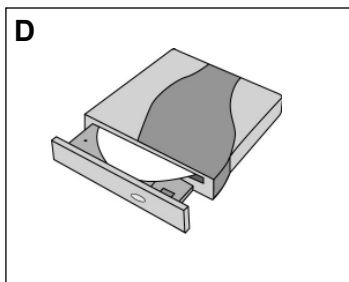
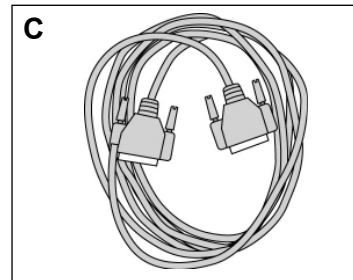
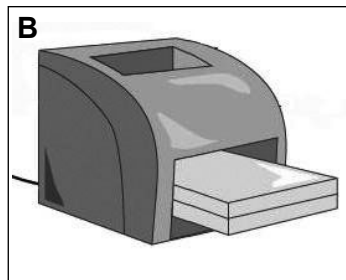
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Answer **all** questions in the spaces provided.

1 Look at the devices below.



1 (a) (i) Name the **input** device shown in picture A. (1 mark)

1 (a) (ii) Which other picture shows an **input** device?

Answer

(1 mark)

1 (a) (iii) Name **one** input device not shown above. (1 mark)

1 (b) (i) Name the **output** device shown in picture B. (1 mark)

1 (b) (ii) Which other picture shows an **output** device?

Answer

(1 mark)

1 (b) (iii) Name **one** output device not shown above. (1 mark)

1 (c) Which **one** of the pictures above is a storage device?

Answer

(1 mark)

7



2 A weather station is located on a remote island. Data logging is used to record temperatures, rainfall and wind speed.

2 (a) (i) Name **one** sensor that could be used to take the temperature.

.....
(1 mark)

2 (a) (ii) Give **one** advantage of using more than one sensor to take the temperature on the island.

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

2 (b) Match the letters **A, B, C** and **D** with the definitions given below.

- A Calibrate
- B Logging interval
- C Period of logging
- D Actuator

2 (b) (i) The time between one reading being taken and the next reading being taken.

Answer (1 mark)

2 (b) (ii) Matching the reading being taken against a known scale.

Answer (1 mark)

2 (b) (iii) The time between the first reading being taken and the last reading being taken.

Answer (1 mark)

2 (c) Give **two** advantages of collecting the readings automatically from the weather station rather than readings being taken by a person.

Advantage 1

.....

Advantage 2

.....

(2 marks)

7

Turn over ▶



- 3 The manager of Lancre Sports Centre has produced the flyer below using Desktop Publishing software. The flyer will be delivered to houses around the Sports Centre to try and attract new members.

Lancre Sports Centre
 'Try a new sport' week.
 Get fit for the summer
 For more details phone Sue on 057 117 11700
 Dates: 1st to 7th of June 2010
 For one week only all activities will be half price.

- 3 (a) Tick **two** boxes to show which of the following features of a Desktop Publishing package would be the best to use to improve the layout of the leaflet.

	Tick two boxes only
Coloured text	
Line spacing	
Centre	
Mail-merging	
Hyperlink	

(2 marks)

- 3 (b) Name **one** feature of the software that could be used to check the accuracy of the text used in the flyer.

Feature

(1 mark)

- 3 (c) The manager wants to use the cut and paste feature of the Desktop Publishing package to move the fourth line to the end of the flyer.

Describe how this would be done.

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(2 marks)



3 (d) (i) A manager wants to design a Data Capture Form to collect information about people joining the Sports Centre. Give **three** important design features other than presentation that need to be considered when designing the form.

Feature 1

Feature 2

Feature 3

(3 marks)

3 (d) (ii) Other than the fields such as name, address and telephone numbers, give **two** fields that would be needed on the Data Capture Form.

Field 1

Field 2

(2 marks)

10

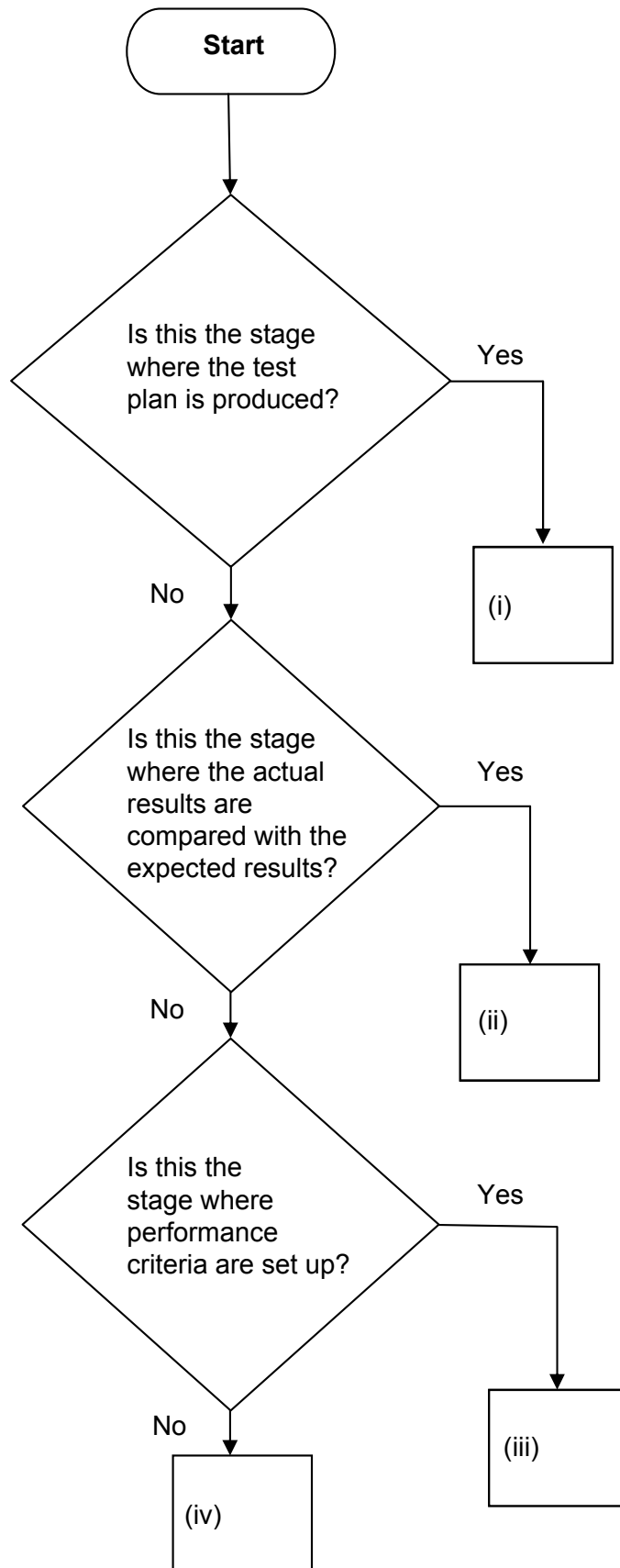
Turn over for the next question

Turn over ▶



- 4 (a) Match the stages of developing a computer system, **A**, **B**, **C** and **D**, with labels in the diagram below.

- A Analysis
- B Design
- C Implementation
- D Testing



(4 marks)



- 4 (b) Other than analysis, design, implementation and testing, name **one** other stage involved in the development of a computer system.

.....
(1 mark)

5

Turn over for the next question

Turn over ▶



5 A manager buys five copies of a database package to run on the office's five computers. The manager decides to take a copy of the software home and use it on her home computer as well.

5 (a) (i) Tick **one** box to show which law has been broken.

	Tick one box only
Copyright	
Health and Safety	
Data Protection Act	

(1 mark)

5 (a) (ii) How could the manager have avoided breaking this law?

.....

.....

(1 mark)

5 (b) The office's computers are connected to the Internet and the manager worries about the possibility of hackers and viruses. What is meant by the term hackers and the term viruses?

5 (b) (i) Hackers

.....

.....

(2 marks)

5 (b) (ii) Viruses

.....

.....

(2 marks)



5 (c) Describe possible health and safety issues associated with the staff at the office using computers for long periods of time.

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(4 marks)

10

Turn over for the next question

Turn over ▶



- 6 The Lancre and District Football League has finished for the season and the final results are shown in the spreadsheet below.

	A	B	C	D	E	F
1		Games Played	Games Won	Games Drawn	Games Lost	Total points
2						
3	Lancre United	16	14	1	1	43
4	Hickley Rovers	16	12	3	1	39
5	Lancre Town	16	10	2	4	32
6	Hickley Palace	16	8	2	6	26
7	Hazeldene Athletic	16	6	4	6	22
8	Whiteport Wanderers	16	5	2	9	17
9	Ramsby Rovers	16	4	3	9	15
10	Wheaton F.C.	16	1	5	10	8
11	Broughton United	16	0	2	14	2
12						
13						
14	Total		60	24	60	
15						

- 6 (a) Which cell contains the number 12? (1 mark)
- 6 (b) What formula may have been used to find the total for the games won in cell C14?
..... (1 mark)
- 6 (c) In this league,
3 points are given for win
1 point is given for a draw
0 points are given for loss

Tick **one** box to show the formula used in cell F3.

	Tick one box only
=Sum(C3:E3)	<input type="checkbox"/>
=C3*3+D3*1+E3	<input type="checkbox"/>
=C3*3+D3	<input type="checkbox"/>

(1 mark)



6 (d) A similar formula to the one in F3 would be needed in cells F4 to F11. Explain how this could be done without typing a formula into each new cell.

.....

(2 marks)

6 (e) The spreadsheet comes with a help facility. Explain how you would get to this help facility to find more about using formulae.

.....

(2 marks)

6 (f) It is important that each club knows the final results of the league. Give **two** advantages of these results being sent to each club by e-mail compared to sending them by post.

	Tick two boxes only
More than one e-mail can be sent to each club	
E-mails will usually arrive faster	
E-mails will arrive even if nobody is at home	
E-mails can be sent at any time of the day	
E-mails will be cheaper to send	

(2 marks)

9

Turn over ▶



7 A bank's computer system uses RAM to store the data that is being processed.

7 (a) (i) What does RAM stand for?

.....
(1 mark)

7 (a) (ii) Tick **one** box to show which of the following statements is true.

	Tick one box only
ROM is volatile memory	
RAM is volatile memory	
Both ROM and RAM are volatile memories	
Neither ROM nor RAM is volatile memory	

(1 mark)

7 (b) (i) What is meant by the term data?

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

7 (b) (ii) Explain with examples the difference between information and data.

.....
.....
.....
(2 marks)



7 (c) (i) Tick **three** boxes to show which of the following are responsibilities of the bank as a data user.

	Tick three boxes only
Information should never be given to anyone under any circumstances	
Information should be kept accurate and up to date	
Information should not contain names and addresses	
Information should be changed at the request of the data subject, whatever the reason	
Information should never be transferred outside of the UK	
Information should be relevant and not excessive for the purpose	
Information should be kept secure	

(3 marks)

7 (c) (ii) Give **one** other responsibility of the bank as a data user.

.....

.....

(1 mark)

7 (d) Tick **two** boxes to show which of the following are rights the Data Protection Act gives to the bank's customers.

	Tick two boxes only
The right to go on-line and change any information they want about themselves	
The right to see or be sent a copy of the data held about them	
The right to see the information held on other customers who live close to them	
The right to privacy, so no member of staff at the bank can ever look at their data	
The right to seek compensation for damage caused by the use of inaccurate data	

(2 marks)

11

Turn over ▶



8 A large electrical superstore keeps information about the products it sells in a database table. Part of the database table is given below.

Product Code	Product Name	Colour	Number in Stock	Selling Price (£)	Other Comments
DV024	DVD player	Black	10	25.00	SALE price
DV061	DVD recorder	Black	8	7229.99	None
FZ034	Freezer	White	4	199.99	2 year guarantee
FZ078	Freezer	White	6	149.99	None
FG082	Fridge	Cream	3	109.99	None
FG123	Fridge	White	10	99.99	SALE price
FG156	Fridge	White	10	119.00	2 year guarantee
MV012	Microwave	White	12	39.99	SALE price
MV037	Microwave	Brown	8	75.00	None
TV459	Television	Black	15	99.99	Portable TV
TV517	Television	Black	3	695.00	2 year guarantee
TV629	Television	Black	8	299.95	SALE price
TV781	Television	Brown	1	495.00	Item needs to be reordered
WM278	Washing machine	White	7	199.00	SALE price
WM314	Washing machine	White	1	249.99	Item needs to be reordered

8 (a) (i) The database contains an error in one of the Selling Price (£) field entries.

State clearly what the error is.

.....
(1 mark)

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

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

8 (a) (iii) Explain how data validation could be used to reduce the possibility of such errors happening in the future.

.....
.....
.....
(2 marks)



8 (b) In order to search the database, the following commands are used.

- List
- When
- Equals
- Greater than
- Less than
- And
- Or

As an example

List Product Code **When** Colour **Equals** Brown

would produce the result

MV037

TV781

What would be the results of the following searches?

8 (b) (i) List Product Code **When** Selling Price (£) **Equals** 99.99

.....

.....

.....

(1 mark)

8 (b) (ii) List Product Code **When** Number in Stock **Less than** 3

.....

.....

.....

(1 mark)

8 (b) (iii) List Product Code, Product Name **When** Other Comments **Equals** 2 year guarantee

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.....

.....

(1 mark)

Question 8 continues on the next page

Turn over ▶



8 (c) Write down the instructions needed to produce the following.

8 (c) (i) A list of the Product Codes, where the Product Name is a DVD player.

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

(1 mark)

8 (c) (ii) A list of the Product Codes and Product Names, where the Selling Price (£) is between 200 and 500 pounds.

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

(3 marks)

8 (d) Give **two** advantages to companies of using a database to store the information rather than using manual methods.

Advantage 1

.....

Advantage 2

.....

(2 marks)

13



9 Libraries are used by a wide range of people for a variety of research projects. Many of these people will use a number of paper-based sources and the Internet to help gather the information they need.

9 (a) Describe possible **advantages** of using the Internet for the research rather than paper-based sources.

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(4 marks)

Question 9 continues on the next page

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