

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
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10	
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13	
14	
TOTAL	



General Certificate of Secondary Education
Foundation Tier
June 2010

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

3527/F

F

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.



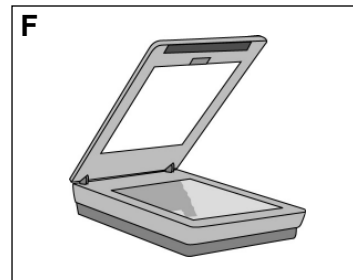
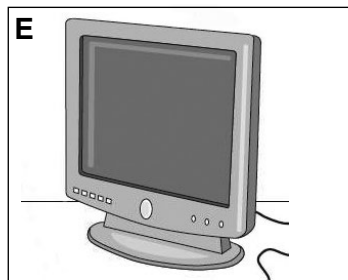
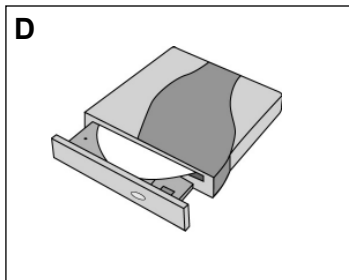
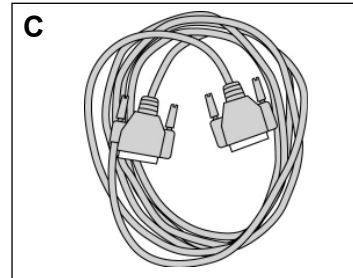
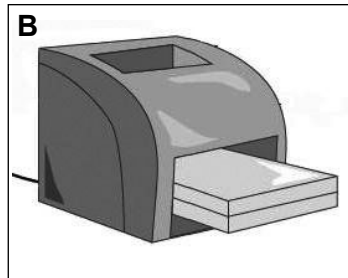
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Answer **all** questions in the spaces provided.

1 Look at the devices shown 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 Choose your answers from the list given below. Write the letters for the answers in the spaces given.

- A** Data tables to be linked together
- B** Control of the content of reports by the selection of fields
- C** Flight simulator
- D** Hotspots to be placed over parts of pictures
- E** Hyperlinks to be created from text or graphics
- F** Replication of cells
- G** Sections of a picture can be reflected, scaled and morphed
- H** Solution of 'what if.....' problems
- I** Use of brushes

2 (a) Which **two** of the above are important features that any web design software should allow?

Answers

(2 marks)

2 (b) Which **two** of the above are important features that any spreadsheet software should allow?

Answers

(2 marks)

2 (c) Which **two** of the above are important features that any graphics software should allow?

Answers

(2 marks)

Turn over for the next question

6

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) Give **two** different features of the Desktop Publishing software that could be used to improve the **presentation** of the flyer. Give a reason for each.

Feature 1

Reason 1

.....

Feature 2

Reason 2

.....

(4 marks)

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

Feature

(1 mark)

7



4 In the space below, complete the design of a Data Capture Form for new patients who wish to register with a medical practice. Care should be taken to include suitable fields and enough space to fill in their details.

Surname

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

Other Name

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

(5 marks)

5

Turn over ▶

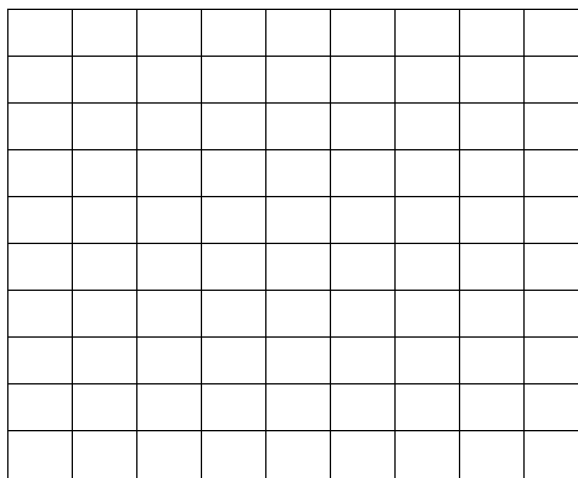


- 5** A computer system controls the movement of a robot on a grid. The robot is moved by typing commands into the computer system. The commands which are used to move the robot are FD, BK, LT and RT. Examples of how the commands could be used to move the robot are given below.

Command	Action by robot
FD 2	would move the robot forward 2 squares
BK 3	would move the robot back 3 squares
LT 90	would turn the robot left through an angle of 90 degrees
RT 90	would turn the robot right through an angle of 90 degrees

- 5 (a)** On the grid below, draw the path that would be taken by the robot if it followed these commands.

FD 6
BK 3
LT 90
FD 3
BK 6
RT 90
FD 3
LT 90
FD 3

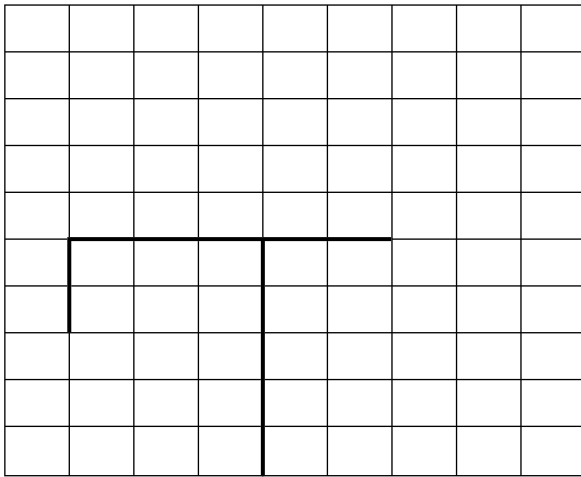


Start here

(2 marks)



5 (b) Write down the commands needed to draw this shape.



Start here

Commands

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

(2 marks)

4

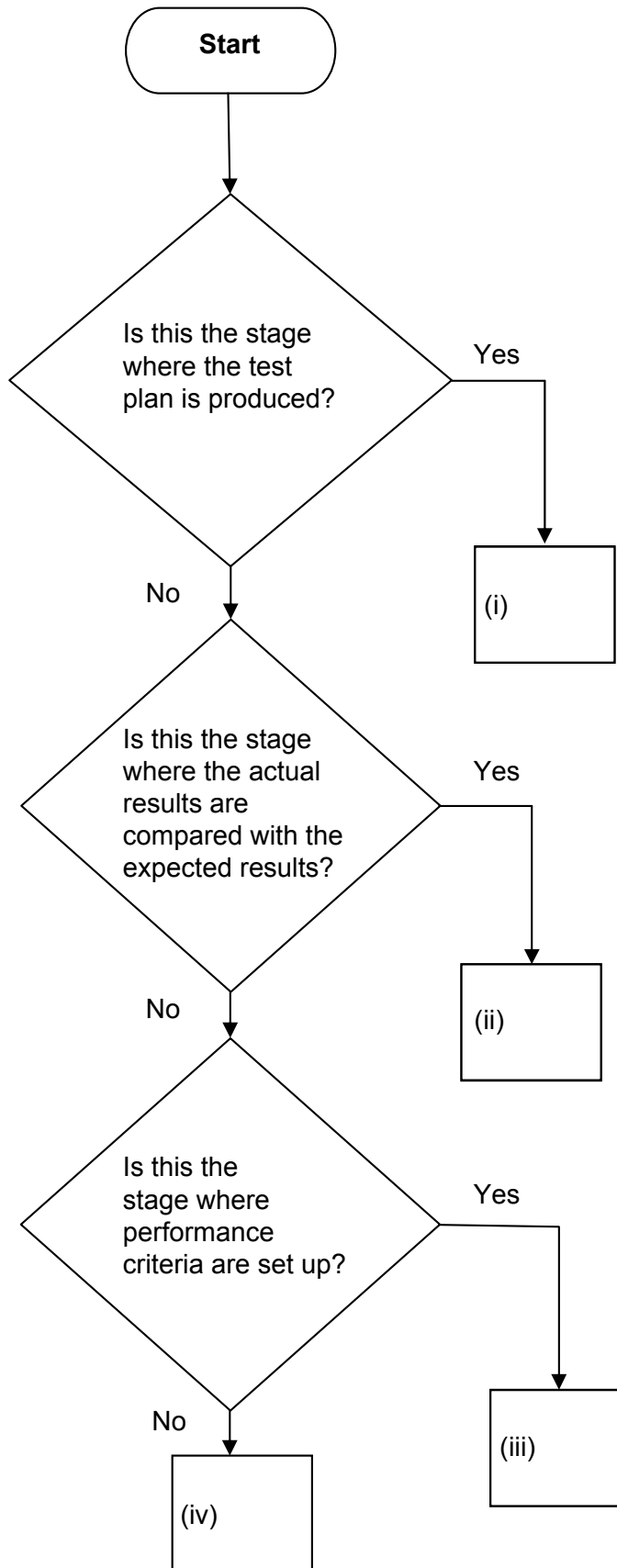
Turn over for the next question

Turn over ▶



- 6 (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)



- 6 (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 ▶



- 7 A school uses a database to store details about Year 11 students going to the Prom at the end of June 2010. Part of this database is given below.

Student Number	Student Name	Consent Form Received	Deposit Paid	Fully Paid	Travelling by Coach
0003	Abbot John	Y	Y	Y	Y
0005	Ali Fessur	Y	Y	N	Y
0006	Allen Rebecca	Y	Y	N	Y
0008	Allen Robert	Y	N	N	Y
0009	Armstrong Paul	Y	Y	N	Y
0012	Bashir Sabia	Y	Y	N	Y
0014	Bean Jade	Y	Y	N	Y
0016	Bell Lucy	Y	Y	N	Y
0018	Blackburn Sophie	Y	N	N	N
0020	Brown Sara	Y	Y	Y	N

- 7 (a) Student Number is the key field in this database table. Tick **two** boxes to show which of the following are important features of a key field.

	Tick two boxes only
A key field must always be a number	
A key field must always contain text	
A key field must never be empty	
A key field must never be longer than seven characters	
A key field must contain a different value in each record in the database table	

(2 marks)

- 7 (b) Much of the data entered into this database has been coded. Give **one** advantage of coding data.

.....

.....

(1 mark)



7 (c) The school is also looking at ways to improve the security of the computer systems around the site. Tick **two** boxes to show which of the following would be the most reasonable to make sure the hardware is physically secure.

	Tick two boxes only
To lock all computer rooms when not in use	
To keep all parts of the school locked at all times	
To use a virus scanner	
Make sure all the computer rooms are on the ground floor	
Use clamps and cables to attach the computer to the desk	

(2 marks)

7 (d) The school already uses passwords to restrict access to its network. Suggest **two** pieces of good advice that should be given to students about choosing a new password.

Advice 1

.....

Advice 2

.....

(2 marks)

7

Turn over for the next question

Turn over ▶



8 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						

8 (a) (i) Which cell contains the words Lancre Town? (1 mark)

8 (a) (ii) Tick **one** box to show which word describes the data in cell C4.

	Tick one box only
Date	
Decimal	
Number	
Text	

(1 mark)

8 (b) (i) What formula may have been used to find the total for the games won in cell C14?

..... (1 mark)



- 8 (b) (ii)** 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)	
=C3*3+D3*1+E3	
=C3*3+D3	

(1 mark)

- 8 (c)** 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

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9 (a) What is meant by the term data validation?

.....

.....

.....

(2 marks)

9 (b) From the list given, choose the term which best matches the type of validation defined in the left-hand column of the table below. Write your answers in the spaces provided.

- | | |
|--------------------|----------------|
| alphanumeric check | check digit |
| grammar check | numeric check |
| parity check | presence check |
| range check | spelling check |

Type of validation	Term which best matches the definition
Checks that a data value is within realistic limits	
Checks that a data value must be entered into a given field	

(2 marks)

4

Turn over for the next question

Turn over ▶



10 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	229.99	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

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

10 (a) What would be the results of the following searches?

10 (a) (i) List Product Code **When** Selling Price (£) **Equals** 99.99

.....

.....

.....

(1 mark)



10 (a) (ii) List Product Code, Product Name **When** Other Comments **Equals** 2 year guarantee

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

(1 mark)

10 (b) Write down the instructions needed to produce the following.

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

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

(1 mark)

10 (b) (ii) A list of the Product Codes and Product Names, where the Selling Price (£) is greater than 500 pounds.

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

(2 marks)

Turn over for the next question

5

Turn over ▶



11 More and more people are using Internet banking for their personal finances rather than the traditional banks that are situated in the high streets of every town.

11 (a) Which **two** of the following would be **advantages** to a customer of Internet banking compared with using a bank on the high street?

	Tick two boxes only
You are allowed to put more money into Internet banks	
You can transfer money 24 hours a day	
You can get cash out 24 hours a day	
You can pay bills from your account without having to leave home	
You don't have to open a bank account	

(2 marks)

11 (b) Outline **two** possible **disadvantages** to a customer of Internet banking compared with using a bank on the high street.

Disadvantage 1

.....

Disadvantage 2

.....

(2 marks)

4



12 The increasing use of ICT systems in the work place has highlighted a range of possible health and safety issues. One of these issues is that using a computer for long periods of time can affect people’s health.

12 (a) Which **two** of the following are common health problems that are linked with using computers for long periods of times?

	Tick two boxes only
Asthma	
Back problems	
Earache	
Eye strain	
Flu virus	

(2 marks)

12 (b) Wrist problems can also occur as a result of people using a computer for long periods of time. Give **two** steps that can be taken to reduce the chances of wrist problems.

Step 1

.....

Step 2

.....

(2 marks)

12 (c) Give **two** possible safety issues that can arise from the use of ICT systems in the work place.

Safety issue 1

.....

Safety issue 2

.....

(2 marks)

6

Turn over ▶



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

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

.....
(1 mark)

13 (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)

13 (b) 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)



- 13 (c)** 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)

7

Turn over for the next question

Turn over ▶



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

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

.....
(1 mark)

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

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

14 (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

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

Answer (1 mark)

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

Answer (1 mark)

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

Answer (1 mark)

14 (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)

END OF QUESTIONS

7



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