

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

For Examiner's Use
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General Certificate of Secondary Education  
June 2007

**INFORMATION AND COMMUNICATION TECHNOLOGY 3528/F  
(SPECIFICATION B) (SHORT COURSE)  
Foundation Tier**

**F**



Tuesday 22 May 2007 1.30 pm to 2.30 pm

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

Time allowed: 1 hour

**Instructions**

- Use blue or black ink or ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.

**Information**

- The maximum mark for this paper is 60.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation in your answers.

For Examiner's Use			
Question	Mark	Question	Mark
1		5	
2		6	
3		7	
4		8	
Total (Column 1) →			
Total (Column 2) →			
TOTAL			
Examiner's Initials			



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

1 Many people use e-mail.

(a) Tick **two** boxes to show valid e-mail addresses.

	Tick <b>two</b> boxes
peter.jones@schoolsnet.ngfl.uk	
patel327*nowmail.web.uk	
n.patterson.ngfl.sch	
pqr@manch.biz.net	
michael@jones@man.ac.uk	

(2 marks)

(b) This hyperlink appears on a Web page: [Send an e-mail for help](#)



Tick **three** boxes to show what should happen when you click on the hyperlink.

	Tick <b>three</b> boxes
You have to enter the e-mail address of the person you are sending it to	
A new e-mail message opens or a blank e-mail form opens	
You telephone the help line	
The e-mail is automatically addressed	
A search engine is displayed	
If you have set up an e-mail signature, it is automatically put in the message	

(3 marks)



- (c) (i) Tick **two** boxes to show what can be attached to an e-mail.

	Tick <b>two</b> boxes
A flash memory stick	
A word processed document	
A CD-ROM	
A peer-to-peer network	
A digital photograph	

*(2 marks)*

- (ii) State **one** other item that can be attached to an e-mail.

.....

*(1 mark)*

8
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**Turn over for the next question**



- 2 A customer downloads a bank account statement from an online bank. The statement is downloaded into a spreadsheet.

	A	B	C	D	E	F
1	<b>Your bank account statement on 6 April 2007</b>					
2	<b>Date</b>	<b>Details</b>	<b>Paid out</b>	<b>Paid in</b>	<b>Balance</b>	
3	6 March 07	Balance brought forward			£300.00	
4	12 March 07	Sheffield Council Tax	£80.00		£220.00	
5	26 March 07	Gas Company	£30.00		£190.00	
6	28 March 07	Paid in at Barnsley branch		£25.00	£215.00	
7	4 April 07	Monthly interest to 4 April 07		£5.50	£220.50	
8	5 April 07	Cashpoint at Meadowhall	£50.00		£170.50	
9	6 April 07	Balance carried forward			£170.50	
10						

- (a) Tick **two** boxes to show what can be contained in a cell in a spreadsheet.

	Tick <b>two</b> boxes
A mouse	
A number	
A website	
A picture	
A word processor	

(2 marks)

- (b) The cell reference of the cell which contains 'Balance brought forward' is B3. Write down the cell reference of the cell which contains 'Gas Company'.

Cell reference

(1 mark)

- (c) Tick **one** box to show the formula contained in cell E6.

	Tick <b>one</b> box
=E6+C6+D6	
=E5-C6+D6	
=D5+D6+D7	
=E5*C6*D6	
=E5+C5+D5	

(1 mark)



- (d) Tick **two** boxes to show what a spreadsheet should be used for.

	Tick <b>two</b> boxes
Controlling output from a scanner	
Drawing a picture of the car you want to buy	
Modelling future spending	
Writing to the bank manager	
Displaying the balance carried forward each month of the year in a graph	

(2 marks)

- (e) The customer is using a word processor to fill in a tax return.  
The customer needs to copy the monthly interest into the tax return.  
Write down the labels in order to show how cell D7 could be copied into the tax return.

Label	
A	Position the cursor in the word processor
B	Select copy
C	Select paste
D	Highlight D7 in the spreadsheet

Label

(2 marks)

8
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**Turn over for the next question**



3 A student has access to the Internet and the Web at home and at school.

(a) Tick **two** boxes to show valid website addresses.

	Tick <b>two</b> boxes
www.pqrest.org.uk	
email://www.pqrest.web	
http://www.pqrest.com	
ww.pqrest.org.uk	
http:\\www.pqrest.gov.uk	

(2 marks)

(b) The student wants to buy a scanner to input images into the computer.  
Tick **two** boxes to show features which should be considered when buying a scanner.

	Tick <b>two</b> boxes
Ability to play music	
Ability to print	
Type of connection to the computer	
Resolution of scanned image	
Ability to record video	

(2 marks)

(c) Write down the labels in order to show how the student could find details about a scanner on the Web.

Label	
A	Click the search button
B	Look at the list of websites starting at the top
C	Load a search engine
D	Type in key words

Label

(2 marks)

(d) The student buys the scanner through an online shop.  
Describe **one** problem the student might encounter.

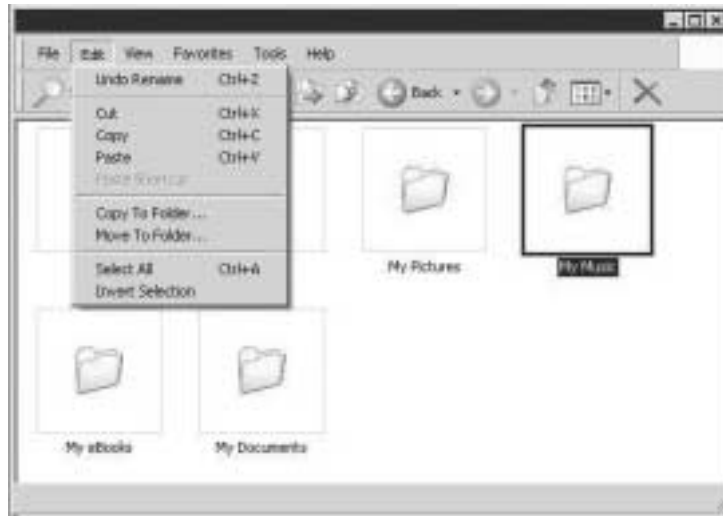
.....

.....

(1 mark)



- 4 A music fan has a home computer and a Personal Digital Assistant (PDA).  
The home computer has a Graphical User Interface (GUI).



- (a) A GUI has windows, icons, menus and a pointer.  
Show what each term means by writing the label of the description next to the term.

Label	Description
A	A small picture that illustrates what a program does
B	A rectangular area which shows what is being done with a program
C	An arrow or other symbol
D	A list of options which can be chosen

Term	Label
(i) Window	
(ii) Menu	

(1 mark)

(1 mark)

- (b) The music fan saves music files in a folder called 'My Music'.  
Tick **two** boxes to show how to organise folders in 'My Music' so that all the music files for an artist are together, and all the music files for an album by the artist are together.

	Tick <b>two</b> boxes
Within the folder for an album, there should be one folder for each artist	<input type="checkbox"/>
Within 'My Music' there should be one folder for each different artist	<input type="checkbox"/>
When 'My Music' is opened, one folder for each album should show in the window	<input type="checkbox"/>
Within the folder for an artist, there should be one folder for each album	<input type="checkbox"/>
The music files should be in a folder which shows their genre; for example, all the rock files should be in one folder	<input type="checkbox"/>

(2 marks)

Question 4 continues on the next page



- (c) The music fan copies 'My Music' onto a DVD.

Tick **two** boxes to show why the music fan would copy 'My Music' onto a DVD.

	Tick <b>two</b> boxes
The music fan wants to play the music files on another computer	
The music files will load faster from a DVD than from the computer's hard disk	
The music files cannot be played on a laptop computer	
The music files will play faster from a DVD than from the computer's hard disk	
A backup copy is needed	

(2 marks)

- (d) The music fan copies the music files to a PDA.

Tick **one** box to show an advantage to the music fan of using a PDA to store music rather than a desk top computer.

	Tick <b>one</b> box
PDA's have touch screens	
The battery in a PDA can be charged by connecting it to a computer	
A PDA is a mobile device so that you can listen to music anywhere	
A PDA is much larger and heavier than a flash memory stick	
Downloading music files to a PDA can take a long time	

(1 mark)





5 A systems analyst is designing a new ICT system for a doctors' surgery.

(a) Show what each term includes by writing the label of a description next to the term.

Label	Description
A	Installing new hardware and software
B	A detailed description of the new ICT system, what methods could be used, and how it will be judged a success
C	When the new ICT system is in use, checking it to make sure it does what it was designed to do
D	A quick look to see if it is worth building a new ICT system to do the job
E	Inputting typical and extreme data to see if the new ICT system processes this correctly

Term	Label
(i) Systems analysis and design	
(ii) Implementation	

(1 mark)

(1 mark)

(b) The systems analyst is an ICT specialist and has very limited knowledge of doctors' surgeries.

Tick **one** box to show how the systems analyst could find out what an ICT system for a doctors' surgery should do.

	Tick <b>one</b> box
The systems analyst does not need to find out what an ICT system for a doctors' surgery should do because all ICT systems are the same	
Investigate ICT systems used in swimming baths	
Talk to doctors who work at hospitals in Birmingham	
Talk to other ICT specialists who have written ICT systems for swimming baths	
Talk to employees of doctors' surgeries and find out what they do	

(1 mark)

**Question 5 continues on the next page**



- (c) The systems analyst proposes that doctors should use a word processor to prepare prescriptions.  
Tick **two** boxes to show why using a word processor is better than writing prescriptions by hand.

	Tick <b>two</b> boxes
You can include clip art in a word processor	
Some doctors have handwriting that is difficult to read	
There may only be one copy of a handwritten prescription. If a word processor is used, it is easier to store a record of what has been prescribed	
It would be better to use desk top publishing software than a word processor	
Doctors may have repetitive strain injury from typing	

(2 marks)

- (d) The doctors' surgery has a LAN (Local Area Network).

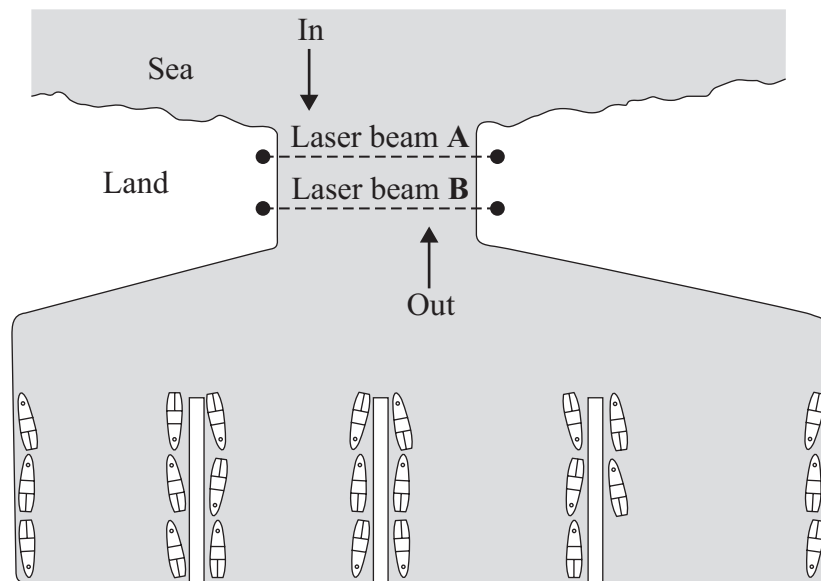
Draw a labelled diagram of a LAN showing at least **three** networked computers and a file server. You should include other hardware the doctors might use.

(3 marks)

8
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- 6 A computer control system counts the number of boats in a harbour. This is a plan of the harbour.



The computer uses two laser beams across the harbour mouth to tell whether a boat is entering or leaving. The computer can sense when a laser beam is broken.

- (a) Tick **two** boxes to show how the computer knows whether a boat is entering or leaving the harbour.

	Tick <b>two</b> boxes
Beam <b>B</b> is broken before beam <b>A</b> if a boat is entering	<input type="checkbox"/>
Beam <b>A</b> is broken before beam <b>B</b> if a boat is leaving	<input type="checkbox"/>
Both beams are always broken at the same time	<input type="checkbox"/>
Beam <b>A</b> is broken before beam <b>B</b> if a boat is entering	<input type="checkbox"/>
Beam <b>B</b> is broken before beam <b>A</b> if a boat is leaving	<input type="checkbox"/>

(2 marks)

- (b) Tick **two** boxes to show how the computer knows the number of boats in the harbour.

	Tick <b>two</b> boxes
When a boat enters the harbour, the computer adds 1 to the total	<input type="checkbox"/>
When a boat stays in the harbour, the computer sets the total to 0	<input type="checkbox"/>
When a boat leaves the harbour, the computer subtracts 1 from the total	<input type="checkbox"/>
When a boat enters the harbour, the computer subtracts 1 from the total	<input type="checkbox"/>
When a boat leaves the harbour, the computer adds 1 to the total	<input type="checkbox"/>

(2 marks)

Question 6 continues on the next page



- (c) Sometimes the actual number of boats in the harbour and the computer's total are not the same.

Tick **two** boxes to show the most likely reasons why this could happen.

	Tick <b>two</b> boxes
Two boats have entered at the same time side by side	
The computer has added up the totals incorrectly	
A third laser beam has been installed	
A flock of seagulls has flown across the harbour mouth and broken both beams	
A hacker has broken into the system and changed the total	

(2 marks)

- (d) Suggest **one** way of improving the design of the harbour to help avoid these problems.

.....  
 .....

(1 mark)

- (e) The computer operator counts the actual number of boats in the harbour each morning and resets the computer's total.

Give **one** reason why the operator has to enter a username and password before access to the computer is allowed.

.....  
 .....

(1 mark)

8
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- 7 A supermarket has a database of items for sale.  
This is a part of the database.

Bar Code Number	Description	Supplier	Price	Quantity in Stock	Minimum Stock Level
010046 001102	Sweet Corn	Greenland	0.75	25	100
000157 024671	Baked Beans	Variety	0.36	650	1000
011673 107373	Chestnut Puree	Greenland	1.45	450	200
031021 952776	Chilli Peppers	BestBuy	0.30	50	200
000232 824806	Peach Slices	Variety	0.85	450	200
002359 645009	Chilli Sauce	Variety	1.25	250	200

- (a) Tick **one** box to show which is the key field.

	Tick <b>one</b> box
Bar Code Number	
Description	
Supplier	
Price	
Quantity in Stock	

(1 mark)

- (b) The supermarket manager is searching the database.

- (i) Write down the **Description(s)** in the record(s) selected using this search condition.

Search Condition: **Description** contains Chilli

**Description(s)** in the record(s) selected:

.....  
(1 mark)

- (ii) Write down the **Description(s)** in the record(s) selected using this search condition.

Search Condition: **Supplier** is BestBuy OR **Quantity in Stock** is less than 40

**Description(s)** in the record(s) selected:

.....  
(1 mark)

**Question 7 continues on the next page**



- (c) Bar codes are printed on items for sale and scanned at the checkout when the items are sold. **Bar Code Numbers** are printed under the bar code.



Tick **one** box to show why the **Bar Code Number** is printed under the bar code.

	Tick <b>one</b> box
If the bar code will not scan, the checkout operator can enter the <b>Bar Code Number</b>	
The bar code has a different number coded in it	
The price is coded in the <b>Bar Code Number</b>	
If the computer is not working, the checkout operator can write down the <b>Bar Code Number</b> of each item sold	
The description is coded in the <b>Bar Code Number</b>	

(1 mark)

- (d) Customers are given printed receipts when all the items they are buying have been scanned. This is a customer's receipt.

Description				
Sweet Corn	3	@	0.75	2.25
Chilli Peppers	2	@	0.30	0.60
Peach Slices	5	@	0.85	4.25
Total to pay:				£7.10

Write down the labels in order to show how the description and price can be printed on the receipt.

Label	
A	The description and price are sent from the database to the checkout
B	The bar code is sent to the computer
C	The bar code is scanned at the checkout
D	The receipt is printed at the checkout
E	The computer uses the bar code to search the database

Label

(3 marks)



- 8 SeeEarth is a Geographic Information System (GIS) which uses pictures taken by satellites. SeeEarth is a free program that can be downloaded from the Internet. It can be used to look at the whole Earth and zoom in on any point on the Earth's surface.

- (a) Tick **two** boxes to show what you could do.

	Tick <b>two</b> boxes
Look at the layout of the streets and gardens in a residential neighbourhood	
Look at the shape of the United Kingdom and Europe	
Look at the layout of your school library	
See whether there would be room to park in a car park	
Read a newspaper spread out on a park bench	

(2 marks)

- (b) The police want to track criminals using SeeEarth. Tick **two** boxes to show why this would **not** work.

	Tick <b>two</b> boxes
If a criminal used an umbrella he/she could not be tracked	
Satellite pictures are low resolution and they are not clear enough to identify individuals	
Cameras on satellites cannot see everywhere inside buildings	
The police could track very big criminals but not small ones	
Criminals would need to log on to SeeEarth and they might forget their passwords	

(2 marks)

- (c) SeeEarth allows you to select layers. A layer is a map of particular information, for example, the location of hotels. If you select a layer that shows all the hotels in an area, you could choose to display these. Layers can be overlaid on each other.

Tick **two** boxes to show other information that might be a layer.

	Tick <b>two</b> boxes
The specification for a four wheel drive vehicle	
Instructions for using the software	
The location of schools	
The route taken by public transport	
The location of databases that store personal information	

(2 marks)

Question 8 continues on the next page



(d) Tick **one** box to show an advantage of using SeeEarth.

	Tick <b>one</b> box
The council could plan new housing estates so that they fit in with existing communities	
You could watch a football match without going to the stadium	
Farmers could see where their stray sheep had gone and get them back	
The police could track stolen cars	
Fishermen could track the fish they wish to catch	

(1 mark)

7
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**END OF QUESTIONS**

