

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

For Examiner's Use

General Certificate of Secondary Education
June 2007

**INFORMATION AND COMMUNICATION TECHNOLOGY 3528/H
(SPECIFICATION B) (SHORT COURSE)
Higher Tier**

H



Tuesday 22 May 2007 1.30 pm to 3.00 pm

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

Time allowed: 1 hour 30 minutes

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			



3528/H

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

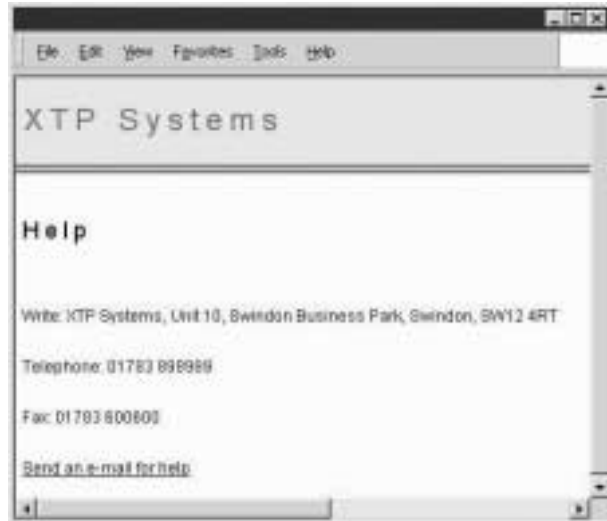
1 Many people use e-mail.

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

	Tick two 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



Describe in detail what should happen when you click on the hyperlink.

.....

.....

.....

.....

(2 marks)



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

	Tick one box
A flash memory stick	
A printed document	
A CD-ROM	
A peer-to-peer network	
A digital photograph	

(1 mark)

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

Item 1

.....

Item 2

.....

(2 marks)

7

Turn over for the next question



Turn over ▶

- 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	Your bank account statement on 6 April 2007					
2	Date	Details	Paid out	Paid in	Balance	
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) 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)

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

	Tick one box
=E6+C6+D6	<input type="checkbox"/>
=E5-C6+D6	<input type="checkbox"/>
=D5+D6+D7	<input type="checkbox"/>
=E5*C6*D6	<input type="checkbox"/>
=E5+C5+D5	<input type="checkbox"/>

(1 mark)

- (c) A spreadsheet can be used to display the balance carried forward each month of the year in a graph.

State **one** other task a spreadsheet can be used for.

.....

.....

(1 mark)



- (d) 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. Describe in detail how cell D7 could be copied into the tax return.

.....

.....

.....

.....

(2 marks)

- (e) The customer saves the statement on a flash memory stick. Give **one** reason why this may not be secure and suggest a way to make the statement more secure.

Reason why this may not be secure

.....

.....

Way to make the statement more secure

.....

.....

(2 marks)

7

Turn over for the next question



Turn over ▶

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

(a) Tick **one** box to show a valid website address.

	Tick one box
hp://www.pqrest.org.uk	
email://www.pqrest.web	
http://www.pqrest.com	
ww.pqrest.org.uk	
http:\\www.pqrest.gov.uk	

(1 mark)

(b) A student wants to buy a scanner to input images into the computer.
State **three** features which should be considered when buying a scanner.

Feature 1

.....

Feature 2

.....

Feature 3

.....

(3 marks)

(c) Describe how the student could find details about a scanner on the Web.

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.....

.....

.....

(2 marks)

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

Problem 1

.....

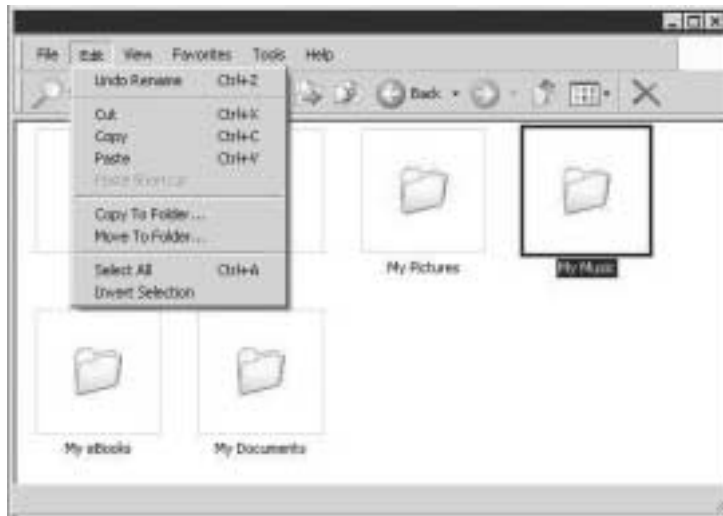
Problem 2

.....

(2 marks)



- 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) Icon	
(ii) Menu	

(1 mark)

(1 mark)

Question 4 continues on the next page



- (b) The music fan saves music files in a folder called 'My Music'. Describe 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. You may draw a diagram.

.....

.....

.....

.....

(2 marks)

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

- (i) Tick **one** box to show why the music fan would copy 'My Music' onto a DVD.

	Tick one box
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 fan wants to play the music files on a PDA	
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	

(1 mark)

- (ii) State **one** other reason why the music fan would copy 'My Music' onto a DVD.

.....

.....

(1 mark)



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

- (i) Write down **one** advantage to the music fan of using a PDA to store music rather than a desk top computer.

.....

.....

(1 mark)

- (ii) Write down **one** disadvantage to the music fan of using a PDA to store music rather than a flash memory stick.

.....

.....

(1 mark)

8

Turn over for the next question



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

(a) Show what the 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
Feasibility study	

(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 one 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)



- (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 two boxes
You can include clip art in a word processor	
Some drugs have names which are difficult to spell and these could be checked using a spelling checker	
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).
- (i) 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)

- (ii) State **one** advantage of using the LAN.

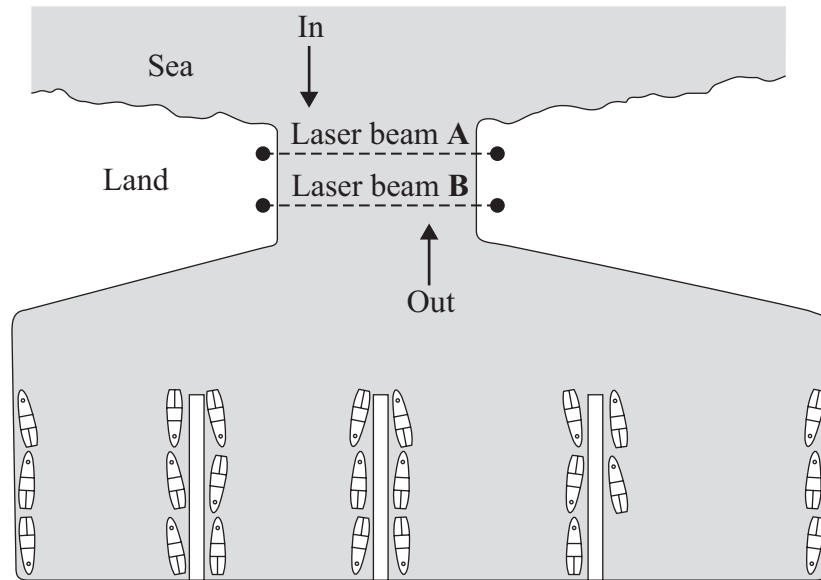
.....

.....

(1 mark)



- 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) Explain how the computer knows whether a boat is entering or leaving the harbour.

.....

.....

.....

.....

(2 marks)

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

	Tick two 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)



- (c) Sometimes the actual number of boats in the harbour and the computer's total are not the same.
Give **one** reason for this and suggest a way of improving the design of the harbour to help avoid the problem.

Reason

.....

Way of improving the design

.....

(2 marks)

- (d) 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)

7

Turn over for the next question



Turn over ▶

- 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) State the key field.

.....
(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: **Supplier** is Variety AND **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 NOT less than 600

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

.....
(1 mark)

- (c) The supermarket manager wants to find out which items should be re-ordered.
State the search condition the manager should use.

.....
.....
(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)

- (e) Radio Frequency Identification (RFID) is being introduced. An RFID tag is attached to an item instead of a bar code. The tag is very small and does not need to be removed. It stays with the item throughout its life. An RFID tag has the functions of a bar code but it can be read by the supermarket's computer using a wireless network.

Tick **one** box to show which of the following is most likely to be true.

	Tick one box
When the police read an RFID tag they can tell whether the item has been stolen	<input type="checkbox"/>
Checkouts are not required by RFID as the computer automatically scans the contents of your supermarket trolley and charges the cost to your bank account	<input type="checkbox"/>
You will not know if RFID tags collect personal information about you	<input type="checkbox"/>
You can use RFID tags to listen to your favourite radio station	<input type="checkbox"/>
RFID tags should not be kept together as they will combine to form an evil network	<input type="checkbox"/>

(1 mark)

Turn over for the next question



Turn over ►

