General Certificate of Secondary Education
June 2009

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

H

Tuesday 19 May 2009   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 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. Answers written in margins or on blank pages will not be marked.
- Do all rough work in this book. Cross through any work you do not want to be marked.

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.

3528/H

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

1 The Ship Restaurant has this old menu.

```
The Ship Restaurant

Freshly made food

Starters
Prawn Cocktail £4.95
House Pate £4.50
Garlic Mushrooms £4.50

Main Courses
Rack of Lamb £11.95
Steak au Poivre £10.95
Sea Food Thermidor £10.95
Vegetable Bake £6.85

Sweets
Sticky Toffee Pudding £4.50
Pavlova £5.50
Banana Split £4.50

Early Bird Menu 5pm to 6pm
Book on 0997 2341293
```
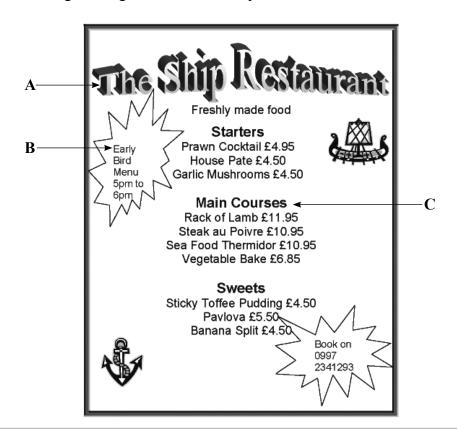
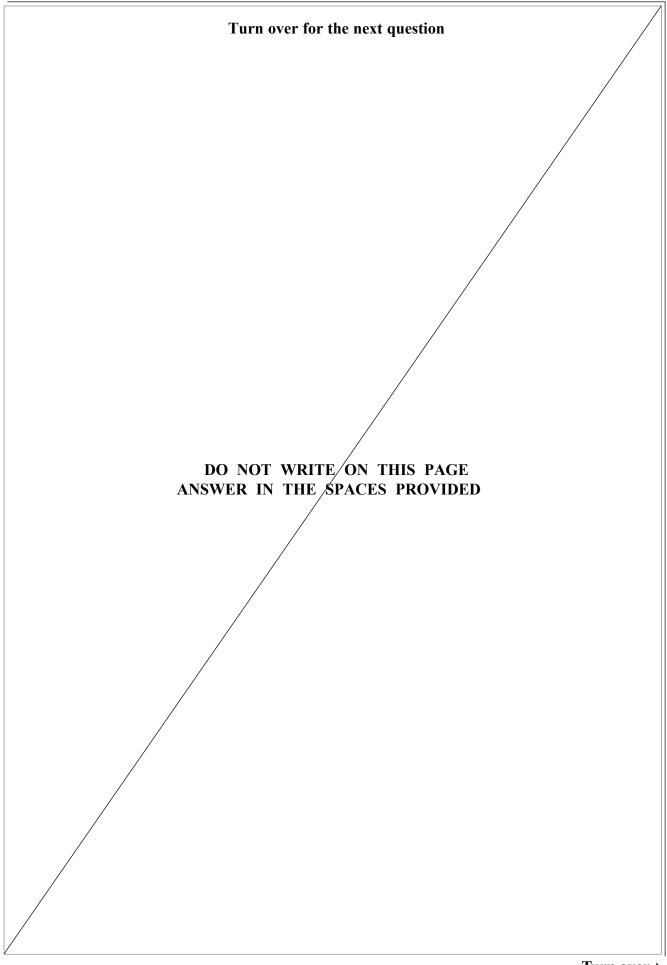The restaurant manager changes the old menu to produce this new menu.

1 (a) Describe **two** ways the line of text labelled **C** has been changed.

Way 1 ....

Way 2 ....

(2 marks)

1 (b) Complete the sentences using words from this list.

a camera
a photograph
a wizard
an autoshape
clip art
word art

1 (b) (i) Label **A** points to .... *(1 mark)*

1 (b) (ii) Label **B** points to .... and text box which have
been grouped. *(1 mark)*

1 (c) The manager applied design principles when the menu was changed.

Tick **one** box to show good design principles.

	Tick **one** box
Use a spreadsheet	
Include sound and video where possible	
Avoid too much fussiness caused by overuse of the software features	
Use obscure or unfamiliar words without explanation	
The font should be difficult to read	

(1 mark)

1 (d) The manager saves the new menu as a file on a hard disk.

State **one** other type of backing storage the file can be saved on.

....

(1 mark)

Question 1 continues on the next page

Turn over ▶

1 (e) (i) The old menu is also saved on backing storage.

Tick **one** box to show which of these statements is most likely to be true.

	Tick **one** box
The new menu has a smaller file size than the old menu	
The new menu and the old menu have exactly the same file size	
The new menu has a larger file size than the old menu	
The old menu has been scanned	
The old menu loads more slowly than the new menu	

(1 mark)

1 (e) (ii) Give **one** reason for your answer to part (e)(i).

....

....

(1 mark)

8

Turn over for the next question

Turn over for the next question

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ANSWER IN THE SPACES PROVIDED

6

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the box will
not be scanned
for marking*

2 A decorator uses a computer to calculate the cost of redecorating a kitchen for a client. This information is displayed on the monitor screen.

	A	B	C	D
1	**Estimated costs for redecorating the kitchen**			
2				
3	**Item to be purchased**	**Unit cost**	**Quantity needed**	**Total cost for each item**
4	Can of emulsion paint	£25.00	2	£50.00
5	Can of gloss paint	£10.00	3	£30.00
6	Paint brush	£5.50	4	£22.00
7	Laminate flooring (per square metre)	£15.50	10	£155.00
8	Cooker	£500.00	1	£500.00
9				
10	**Total cost for the kitchen**			£757.00

2 (a) State the type of software the decorator has used.

....

(1 mark)

2 (b) Write in the box the cell reference of a cell that contains a number.

(1 mark)

2 (c) Some cells contain a formula.

Label	Formula
A	=SUM(D4:D8)
B	=B6*C6
C	=C6*D6
D	=SUM(D4:D10)
E	=SUM(B6:C6)

2 (c) (i) Write in the box the label of the formula in cell D6.

(1 mark)

2 (c) (ii) Write in the box the label of the formula in cell D10.

(1 mark)

2 (d) (i) Tick **one** box to show an advantage to the decorator in using the software rather than working out the cost by hand.

	Tick **one** box
Costs cannot be changed	
The decorator can avoid paying tax	
It is faster to write an estimate on a scrap of paper	
The decorator can rely on the software to do accurate calculations if it has been set up correctly	
The decorator will be faster and more efficient.	

(1 mark)

2 (d) (ii) State **one** other advantage to the decorator in using the software.

....

(1 mark)

2 (e) The decorator wants a computer that can be taken to a client's house so that estimates can be done on the spot and a printed copy given to the client.

2 (e) (i) Tick **one** box to show what type of computer could be used.

	Tick **one** box
Printer server	
Laptop	
Desktop	
Mainframe	
File server	

(1 mark)

2 (e) (ii) State **one** other type of computer that could be used.

....

(1 mark)

8

Turn over for the next question

Turn over ▶

3 A health centre uses a database to store patients' information. Patients fill in a form when they register with the health centre and a receptionist types in the data.
This is part of the database.

Patient Number	Name	Date of Birth	Gender	Doctor
01938	Baty	13/13/1972	M	McHenry
49073	Attwood	13/11/2000	F	Tysome
28985	Phillips	02/12/1995	M	McHenry
30234	Wolf	09/07/1982	M	Lynch
30234	Nibert	09/07/1982	F	Tysome
10056	Jones	14/07/1947	F	Tysome

3 (a) The receptionist entered the data for Wolf then the data for Nibert.
The receptionist made a mistake when entering the **Patient Number** for Nibert.
The **Patient Number** is a key field.

Give **one** reason why the **Patient Number** for Nibert must be incorrect.

....

....

(1 mark)

3 (b) Nibert and Wolf have the same **Date of Birth** on the database. Explain why this could be correct.

....

....

(1 mark)

3 (c) The **Date of Birth** has been entered incorrectly for one patient.

3 (c) (i) Tick **one** box to show which patient has the incorrect **Date of Birth.**

	Tick **one** box
Baty	
Attwood	
Phillips	
Wolf	
Nibert	

(1 mark)

3 (c) (ii) Explain how you know this patient has an incorrect **Date of Birth**.

....

....
(1 mark)

3 (c) (iii) Describe a verification check that would help prevent this error in this context.

....

....
(1 mark)

3 (c) (iv) Describe a validation check that would help prevent this error.

....

....

....

....
(2 marks)

7

Turn over for the next question

4 A web programmer is building a website to help people find holiday accommodation.

Microsoft®Internet Explorer

4 (a) The programmer opens a file called hazelcottage.htm and edits it to produce a web page about another holiday cottage called Willow Cottage.
When the editing is finished the file needs to be saved.
The programmer uses the Save command.

4 (a) (i) Tick **one** box to show why this is a mistake.

	Tick **one** box
The web page for Willow Cottage would be saved as willowcottage.htm	
The web page for Willow Cottage would be saved as hazelcottage.htm	
The web page for Hazel Cottage would be saved as willowcottage.htm	
The web page for Hazel Cottage would be saved as hazelcottage.bak	
The web page for Willow Cottage would be saved as willowcottage.bak	

(1 mark)

4 (a) (ii) State the command the programmer should have used instead of Save.

....

(1 mark)

4 (b) The holiday accommodation website has a search engine designed specifically to search it. One of the inputs is:

Select accommodation type

☐ All   ☐ Serviced Apartment

☐ Hotel   ☐ Self-Catering

☐ Bed & Breakfast   ☐ Caravan & Camping

State **three** other inputs that might be used to search the website.

Input 1 ....

Input 2 ....

Input 3 ....

(3 marks)

4 (c) All the web pages for all the holiday accommodation will be saved together in a folder called Holidays and each web page will have at least one picture associated with it. Describe how to organise the folders so that all the web pages and all the picture files are in the Holidays folder but they are not all mixed up together. You may draw a diagram.

....

....

....

....

(2 marks)

7

Turn over ▶

5 When students log on to a LAN (Local Area Network) they have to enter a username and password.

5 (a) A sensible rule about using passwords is 'keep your password secret'.
State **one** other sensible rule about using passwords.

....

....

(1 mark)

5 (b) In parts (b)(i) to (b)(ii) each reason you give should be different.

A student logs on to the network.

5 (b) (i) The network prevents students accessing each others' user areas and files.
Give **one** reason why the network has been set up to prevent this.

....

....

(1 mark)

5 (b) (ii) The network prevents students accessing some websites.
Give **one** different reason why the network has been set up to prevent this.

....

....

(1 mark)

5 (c) Sometimes students using the network find that it is very slow.
Give **one** reason why network access might be slow and suggest a solution.

Reason ....

....

Solution ....

....

(2 marks)

5 (d) Draw a labelled diagram of a LAN showing at least three networked computers and a file server. You should include other hardware that might be connected to the LAN.

(3 marks)

8

Turn over for the next question

Turn over ▶

6 ParkSafely is a company that manages car parks.

6 (a) ParkSafely install an ICT system that keeps track of the number of cars in a car park using barriers across the entrances and exits. The barriers are controlled by the ICT system.

Write down the labels in order to show what the ICT system should do when a car approaches the barrier and enters the car park.

Label	Statement
A	Add 1 to the number of cars in the car park
B	If the car park is full, switch the full sign on
C	Issue a ticket
D	Detect the car
E	Open the barrier, wait for the car to pass through and close the barrier

Label

(2 marks)

6 (b) Drivers are given a ticket when they park their car. Drivers pay at a pay station just before they return to their car and leave.

Write a label in each box of the flowchart to show what the ICT system should do when a car leaves the car park.

Label	Statement
A	Switch off the car park full sign
B	Open the barrier, wait for the car to pass through and close the barrier
C	Subtract 1 from the number of cars in the car park
D	Display the message: "Please pay at the pay station" and return the ticket to the driver
E	Read the ticket
F	Has the amount due been paid?

START

NO

YES

END

(3 marks)

Question 6 continues on the next page

Turn over ▶

6 **(c)** Write a label next to the ICT system life cycle task to show what the task includes.

Label	What the task includes
A	Entering extreme data to check that the system responds correctly to unusual inputs
B	Using flowcharts to show what processing will be done
C	Using the ICT system to manage car parks
D	Checking the system as it is being used to make sure it is still working as expected
E	Preparing instructions for users to show them how to use the ICT system

6 **(c)** **(i)**

ICT system life cycle task	Label
Systems Analysis and Design	

(1 mark)

6 **(c)** **(ii)**

ICT system life cycle task	Label
Testing	

(1 mark)

7

7 A school uses an ICT system to register the attendance of pupils. Each pupil has their own identification card.

7 (a) When a pupil arrives at school, the pupil registers by swiping their identification card through a card reader.

Tick **one** box to show how information could be recorded on the identification card.

	Tick **one** box
Thumb print	
Magnetic stripe	
Questionnaire	
Magnetic Ink Character Recognition (MICR)	
Voice recognition	

(1 mark)

7 (b) (i) Teachers notice that sometimes pupils who are not in class are registered as present.

Tick **one** box to show how this could happen.

	Tick **one** box
Some pupils did not register using their identification cards	
Absent pupils gave their identification cards to other pupils who registered for them	
Pupils arrived before the ICT system was switched on	
Some pupils stayed at home	
Some pupils are not wearing school uniform	

(1 mark)

7 (b) (ii) Give **one** other reason why pupils who are not in class could be registered as present.

....

....

(1 mark)

Question 7 continues on the next page

Turn over ▶

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7 (c) Tick **two** boxes to show which of these statements are most likely to be true.

	Tick **two** boxes
Pupils who arrive late do not have to register	
The ICT system automatically contacts parents or carers to let them know if their children are absent	
The identification card has to be replaced every week	
The ICT system automatically e-mails the police to let them know who is absent	
A record of a pupil's attendance is kept on the ICT system	

(2 marks)

7 (d) An ICT system for registration could be developed to do other tasks.
Describe **two** other tasks this ICT system could do if developed further.

Task 1 ....

....

Task 2 ....

....

(2 marks)

7

8 Some politicians say we will soon be a surveillance society in which all our movements and activities are tracked. Many British citizens have identification cards. Describe other ways in which British citizens can be identified and tracked using ICT systems, and discuss the advantages and disadvantages of these to British citizens and the community.

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(8 marks)

8

END OF QUESTIONS

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