General Certificate of Secondary Education
June 2008

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

H

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Tuesday 20 May 2008   1.30 pm to 3.00 pm

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

Time allowed: 1 hour and 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

*Areas outside
the box will
not be scanned
for marking*

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

1   A graphic designer has been asked to produce a range of stationery for the TXC company.

1   (a)   The graphic designer produces a draft of what a letter from the company could look like.

TXC   ← ——————————————— **A**

Unit 13, Croydon Trading Estate, Gallway SD14 9NM

←— —— —— —— —→

Dear Xxxxxxx,

Xxxxx xxxxxxxxx xxxxxx x xxxxxxxxxxx x
xxxxxxx xxxxx xxxxxxxx xxxxxx xxxxxxxxx ←——————————— **B**
xxxxxxxxxx xxxxxxxx xxxxxxxxxxxx

Xxxxx xxxxxxxxx xxxxxx x xxxxxxxxxxx x
xxxx xxx xxxxx xxxxxxxx xxxxxxx xxxxxxxxx
xxxxxxxxxx xxxx xxxx xxxxxxxxxxxx

Xxxxx xxxxxxxxx xxxxxx x xxxxxxxxxxx x
xxxxxxx xxxxx xxxxxxxx xxxxxx xxxxxxxxx
xxxxxxxxxx xxxxxxxx xxxxxxxxxxxx

Yours sincerely,

Mandy Shuttleworth

Mandy Shuttleworth
Operations Manager

1   (a)   (i)   The text at **B** is aligned so that it is left justified.
Describe the alignment of the logo at **A**.

....

....

(1 mark)

1 (a) (ii) Describe how to indent a whole paragraph of text.

....

....

....

....
(2 marks)

1 (b) The TXC logo at **A** will be reproduced in a lighter colour, enlarged and repeated to produce this pattern.
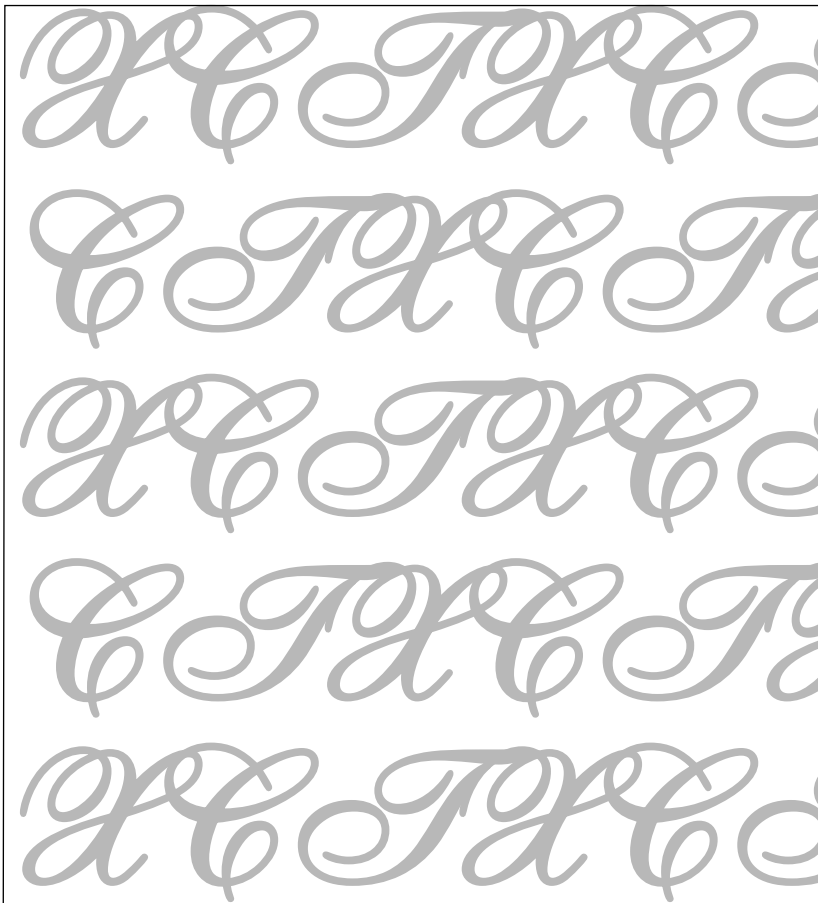
1 (b) (i) Describe how the TXC logo can be enlarged.

....

....

....

....
(2 marks)

Question 1 continues on the next page

Turn over ▶

1 **(b)** **(ii)** Describe how the TXC logo can be repeated to produce the pattern.

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(3 marks)

8

Turn over for the next question

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

2 A student has a desktop computer at home.

2 (a) The desktop computer system includes the following.

Label	
A	printer
B	mouse
C	screen
D	scanner
E	keyboard
F	processor box

Label	
G	1 Megabyte RAM memory
H	100 Gigabyte Hard Disk drive
I	DVD drive
J	modem
K	router
L	flash memory stick

2 (a) (i) Write in the box the label of **one** input device.

(1 mark)

2 (a) (ii) Write in the box the label of **one** output device.

(1 mark)

2 (a) (iii) Write in the box the label of **one** backing storage device.

(1 mark)

2 (b) At the student's home, several computers can access the Internet at the same time.

2 (b) (i) Write in the box the label of the device that is needed to access the Internet.

(1 mark)

2 (b) (ii) Write in the box the label of the device that is needed for several computers to have access at the same time.

(1 mark)

2 (c) Describe **two** ways to increase the speed at which the student's computer can access the Internet.

Way 1:..

....

Way 2:..

....

(2 marks)

Turn over for the next question

Turn over ▶

3 A finance officer uses a spreadsheet to record sales from an equipment shop.
This is part of the spreadsheet.

	A	B	C	D
1	**Sales**	**13/06/2008**		
2				
3	**Description**	**Price**	**Quantity Sold**	**Sales Value**
4	Trolley jack	£24.50	6	£147.00
5	Digital thermometer	£70.00	5	£350.00
6	Generator	£500.00	3	£1500.00
7	Pressure washer	£120.25	4	£481.00
8	Drill	£55.00	10	£550.00
9				
10			**Total Sales Value =**	£3,028.00

3 (a) The cells in the spreadsheet contain different types of data.
Complete the sentences using words from this list:

an equation
currency
a formula
a date
a number

3 (a) (i) The content of cell D5 is .... *(1 mark)*

3 (a) (ii) The format of cell D5 is .... *(1 mark)*

3 (b) Write down the formula in cell D10.

....

(2 marks)

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not be scanned
for marking*

3 (c) (i) The price of a generator is reduced to £400.00. When the spreadsheet was edited,
the values displayed in some cells changed automatically.
Write in the box the cell reference of **one** cell that changed automatically.

(1 mark)

3 (c) (ii) Explain why the value displayed in this cell changed automatically.

....

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....

(2 marks)

7

Turn over for the next question

Turn over ▶

4 A Jazz Band uses a database to keep membership records. This is a part of the database.

Name	MemberNumber	Instrument
Hassini	2015	Guitar
Milner	0365	Saxophone
Flanagan	0112	Clarinet
Afzal	8231	Piano
Jowett	0112	Clarinet

4 (a) The **MemberNumber** 0112 is used twice.

4 (a) (i) Explain why this must be a mistake.

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....

....

....

(2 marks)

4 (a) (ii) Write down a valid **MemberNumber** for Jowett.

....

(1 mark)

4 (b) A questionnaire is to be designed for new members to fill in when they join the band. The questionnaire will be used for data capture. The data written on the questionnaire will be input to the computer.

Design the questionnaire.

(4 marks)

7

5 A garden centre uses a computer controlled greenhouse to grow plants. The computer is in the garden centre office which is remote from the greenhouse.

The computer can:
- turn the heater on or off
- turn the water sprinklers on or off
- open or close the windows.

The plants will die if the temperature is too hot or too cold, or the humidity is too wet or too dry.

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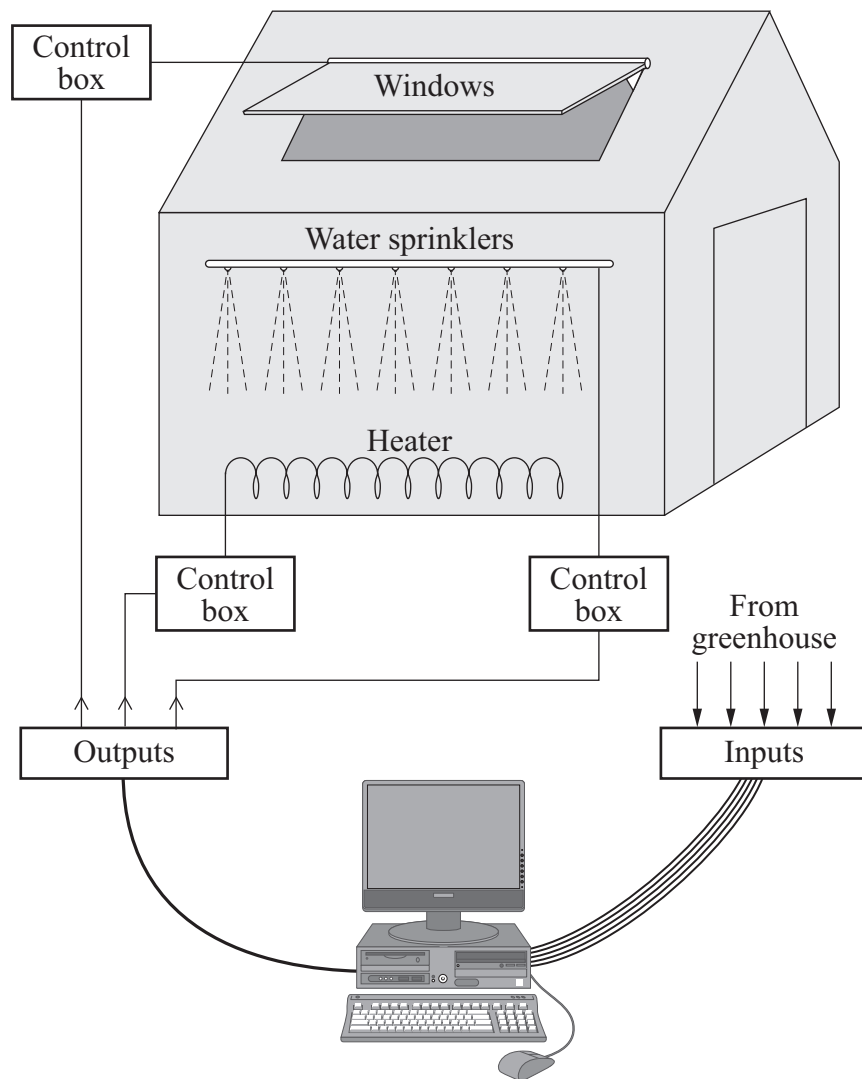
5 (a) Complete the sentences using words from this list:

actuators
tractors
agricultural workers
sensors
digital cameras

5 (a) (i) To collect data from the greenhouse, the computer uses...

(1 mark)

5 (a) (ii) To alter the temperature and humidity in the greenhouse, the computer

uses ....

(1 mark)

5 (b) In the context of the computer controlled greenhouse, describe what is meant by *feedback*.

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(3 marks)

5 (c) Discuss the advantages and disadvantages to the garden centre in using a computer controlled greenhouse.

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(3 marks)

8

Turn over ▶

6 (a) Data is entered into a computer from a questionnaire. This data is verified and then validated.

6 (a) (i) Tick **one** box to show a verification check.

	Tick **one** box
One person enters the data from the questionnaire; the same person enters the same data again	
One person enters the data from the questionnaire; another person enters the data from the same questionnaire; the computer checks that both people have entered the same data	
A table lookup can be used, for example, to check spelling	
A type check can be used, for example, to check there are no numbers in someone's name	
The person who filled in the questionnaire is asked to sign it	

(1 mark)

6 (a) (ii) Describe **one** other verification check.

....

....

(1 mark)

6 (a) (iii) State the purpose of verification.

....

....

(1 mark)

6 (b) A range check has been set up in a spreadsheet to accept numbers within the range 0 to 10. The spreadsheet is being tested.

6 (b) (i) Tick **two** boxes to show tests that should be done and their expected outcome.

	Tick **two** boxes
Enter the letter B and this is accepted	
Enter the number -6 and this is accepted	
Enter the number 15 and this is accepted	
Enter the number 12 and this is rejected	
Enter the number 0 and this is accepted	

(2 marks)

6 (b) (ii) Complete the sentence to describe **one** other test and its expected outcome.

Enter the number .... and this is ....

(1 mark)

6 (c) A desktop computer is not working properly and a technician has been asked to repair it. The technician sets up the computer and switches on the power at the electric socket. The screen remains blank and does not show any activity.

6 (c) (i) Tick **one** box to show what the technician should check.

	Tick **one** box
The zip drive has a disk in it	
The computer has been switched on at the processor box	
The computer has a DVD drive	
The PDA is not attached to the computer	
There are no USB cables plugged into the computer	

(1 mark)

6 (c) (ii) Describe **one** other check the technician should make.

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....

(1 mark)

Turn over for the next question

8

Turn over ▶

7 A computer controlled fork lift truck is used in a warehouse.
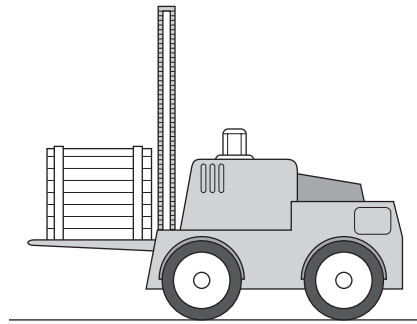
These are examples of instructions that can be used to control the fork lift truck.

Instruction	What the fork lift truck does
L90	Turn left 90 degrees
R90	Turn right 90 degrees
F3	Move forward 3 units
U3	Lift the forks to the third shelf
Push	Move the load onto the shelf
Pull	Take the load off the shelf

This is a floor plan of the warehouse.

Shelves
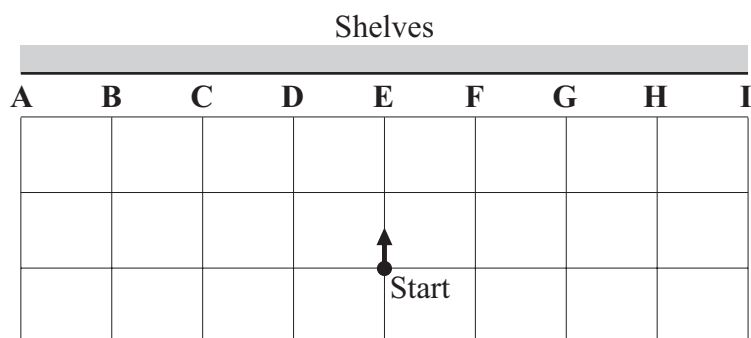
Beginning at the Start shown, these instructions make the fork lift truck take the load off the 4th shelf at position H.

F2
R90
F3
L90
U4
Pull

7 (a) Write the instructions so that the fork lift truck puts a load on the 3rd shelf at position C. Begin at the Start shown.

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(3 marks)

7 (b) When the fork lift truck was at the Start shown it was given these instructions:

F2
L90
F3
L90
U5
Push

7 (b) (i) Explain why these instructions do not place the load on the 5th shelf at B.

....

....
(1 mark)

7 (b) (ii) Describe what happens to the load.

....

....
(1 mark)

Question 7 continues on the next page

Turn over ▶

7 **(c)** The fork lift truck can be controlled by the computer or it can be controlled by a human operator. Discuss the advantages and disadvantages for the warehouse owner, employees and customers of using a computer controlled fork lift truck.

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(3 marks)

8

8 To keep ICT hardware and software up-to-date, it is regularly upgraded. Hardware is often replaced every three years, and software is often replaced more frequently.

8 (a) Tick **two** boxes to show the effects of regularly upgrading ICT software and hardware.

	Tick **two** boxes
There are more TV channels than there used to be twenty years ago	
Employees are quickly deskilled	
Businesses go bankrupt	
A large quantity of old ICT hardware needs to be disposed of	
Playing computer games improves your ability to concentrate	

(2 marks)

Question 8 continues on the next page

8 (b) Some businesses give old ICT hardware to charities to send to schools in developing countries.

Discuss the advantages and disadvantages of this to the businesses, to the developing countries and to the environment.

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(5 marks)

END OF QUESTIONS

7