

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

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General Certificate of Secondary Education
June 2006



**INFORMATION AND COMMUNICATION TECHNOLOGY 3522/F
(SPECIFICATION B) (FULL COURSE)
Foundation Tier**

F

Tuesday 23 May 2006 1.30 pm to 3.00 pm

<p>You will need no other materials. You may use a calculator.</p>

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.

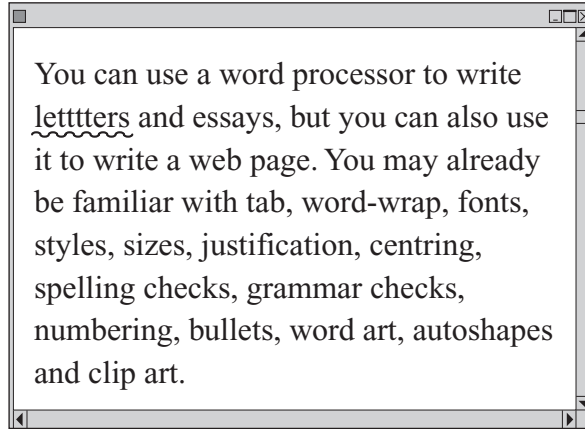
Information

- The maximum mark for this paper is 120.
- 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			
Number	Mark	Number	Mark
1		5	
2		6	
3		7	
4		8	
TOTAL			
Examiner's Initials			

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

- 1 A technician is writing a document using a word processor.
The technician has made a mistake.



- (a) (i) Tick **one** box to show which feature of a word processor would be used to identify this mistake.

	Tick one box
Type check	<input type="checkbox"/>
Spelling check	<input type="checkbox"/>
Grammar check	<input type="checkbox"/>
Range check	<input type="checkbox"/>
OCR check	<input type="checkbox"/>

(1 mark)

- (ii) Describe how the technician could correct the mistake.

.....

.....

.....

.....

(2 marks)

- (iii) Tick **one** box to show a feature of a word processor that could be used to lay out the second sentence of the document so that it is easier to read.

	Tick one box
Grammar check	
Bullets	
Centring	
Word art	
Autoshapes	

(1 mark)

- (iv) Tick **three** boxes to show features of a word processor.

	Tick three boxes
The tab key should be used to centre a heading	
Word-wrap ensures that you only have to press the <RETURN> key at the end of a paragraph	
A page number can be printed at the bottom of every page in the footer	
A spelling checker can be used to check whether you have used 'there' instead of 'their'	
The space bar should be used to centre a heading	
You can use clip art to illustrate the text	

(3 marks)

- (b) Complete the sentence using words from this list.

CD-R
CD-ROM
Format
Load
Save

To keep the document, the technician should it on a
(2 marks)

Question 1 continues on the next page

Turn over ▶

- (c) The technician wants to include a bar chart in the document. The bar chart has been created in a spreadsheet.

Write the labels in order to show how a bar chart created in a spreadsheet can be included in a word processor document.

Label	
A	Paste the bar chart
B	Highlight the bar chart in the spreadsheet
C	Position the cursor in the word processor document
D	Copy the bar chart

Label

(2 marks)

- (d) The technician creates a macro to be used to emphasise important text. To use the macro, the technician highlights some text and then runs the macro. The macro changes the highlighted text to Times New Roman font, size 18, bold. The colour of the text is changed to blue. This is the macro.

Macro	Edited macro statements
Sub emphasis()	
With Selection.Font	
.Name = "Times New Roman"	.Name = " "
.Size = 18	.Size =
.Bold = True	.Bold =
.Italic = False	.Italic =
.Color = wdColorBlue	
.Spacing = 0	
.Scaling = 100	
.Position = 0	
.Kerning = 0	
End With	
End Sub	

In the above table, complete the edited macro statements so that the highlighted text will be changed to:

- (i) Arial font instead of Times New Roman. (1 mark)
- (ii) Size 20 instead of size 18. (1 mark)
- (iii) Change the font style to Italic and remove Bold. (2 marks)

2 A student has a desktop computer at home.

- (a) Tick **three** boxes to show which of the following can be used for input to a desktop computer.

	Tick three boxes
Model	
Scanner	
Mouse	
Digital Camera	
Actuator	
Modem	

(3 marks)

- (b) Tick **three** boxes to show which of the following can be used for output from a desktop computer.

	Tick three boxes
Keyboard	
Sensor	
Monitor	
Model	
Printer	
Speakers	

(3 marks)

- (c) The student has a PDA (Personal Digital Assistant).
Tick **three** boxes to show features of a PDA.

	Tick three boxes
A PDA is usually installed in ICT rooms	
A PDA is a portable, handheld hardware device that can fit in your pocket	
Input to a PDA is using a touch screen	
A PDA will have a larger hard disk than a desktop computer	
PDA's can have e-mail, word processing and spreadsheet software	
PDA's usually cost more to buy than desktop computers	

(3 marks)

Question 2 continues on the next page

Turn over ►

- (d) (i) Tick **three** boxes to show what a PDA should be used for.

	Tick three boxes
To keep track of lessons and appointments	
To investigate whether the use of ICT is justified	
To keep a list of tasks that need doing, such as homework	
To save a folder containing 100 Gbytes of photographic images	
To store all your passwords	
To find the telephone number of a friend	

(3 marks)

- (ii) Describe **two** other uses of a PDA.

Use 1:

.....

Use 2:

.....

(2 marks)

- (iii) Give **one** disadvantage of storing personal information on a PDA.

.....

.....

(1 mark)

3 A self-employed car mechanic uses a spreadsheet to calculate bills for customers.

	A	B	C	D
1	Customer's name	Mrs Jones		
2	Date	11/03/2006		
3	Credit rating	2		
4			Cost	
5	Parts	spark plugs	£24.50	
6		5 litres engine oil	£16.50	
7		air filter	£400.00	
8		pair of tyres	£68.00	
9	Labour	3 hours @ £30 per hour	£90.00	
10	VAT		£104.83	
11	Total cost		£703.83	
12				

(a) The mechanic made a mistake when entering the cost of an air filter. An air filter costs £4.00.

(i) Complete the sentences using words from this list.

C7
copy
D8
D7
rename
highlight

The mechanic can change the cost of an air filter by editing cell

The mechanic should the cell and enter the new cost.
(2 marks)

(ii) Tick **one** box to show a validation check that would prevent this mistake.

	Tick one box
Allow any value	
Allow text less than 4 characters in length	
Allow a number between 0 and 50	
Allow a date between 01/01/2006 and 01/05/2006	
Allow a number between 0 and 500	

(1 mark)

Question 3 continues on the next page

Turn over ►

- (b) Give the cell references of **two** cells that should change automatically when the cost of an air filter is changed.

Cell 1:

Cell 2:

(2 marks)

- (c) Cells can contain numbers or text.

Tick **three** boxes to show other types of information a cell can contain.

	Tick three boxes
Printer	
Website address	
Idea	
Formula	
Picture	
Word processor	

(3 marks)

- (d) On-line help is available within the spreadsheet.

Tick **three** boxes to show what should be in the on-line help for the spreadsheet.

	Tick three boxes
A lesson on percentages so the mechanic can calculate VAT	
An index to help the mechanic find the information needed	
A road map to help the mechanic find the route to the parts warehouse	
A tutorial guide to help the mechanic use the spreadsheet	
A dictionary that helps the mechanic understand the meaning of words	
A search engine to help the mechanic find the information needed	

(3 marks)

- (e) (i) The mechanic has to buy the air filter from an on-line store.

Write the labels in order to show how the mechanic can do this.

Label	
A	Pay using a credit card
B	Enter the key words: air filter, and press the search button
C	Go to the on-line store using a web browser
D	Look at the search results and find the right air filter

Label

(2 marks)

- (ii) State **one** reason why the mechanic might search only websites in the UK.

.....

.....

(1 mark)

- (f) The mechanic gives customers a credit rating from 1 to 3.

Credit rating	
1	Pays promptly and in full on collecting the car
2	Pays within four weeks of collecting the car
3	Money still owed after four weeks

A customer who pays after four weeks is given the same credit rating as a customer who does not pay.

Describe **one** limitation of this coding system.

.....

.....

(1 mark)

- 4 The InTrains travel agency arranges trips on steam trains.
The manager of InTrains sends this e-mail to a graphic designer.



- (a) The manager has asked the graphic designer to design a poster to advertise the day trip.
- (i) Tick **two** boxes to show why a printed copy of the e-mail would **not** be suitable for advertising the day trip.

	Tick two boxes
The printed e-mail would not be as readable as a large poster with large print	
E-mail is a less effective means of communicating with people around the world	
Posters can be copied more easily than e-mail	
You might have to pay to display the posters	
A poster with colours and pictures would be more attractive than the e-mail	

(2 marks)

- (ii) Tick **three** boxes to show items of information in the e-mail that must appear in the poster.

	Tick three boxes
The trip starts in Settle	
There is a special offer return price	
Local advertising has been arranged	
There will be entertainment for children on the train	
The train is going to Dent	
The train is a steam train	

(3 marks)

- (b) (i) Tick **one** box to show the type of software that should be used to produce the poster.

	Tick one box
Presentation	
E-mail	
DTP (Desk Top Publishing)	
Database	
Web browser	

(1 mark)

- (ii) Give **one** reason why the type of software you have chosen is better than a word processor for designing a poster.

.....

.....

(1 mark)

- (c) The desktop computer system used to design the poster can print on a local A4 black and white laser printer. It is also connected to a LAN (Local Area Network) and the Internet.

- (i) Tick **two** boxes to show why the laser printer might **not** be suitable for printing the poster.

	Tick two boxes
A4 paper is too large for a poster	
Pictures are more attractive when printed in several colours	
Laser printers are inexpensive to run	
Posters have more impact when printed on very large sheets of paper	
Laser printers are reliable and have a good print quality	

(2 marks)

- (ii) Tick **two** boxes to show ways the poster could be printed.

	Tick two boxes
Use several A4 ink jet printers connected to a peer-to-peer network	
Use a modem to communicate with the network	
Use an A2 colour printer attached to the network	
Use several A4 laser printers connected to a client/server network	
Send the poster by e-mail to a specialist company that prints posters	

(2 marks)

Question 4 continues on the next page

Turn over ▶

(d) The poster has to be transferred from one computer to another. The poster has a file size of 1.5 Mbytes.

(i) Tick **two** boxes to show why the poster could **not** be transferred on a floppy disk.

	Tick two boxes
The poster has to be imported to a spreadsheet before saving it	
The file type used to store the poster cannot be saved on a floppy disk	
The computers are connected to different networks	
The poster is too large to fit on a floppy disk	
One of the computers does not have a floppy disk drive	

(2 marks)

(ii) Name **two** types of backing storage that could be used to transfer the poster.

Backing storage 1:

Backing storage 2:

(2 marks)

5 A school secretary sets up a database to keep track of who owns the cars in the school car park.

(a) Tick **three** boxes to show items of information that must be collected.

	Tick three boxes
The driver's hair colour	
The driver's name	
The car's registration number	
The driver's age	
The size of the car's engine	
How to contact the driver	

(3 marks)

(b) Tick **one** box to show why it is **not** necessary to collect the driver's gender.

	Tick one box
Personal data must be processed fairly and lawfully	
Personal data must be relevant to the purpose for which it is collected	
Personal data should be accurate	
Personal data should not be kept longer than is necessary	
Personal data should be kept secure	

(1 mark)

Question 5 continues on the next page

Turn over ▶

(c) Design a questionnaire to collect the data.

(4 marks)

- (d) The secretary types in the information on the questionnaire into the computer. The secretary then checks what is displayed on the screen against what is written on the questionnaire.

Tick **one** box to name this process.

	Tick one box
Audio validation	
Visual verification	
Verbal encryption	
Virus protection	
Visual security	

(1 mark)

- (e) The information on the database has to be edited when a teacher buys a new car. Write the labels in order to show how the secretary edits the database.

Label	
A	Close the database
B	Edit the relevant fields
C	Open the database
D	Find the record to be edited

Label

(2 marks)

- (f) Tick **two** boxes to show which of these statements are true.

	Tick two boxes
The database can be sent to another secretary as an e-mail attachment	
The driver's name would be used as a key field in the database	
The database is the best software to use to draw a picture of the school car park	
The car's registration number would be used as a key field in the database	
The database is the best software to use to write a letter to parents	

(2 marks)

Question 5 continues on the next page

Turn over ▶

(g) The school is a primary school and there are only 12 teachers.
A database has been used to keep track of who owns the cars in the school car park.
However, the information could have been written on a piece of paper.

- (i) Give **one** reason for using a database rather than writing the information on a piece of paper.

.....

.....

(1 mark)

- (ii) Give **one** reason against using a database rather than writing the information on a piece of paper.

.....

.....

(1 mark)

6 An ICT system counts people as they enter and leave a football stadium.

- (a) Tick **three** boxes to show what the ICT system would need to do to calculate the total number of people in the stadium.

	Tick three boxes
The ICT system adds one to the total when a person enters	
The ICT system adds one to the total when a person leaves	
The ICT system subtracts one from the total when a person leaves	
The total is set to zero before people are admitted	
The total is set to zero when the match starts	
The ICT system subtracts one from the total when a person enters	

(3 marks)

- (b) State one item of information the ICT system needs to know so that it can work out when the stadium is full.

.....
(1 mark)

- (c) The stadium manager complains that the ICT system is **not** accurate.

- (i) Sometimes the ICT system shows the stadium is full when it is not, and sometimes it shows there is room for more people when there is not.

Tick **three** boxes to show possible reasons for this.

	Tick three boxes
Stewards and police on crowd control duty at the stadium are not counted	
People leave through 3 m wide doors and cannot be counted accurately	
The ICT system can only count those people who enter through turnstiles	
People who have reserved seats do not attend	
The referees, linesmen and football players are not counted	
Some employees enter and leave the stadium several times during a match	

(3 marks)

Question 6 continues on the next page

Turn over ►

- (ii) The manager tests the ICT system to find out if it is accurate.

Tick **two** boxes to describe tests that could be carried out to show that the ICT system is accurate.

	Tick two boxes
Admit only one person into the stadium and check that the total has increased by 1	
Check the total number of cups of coffee sold at half-time	
Record the exact time each person enters the stadium	
Record the exact time each person leaves the stadium	
Manually count the number of people in the stadium and compare this with the total calculated by the ICT system	

(2 marks)

- (d) The football club keeps a record of members of the supporters' club using a database. This is a part of the database.

Member Number	Name	Season Ticket Holder	Address
01342	Johnson	No	234 Thornton Lane, Bradford
02675	Wardak	Yes	5 Leeds Gardens, Bradford
44389	Patel	No	84 Leeds Old Road, Huddersfield
82300	Shoard	Yes	156 Bolton Road, Halifax
98763	Smith	Yes	31 Pudsey Avenue, Leeds

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

Search Condition: **Season Ticket Holder** is No

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

.....
(1 mark)

- (ii) Give **one** reason why the manager might want to identify those members who do **not** have season tickets.

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

- (iii) Write down the **Name(s)** in the record(s) selected using this search condition:

Search Condition: **Address** contains Leeds

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

.....
(1 mark)

- (iv) The manager wants to know which members live in Leeds.

Explain why the search condition ‘**Address** contains Leeds’ will also identify members who do **not** live in Leeds.

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

- (v) Write down the **Name(s)** in the record(s) selected using this search condition:

Search Condition: **Season Ticket Holder** is No OR **Address** contains Bradford

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

.....
(1 mark)

- (vi) Write down the **Name(s)** in the record(s) selected using this search condition:

Search Condition: **Season Ticket Holder** is Yes AND **Address** contains Bradford

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

.....
(1 mark)

15

Turn over for the next question

Turn over ▶

7 A college has a ground floor computer room with windows at the back of the building overlooking a car park. The computer room has a door that opens into the foyer just opposite the main door of the building. A moderately busy main road with some parking restrictions runs past the main door.

- (a) (i) Tick **three** boxes to show security precautions that could be taken to prevent the theft of hardware.

	Tick three boxes
Open a cyber café in the foyer	
Redevelop the car park at the back of the building to make it more difficult to get to the computer room windows	
Arrange an Open Day so the general public can look round the computer room	
Put reflective security foil on the windows to stop people looking into the computer room and to make it harder to break the windows	
Remove parking restrictions on the main road so that it is easier to park	
Make sure there is always a security guard in the foyer	

(3 marks)

- (ii) Describe **three** other security precautions that could be taken to prevent the theft of hardware.

Security precaution 1:

.....

Security precaution 2:

.....

Security precaution 3:

.....

(3 marks)

- (b) In the computer room, the computers connect to a wireless LAN (Local Area Network) and the Internet.

Tick **three** boxes to show security precautions that could be taken to protect software and data.

	Tick three boxes
Use a firewall to prevent unauthorised installation of viruses and other malicious software from the Web	
Open a cyber café in the foyer and allow customers to connect to the wireless LAN	
Ensure users have an authorised username and password before allowing them to connect to the wireless LAN	
Encrypt all the data on the wireless LAN	
Allow guest access using a widely known username and password	
Make sure there is always a security guard in the foyer	

(3 marks)

- (c) The wireless LAN is a star network. Users can print their work and access the Web. Draw a labelled diagram of the LAN showing at least 3 computers, a file server and other features of the LAN.

(3 marks)

Question 7 continues on the next page

Turn over ▶

- (d) The computer room has 20 computers and these can use the software on the file server.

Tick **three** boxes to show which types of software licence will always be legal.

	Tick three boxes
A 15 user software licence	
Licences for a tablet computer	
Shareware installed by a student	
A 25 user software licence	
A site licence	
Freeware	

(3 marks)

15

- 8 (a) A futuristic kitchen is designed to explore what happens when all the electrical appliances are computer controlled.
- (i) A fridge senses what food is inside it and automatically orders more from the supermarket when stocks are low.

Tick **two** boxes to show the effects of this.

	Tick two boxes
You tend not to vary your diet	
The fridge does not work when there is a power cut	
You do not have to worry about buying the food you keep in the fridge	
You still have to go to the supermarket to buy petrol	
You do not have to pay the supermarket if the fridge gets the order wrong	

(2 marks)

- (ii) Describe **one** effect on lifestyles or patterns of work.

.....

.....

(1 mark)

- (iii) Describe **one** effect on the environment.

.....

.....

(1 mark)

Question 8 continues on the next page

Turn over ▶

- (iv) All the electrical appliances in the futuristic kitchen are connected to the Internet. The electrical appliances can be programmed remotely from any computer that can access the Internet.

Describe **two** advantages and **two** disadvantages of this system.

Advantage 1:

.....

Advantage 2:

.....

Disadvantage 1:

.....

Disadvantage 2:

.....

(4 marks)

(b) Some people live in small and remote villages where there are few shops or banks. Discuss the advantages **and** disadvantages of on-line shopping and banking to these people.

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(7 marks)

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END OF QUESTIONS

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