



## General Certificate of Secondary Education

# Information and Communication Technology 3522 *Specification B*

*3522/F Full Course Foundation Tier*

## Mark Scheme

*2005 examination – June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

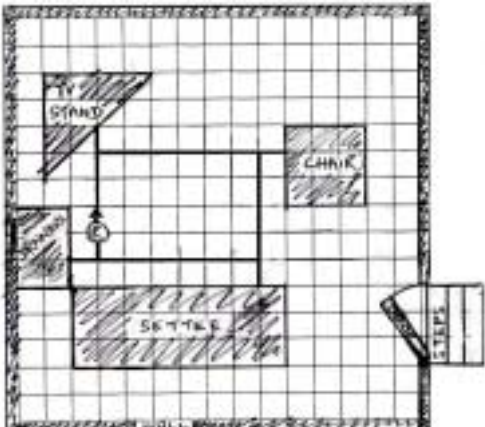
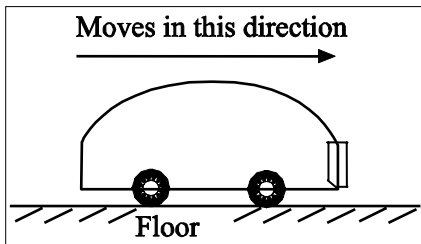
## 3522/F - Foundation Tier Written Paper

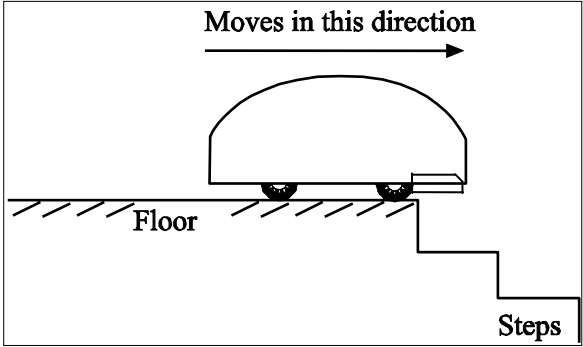
1.										
a.	<div>These points.<table><tr><td>A</td><td>Keyboard</td></tr><tr><td>B</td><td>Monitor or VDU or screen or equivalent</td></tr><tr><td>E</td><td>printer</td></tr><tr><td>G</td><td>Mouse</td></tr></table></div>	A	Keyboard	B	Monitor or VDU or screen or equivalent	E	printer	G	Mouse	4 marks
A	Keyboard									
B	Monitor or VDU or screen or equivalent									
E	printer									
G	Mouse									
b.	<div>These points. D is joined to connects to the Internet E is joined to prints letters and other documents F is joined to reads a floppy disk G is joined to selects from a menu</div>	4 marks								
c.										
i.	<div>This point. write a letter - Wordprocessor</div>	1 mark								
ii.	<div>This point. send pictures to relatives in Australia - E-mail</div>	1 mark								
iii.	<div>This point. work out a budget – Spreadsheet</div>	1 mark								
iv.	<div>This point. buy a book or CD on-line - Web browser or E-mail</div>	1 mark								
d.	<div>These points. There are no files on the floppy disk. You can store up to 1.44 Mbytes on a 3.5 inch floppy disk. There are no folders on the floppy disk.</div>	3 marks								
	<b>Total for this question:</b>	<b>15 marks</b>								

2.		
a.		
i.	This point. B2	1 mark
ii.	These points. B3 and B5 in any order.	2 marks
iii.	This point. =B1/B2	1 mark
iv.	This point. =B3*B4 or B3*B4 or equivalents; allow sum(B3*B4) NOT B3xB4	1 mark
v.	These points. Fit more checkouts in the supermarket. Put experienced staff that can process customers faster on all the checkouts. Improve the speed at which the checkout technology works.	3 marks
vi.	Any reasonable. Put an IF statement in B6 to warn the manager; For example, =IF(B5>10,"customers queuing too long")	1 mark
b.		
i.	Any reasonable. For example: Data to be collected: Number of checkouts being used Manual method: a <u>person</u> counts the number in use Automatic method: network detects number of checkouts being operated or similar.	2 marks
ii.	Any reasonable. For example: Data to be collected: Time to process a customer Manual method: person times using a stop watch. Automatic method: start and end of processing a customer detected by the computer.	2 marks
c.	These points. On-line Multi-tasking	2 marks
<b>Total for this question:</b>		<b>15 marks</b>

3.		
a.		
i.	This point. <b>Parcel_Number</b>	1 mark
ii.	This point. The key field identifies the parcel.	1 mark
b.		
i.	Any reasonable. For example: The <b>Parcel_Number</b> has the same value as in an existing record. The <b>Parcel_Number</b> must be unique.	1 mark
ii.	This point. The database should generate the key field.	1 mark
c.		
i.	Any reasonable. For example: The content of the <b>Posted_At</b> field and the <b>Content</b> field have been transposed. The <b>Content</b> of the parcel is unlikely to be Manchester. XLOG has only 5 offices and none of them is in a town called Medicines.	1 mark
ii.	This point. Validation	1 mark
iii.	This point. Use a table lookup on the <b>Posted_At</b> field.	1 mark
iv.	This point. Sometimes, records that should be selected by a search condition will not be selected.	1 mark
d.		
i.	This point. Rooney, Patel – must have both and no others for 1m – in any order.	1 mark
ii.	This point. Jones, Bowman, Patel, Afzal, Rooney – must have all and no others – in any order.	1 mark
iii.	This point. Rooney and no others, 1m	1 mark
iv.	This point. Patel, Delker – must have both and no others for 1m – in any order.	1 mark
e.	These points. The database can store information about thousands of parcels. Information about a parcel can be found very quickly. The database can be updated on the Web.	3 marks
	<b>Total for this question:</b>	<b>15 marks</b>

4.		
a.	These points in this order. space paragraph table column	4 marks
b.	These points. Word B is underlined whereas word A is not Words A and B have different fonts Words A and B have different sizes of text	3 marks
c.	This point. word art	1 mark
d.	These points in this order. bullet border centred and underlined (any order)	4 marks
e		
i.	Any reasonable. For example: The text will be more readable when projected as it is larger. Bullets help prompt the presenter. Bullets help structure the presenter's talk. Bullets summarise the talk for the audience.	1 mark
ii.	Any reasonable. For example: More detailed information can be given. Complex information can be explained.	1 mark
f.	This point. portrait	1 mark
<b>Total for this question:</b>		<b>15 marks</b>

5.		
a.	Any reasonable. For example: Turns and clears the end of the settee, e.g. R F8 (or F9 or F10), 1m Moves behind the settee and stops at point B, e.g. R F6 R F4 (or F5 or F6 respectively), 1m Answer clear but incorrect syntax, -1m	2 marks
b.		
i.	These points. Bumps into TV stand and heads off in correct direction towards chair, 1m Completes at least 2 bumps correctly, 1m Completes the circuit, 1m Correct rectangle, but some 'ends' missing, 2m in total	3 marks
		
ii.	Any reasonable. For example: The robot vacuum cleaner goes round and round the same path. The robot vacuum cleaner will not clean the whole floor.	1 mark
c.		
i.	This point. Touch	1 mark
ii.	This point. Puts cross on flat surface of robot vacuum cleaner at the front. The centre of the cross must be at the front within 1 mm of the edge but not on the corner.	1 mark
		
iii.	This point. Electric motor	1 mark

d.		
i.	<p>This point.            Puts cross on underside of robot vacuum cleaner ahead of the front wheels.            The centre of the cross must be on the underside within 1 mm of the edge but not on the corner.</p> 	1 mark
ii.	<p>This point.            Light</p>	1 mark
iii.	Any reasonable. For example: Stop.	1 mark
iv.	<p>These points.            Description is in this context, 1m            Description includes sensing, 1m            Description includes reaction, 1m            Description makes clear that feedback is a cyclical process, 1m</p>	3 marks
<b>Total for this question:</b>		<b>15 marks</b>

6.		
a.		
i.	These points. Keyboard, mouse	2 marks
ii.	These points. Printer, speakers	2 marks
b.		
i.	Any reasonable. For example: A touch screen allows input, whereas a standard monitor screen does not. Accept: touch screens don't need a mouse.	1 mark
ii.	Any reasonable. For example: Both allow output.	1 mark
c.	This point. Hard disk	1 mark
d.		
i.	These points. The computer is set to print in background mode. The document is output to the buffer in the printer before it is printed. The document is placed in the printer queue on the server before it is printed.	3 marks
ii.	These points. Star or line topology with a file server and 3 computers, 1m Other networked hardware, e.g. printer, 1m each Other local hardware, e.g. scanner, 1m each Connection to another network, 1m	4 marks
e.	These points. If bandwidth is narrow, Internet access using the network is likely to be very slow when there are a large number of users.	1 mark
	<b>Total for this question:</b>	<b>15 marks</b>



7.																							
a.	These points in this order. A Feasibility Study Systems Analysis and Design Testing Implementation Monitoring and Evaluation	5 marks																					
b.	<p>These points.</p> <table border="1"> <thead> <tr> <th>Label</th><th>Action</th><th></th></tr> </thead> <tbody> <tr> <td>B</td><td>Identify the car as it enters the city centre</td><td>B followed by F, 1m</td></tr> <tr> <td>A</td><td>Record the time</td><td rowspan="3">Uses A twice, not necessarily in the correct order, 1m</td></tr> <tr> <td>F</td><td>Identify the car as it leaves the city centre</td></tr> <tr> <td>A</td><td>Record the time</td></tr> <tr> <td>E</td><td>Calculate the time the car has been in the city centre</td><td rowspan="2">Both statements in this order but may not be together, 1m</td></tr> <tr> <td>D</td><td>Calculate the charge</td></tr> <tr> <td>C</td><td>Send the motorist the bill</td><td>Final statement, and all other statements present and in the correct order, 1m</td></tr> </tbody> </table>	Label	Action		B	Identify the car as it enters the city centre	B followed by F, 1m	A	Record the time	Uses A twice, not necessarily in the correct order, 1m	F	Identify the car as it leaves the city centre	A	Record the time	E	Calculate the time the car has been in the city centre	Both statements in this order but may not be together, 1m	D	Calculate the charge	C	Send the motorist the bill	Final statement, and all other statements present and in the correct order, 1m	4 marks
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i.	These points. More people will use public transport. Bills can be sent automatically to motorists.	2 marks																					
ii.	Any reasonable advantage to a motorist. For example: Stolen cars can be identified as they enter the city centre, and the police informed, so that cars can be returned to their owners. It could be easier to park.	1 mark																					
iii.	These points. Shops in the city centre will have fewer customers. The ICT system will be expensive to set up.	2 marks																					
iv.	Any reasonable disadvantage to a motorist. For example: Cars are tracked, so that there is less privacy for the motorist. Bills are sent to the owner of the vehicle who may not be the driver. There could be errors identifying the car.	1 mark																					
	<b>Total for this question:</b>	<b>15 marks</b>																					

8.		
a.		
i.	<p>These points.</p> <p>Chat rooms on the Internet allow people in different cultures to discuss ideas and beliefs that are different from their own.</p> <p>Information on the Internet can highlight differences between cultures, for example different attitudes to marriage.</p> <p>Access to on-line shopping can make poor people dissatisfied because they cannot afford the goods they see.</p>	3 marks
ii.	<p>Any reasonable.</p> <p>Access to international on line gambling may undermine traditional values.</p> <p>All the information available on the Web may not be available in the language spoken by traditional societies. This undermines the traditional language.</p>	1 mark
ii.	<p>Any reasonable.</p> <p>Accept answers that relate to any form of isolation or loneliness.</p> <p>A great diversity of opinion is expressed on the Web. People can find others with similar attitudes.</p> <p>Those working against oppression can contact others outside the society for assistance and support.</p>	1 mark
b.		
i.	<p>These points.</p> <p>National firewalls can make it difficult to access undesirable Web sites.</p> <p>Only allow businesses access to the Internet, but not people in their homes.</p>	2 marks
ii.	<p>These points.</p> <p>There are so many different ways to connect to the Internet that national firewalls can be avoided.</p> <p>Restricting the number of people who have access to the Internet does not prevent those who have access looking at restricted information.</p>	2 marks
c.	<p>These points.</p> <p>Companies are discouraged from developing software.</p> <p>Companies may not pay for software.</p>	2 marks
d.	<p>Any reasonable advantage – max. 3</p> <p>Standardisation leads to economies of scale and goods are cheaper.</p> <p>Manufacturers have access to larger markets.</p> <p>As the differences between peoples' ways of life diminish, war is less likely.</p> <p>Jobs can be outsourced around the world using international ICT networks. This leads to more jobs in developing countries.</p> <p>Any reasonable disadvantage – max 3</p> <p>National and cultural identity is eroded as the differences between peoples' ways of life diminish.</p> <p>Undemocratic multinational companies can impose their goods and policies on people.</p> <p>Where there are conflicting values, conflict is harder to avoid.</p> <p>Jobs can be outsourced around the world using international ICT networks. This leads to job losses in developed countries.</p>	4 marks max 3 adv and max 3 disadv
	<b>Total for this question:</b>	<b>15 marks</b>