

GCSE

INFORMATION AND COMMUNICATION TECHNOLOGY

(Higher Tier)

TUESDAY 22 MAY 2007

Additional materials: No additional materials are required.



Afternoon



Candidate Name							
Centre Number				Candidate Number			

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and Candidate number in the boxes above.
- Answer all the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Do **not** write in the bar code.
- Do not write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- No marks will be awarded for using brand names of software packages or hardware.
- The total number of marks for this paper is 60.

For I	For Examiner's Use		
Question No.	Max. Marks	Mark	
1	5		
2	6		
3	6		
4	3		
5	10		
6	5		
7	2		
8	2		
9	3		
10	6		
11	6		
12	6		
Total	60		

This document consists of 11 printed pages and 1 blank page.

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1 Kathryn carried out a survey amongst her friends about their preferred school uniform.

Kathryn wrote her results on the tally sheet shown below.

	V-neck jumper	Polo neck shirt	Shirt and tie
Like	### ####	## 1	
Dislike	##	## ###	##
Don't care		#	#

She makes a spreadsheet of her results and fills in the data:

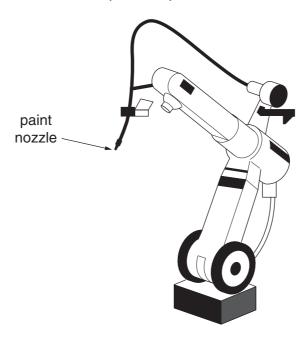
	А	В	С	D
1		V-neck jumper	Polo neck shirt	Shirt and tie
2	Like	21	6	1
3	Dislike	9	22	27
4	Don't care	3	5	5
5	Total	=SUM(B2:B4)	=SUM(C2:C4)	=SUM(D2:D4)

(a)	She checks the entries in her spreadsheet against the results on her tally sheet to see if she
	has copied them correctly.

What is this process called?	
	[1]

	(b)	She wants to display the results of the 'shirt and tie' questions in a bar chart.
		Describe how she would do this.
		[4]
2		la is using her computer to create an advertising poster for a school fashion show. She wants notude pictures.
	(a)	There are many ways Carla could obtain suitable pictures.
		For each of the following, give one example of the type of picture for which it is most suitable.
		Scanner
		Digital camera
		Clip art
		Painting package
		[4]
	(b)	State two reasons why Carla should use a desktop publishing package rather than a word processor to create her poster.
		Reason 1
		Reason 2
		[2]

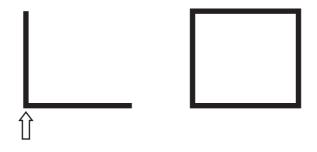
3 A robot arm has a paint nozzle used to paint shapes on cars.



The robot arm is controlled by a computer using these instructions.

INSTRUCTION	MEANING
REPEAT n[]	Repeat the instructions in square brackets <i>n</i> times
FORWARD n	Move <i>n</i> cm forward
BACKWARD n	Move n cm backward
LEFT n	Turn left n degrees
RIGHT n	Turn right n degrees
OFF	Stop paint flow
ON	Start painting

The robot arm is programmed to paint these shapes on the car:



	Δ	
It starts painting at	Ш	

4

It starts painting at .	
Complete the program sequence below to paint the shapes on the car:	
ON FORWARD 40 OFF BACKWARD RIGHT 90	
FORWARD 40 OFF FORWARD 20	
90 ON REPEAT [RIGHT 90]	[6]
Give three advantages of having school computers connected in a network. Advantage 1	
Advantage 2	
Advantage 3	
	[3]

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5 (a) Fax, video-conferencing and email are commonly used to communicate in business.

Tick **one** box in each row to show which method would be most suitable for each task shown.

[4]

Task	Fax (√)	Video- conferencing (√)	Email (√)
Sending a signed legal document			
Sending a personal message			
Having a face-to-face conversation			
Sending a short sound file			

(b)	State two ways an email message can be addressed to several people.
	Way 1
	Way 2
	[2]
(c)	One advantage of email compared to ordinary letter post is that it can be sent to several people at once.
	Explain other advantages of using email.

All information on the internet is sale and reliable.	
Discuss this statement.	
	[
Explain the difference between analogue and digital data.	
	[
Describe what is meant by software copyright.	

9	An engineer uses a computer model to design a bridge.
	Explain how a computer model may be used for answering 'what-if' questions.
	[3]
10	Gertrude owns a chocolate shop.
	Discuss the advantages and disadvantages of using the Internet to advertise her chocolate shop.
	[6]

11	There are a number of health problems that can be caused by working on computers for long periods of time.
	Explain how the use of suitable equipment can reduce these problems.
	rol

PLEASE TURN OVER FOR THE LAST QUESTION

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2	Explain how hackers can be stopped from gaining access to data that does not belong to ther	
		1
		11731

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