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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/12

Paper 1

October/November 2017

1 hour 15 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

Do not use staples, paper clips, glue or correction fluid.

You may use an HB pencil for any diagrams, graphs or rough working.

DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

The number of marks is given in brackets [] at the end of each question or part question.

The businesses described in this paper are entirely fictitious.

This document consists of **15** printed pages and **1** blank page.

Scenario 1**Questions 1, 2, 3, 4 and 5**

Mr Hisyam is the head teacher of a large school in Malaysia. The school currently has a computer network but he wants to have a new system which will allow the school to keep student personal records and test marks.

Teachers will use spreadsheets to keep records of their classes and their students' test marks.

One teacher has suggested that they could colour-code the students' marks in a spreadsheet. If a student is below target the teacher wants the cell to show red. If the student has reached the target the cell should be orange and if above target the cell will be coloured green.

Mr Hisyam wants to have a system which will let the students have the opportunity to use computers to improve their learning.

He has asked Debbie Gibson, a systems analyst, to design and create the new system.

Debbie will need to consider the choice of which type of printer to use. Each classroom will have the same type of printer. She needs to consider the features of each type of printer before choosing one.

In addition, she will need to consider the choice of storage device as teachers must be able to retrieve individual students' details quickly.

- 1 Tick the **four** statements which best describe the type of printer mentioned below.

	✓
Dot matrix printers are best suited to high quality output.	
Laser printers are best suited where continuous stationery is used.	
Inkjet printers are used when bulk printing is required.	
Laser printers produce high quality output quickly.	
Inkjet printers are used to print out photographs.	
Inkjet printers require less frequent ink cartridge changes than dot matrix printers.	
Graph plotters can be used for larger paper sizes than typical laser printers.	
Dot matrix printers are best suited to using multipart stationery.	
Graph plotter printouts are lower quality than dot matrix printouts.	
Dot matrix printers produce output the quickest of all printers.	

[4]

- 2 Tick the **four** statements which best describe the benefits of using computers to help teachers with their teaching and administration.

	✓
They have more varied teaching aids as they can use multimedia in lessons.	
They will have much smaller class sizes.	
The lack of neatness of students' word processed assignments makes it harder for the teacher to mark.	
They can use computer-based tests to assess students' performance.	
They will need to use desktop publishing packages to calculate the average mark.	
Multiple choice answer sheets can be computer-marked using OMR.	
They must use OCR to mark the student answer papers to written tests.	
They can use MICR to read the bar codes from student answer sheets.	
They can use spreadsheets to produce graphs showing student progress.	
They don't have to prepare their lessons any more.	

[4]

(b) Describe **four** testing strategies that could be used to test the colour-coding in column B of the spreadsheet. With each strategy give examples of test data.

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[4]

4 Mr Hisyam wants all teachers to use computers in their subjects.

Give **five** reasons why this approach can help students with their learning.

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[5]

Scenario 2**Questions 6 and 7**

RockICT produces CDs and DVDs of their artists' music. Because of the increase in sales of downloads, they realise the importance of marketing their media.

They have employed Arthur to create some innovative designs for the covers to their CDs and DVDs.

Arthur will use graphics software to change images that have been imported into the software. He will use a number of sites on the internet to find images suitable for inclusion on the covers.

Arthur, who is able-bodied, wishes to work from home as he lives a long way from the RockICT offices. RockICT know that he is well motivated but would want to be sure that he has other personal characteristics that would make him suitable for working from home. It may also lead to other staff being asked to work from home.

6 (a) Describe **three** other personal characteristics that Arthur would need to have before RockICT would allow him to work from home.

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(b) Describe **four** benefits to Arthur of working from home rather than working in an office.

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[4]

(c) Describe **four** benefits to RockICT of many staff working from home.

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[4]

- 7 (a) Arthur is working on a DVD cover for a musical act who have written a number of songs about 1950s sports cars.

Describe how he would download relevant images from the internet. You can assume he has already opened a browser window and that he has created a folder to save the images to.

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Scenario 3**Questions 8 and 9**

Juanita is a busy nurse who finds it difficult to get to the bank during their normal opening hours.

She has two bank accounts. She has a current account and an account she uses for paying her bills.

She transfers money from her current account to her other account when she sees the amount falling to a certain level.

The bank has a daily limit of \$5000 for transfers and also has a minimum transfer amount of \$100.

The bank has a database of customer records showing the transactions of customers. They use a code for each transaction which is an abbreviation of the type of transaction. Each entry in the database is validated.

Juanita always downloads her last 10 transactions to see her spending patterns.

8 Juanita has already selected the logon page from the homepage of the online banking system.

Describe **six** steps involved in transferring money from one account to another.

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[6]

- 9 Below is the spreadsheet showing Juanita's last 10 transactions which she has downloaded from the database. She has added rows 15 to 20 herself.

	A	B	C	D	E	F	G
1	Date	Transaction code	Details	Balance before transaction	Debits	Credits	Balance after transaction
2							
3	14-Jul	VIS	Roxy stores	\$100.10	\$19.53		\$100.57
4	15-Jul	ATM	Cash withdrawal	\$100.57	\$41.00		\$110.57
5	15-Jul	VIS	Roxy stores	\$110.57	\$26.52		\$284.06
6	15-Jul	TRA	Transfer	\$284.06	\$250.00		\$34.06
7	15-Jul	CR	Salary	\$34.06		\$1,850.09	\$1,890.74
8	18-Jul	CCN	Supermarket	\$1,890.74	\$10.00		\$1,980.14
9	18-Jul	VIS	Supermarket	\$1,980.14	\$12.00		\$1,968.14
10	18-Jul	TBA	Transfer	\$1,968.14	\$200.00		\$1,668.14
11	18-Jul	CCN	Supermarket	\$1,668.14	\$1.30		\$1,666.84
12	18-Jul	ATM	Cash withdrawal	\$1,666.84	\$50.00		\$1,516.84
13							
14							
15				Number of transactions			
16		ATM	Cash withdrawal		2		
17		VIS	Visa debit card payment		3		
18		CCN	Contactless payment		2		
19		CR	Credit		1		
20		TRA	Transfer to Bill account		2		

- (a) Juanita has created a formula to count the number of each type of transaction she has carried out. She replicated the formula for other transactions.

Write down the formula she entered in cell D16.

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 [5]

- (b) Using the formula from part (a), or another example, explain the difference between absolute cell referencing and relative cell referencing.

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 [4]

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