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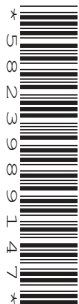
CANDIDATE
NAME

CENTRE
NUMBER

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INFORMATION AND COMMUNICATION TECHNOLOGY

0417/13

Paper 1 Theory

October/November 2021

2 hours

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use an HB pencil for any diagrams, graphs or rough working.

INFORMATION

- The total mark for this paper is 100.
- The number of marks for each question or part question is shown in brackets [].
- No marks will be awarded for using brand names of software packages or hardware.

This document has **20** pages. Any blank pages are indicated.

1 A tablet computer has input and output devices.

(a) Give **two** examples of input devices which are part of a tablet computer.

1

2

[2]

(b) Give **two** examples of output devices which are part of a tablet computer.

1

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2

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[2]

2 MICR, OCR and OMR are examples of recognition systems.

Tick (✓) the most appropriate recognition system which relates to the following statements.

	MICR (✓)	OCR (✓)	OMR (✓)
This system magnetises the special characters on cheques in order to read them			
This method is used to read car number plates			
A bar code is an example of this system			
If the media from this system is photocopied it cannot be read by the recognition system			

[4]

3 (a) Identify **two** applications that use expert systems.

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[2]

(b) Identify **three** components found in an expert system.

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[3]

- 4 A library system has two tables; one for borrowers and one for books. Extracts from these tables are shown.

Borrower_ID	Borrower_name	Contact_telephone	Contact_email
5404	Susan Stranks	01632 960321	rockit@cambridgeinternational.org
9867	Fei Hong Zhao	07700 900222	tawara@cambridgeinternational.org

Borrowers table

Book_ID	ISBN	Name_of_book	Author_of_book	Date_published	Borrower_ID	Date_due_back
1	0859550153	Bird of Prey	David James	1977	5404	27/10/2021
34	3301028345	The Fifth Man	Colin Turner	1998	9324	05/10/2021
35	4237681321	A View of the Temple	Yu Yan Zhang	2017	8854	07/10/2021
59	4237681321	A View of the Temple	Yu Yan Zhang	2017	5404	27/10/2021

Books table

- (a) Name the most appropriate validation check for each of these fields. Your answer must be different for each field.

ISBN

Date_due_back

[2]

- (b) (i) For the books table, name the most appropriate field that could be used as a primary key.

..... [1]

- (ii) The librarian has created a relationship between the books table and the borrowers table.

For the books table, name the most appropriate foreign key field that would be used to create the relationship.

..... [1]

(c) The data type for Contact_telephone has been set as text.

Explain why this field has been set to text rather than integer.

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..... [2]

(d) At the end of each day the tables are searched to issue reminders to borrowers about books that are overdue.

Describe the automatic processing involved in searching and issuing of reminders for overdue books.

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..... [6]

5 Keeping data secure is very important in any computer system. Many organisations use encryption when sending data.

(a) Describe the term encryption.

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(b) Another way of protecting data in a computer system is to use passwords.

Identify methods to prevent hackers from gaining knowledge of someone's password.

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6 The internet has both moderated and unmoderated forums.

Explain what is meant by an unmoderated forum.

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Transactions with the bank’s website use a variety of technologies including SSL.

(c) Explain what is meant by SSL. Include in your answer why SSL is used.

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..... [3]

(d) The web address of the bank is:

`https://www.tawarabank.com`

Describe the following parts of the web address.

`https://`

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`tawarabank`

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`.com`

..... [3]

(b) Explain the term virtual reality.

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..... [3]

The manager of Rokit Motors has created many different types of documents including letters and memos for the company. Each of them is produced using its corporate house style.

(c) Explain why corporate house styles are required.

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..... [4]

The doctor has set up a named range called Bloodpressure for the cells F3 to H7.

(b) Explain why the doctor has used a named range.

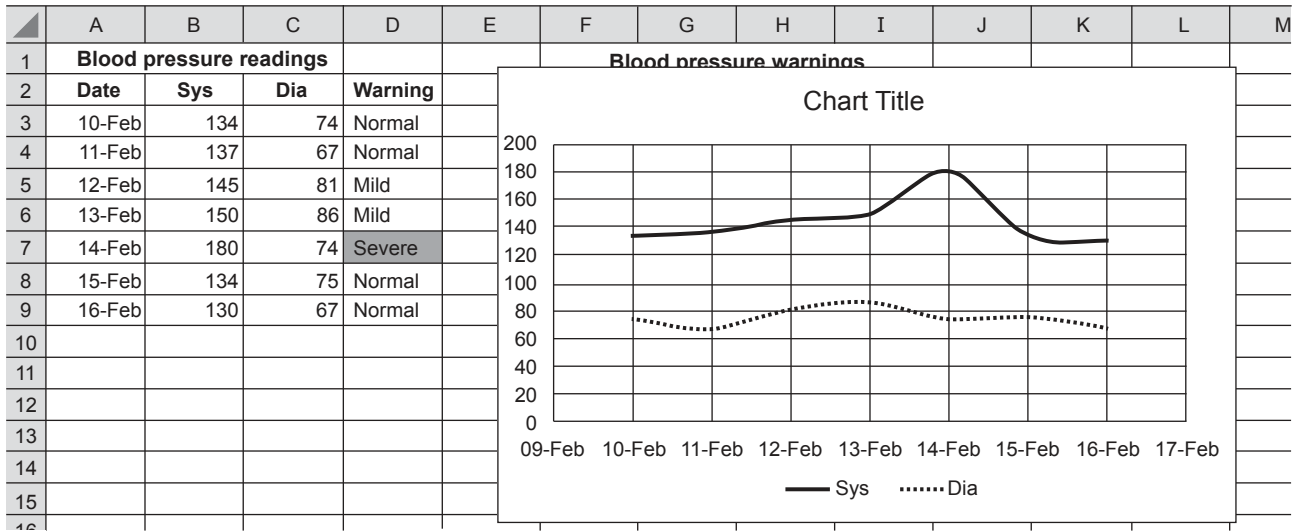
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The formula =VLOOKUP(B3,Bloodpressure,3) has been entered into cell D3.

(c) Explain what the formula does.

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..... [4]

The doctor has created a graph of the readings for one patient and has displayed it on the spreadsheet. However, there are elements missing.



(d) Explain how the doctor created the graph. Write in your answer **one** improvement that could be made to the graph.

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..... [3]

- (e) At the end of the month the doctor needs to produce a hard copy document showing information about a patient: their name, date of birth and patient number, as well as data and the graph from the spreadsheet.

Design a suitable document layout. The document must have appropriate spacing.



[5]

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