Cambridge IGCSE™(9–1)

CANDIDATE NAME	

CENTRE NUMBER						CANDIDATE NUMBER				

INFORMATION AND COMMUNICATION TECHNOLOGY **0983/11**

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 **16** pages. Any blank pages are indicated.

1 A computer consists of both hardware and software.

(a) Define the term hardware.

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.... [1]

(b) Give **two** examples of internal hardware devices.

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2 ....
[2]

(c) Define the term software.

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.... [1]

(d) There are two types of software: system and applications.

Give **two** examples of applications software.

1 ....

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2 ....

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[2]

2 Circle **two** jobs where there has been a decrease in employment as a direct result of the introduction of computers.

Bus drivers   Car production   Delivery drivers   Fishermen
                        workers   for retail stores

Payroll workers   Programmers   Teachers   Website designers
[2]

3 Describe **two** advantages of using a tablet computer rather than a laptop computer.

1 ....

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2 ....

....
[2]

4 Tick (✓) whether the following advantages of analysing a system refer to **looking at existing paperwork**, **observation** or **questionnaires**.

	Looking at existing paperwork (✓)	Observation (✓)	Questionnaire (✓)
This method gives the systems analyst an overall view of the system			
Individuals can remain anonymous			
This method allows information to be collected that cannot be obtained from any other method			
This method gives the quickest analysis of the data			

[4]

5 Tawara Tours has created a new online booking system to allow customers to book holidays. The system was written using modules.

  (a) Describe how the new system could be tested prior to it becoming operational.

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  .... [6]

(b) Tawara Tours used to book holidays using a manual booking system. This used a pen and paper to make the bookings.

Discuss the advantages and disadvantages of using online booking systems rather than a manual booking system.

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.... [8]

6 As a student you often use a computer screen. This could be a screen on a desktop computer, a laptop computer or even a smartphone.

Evaluate your use of computer screens, in terms of health risks, and explain any strategies you use to minimise these health risks.

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.... [6]

7 Bluetooth is a method of communication to connect devices together.

Describe how a smartphone can use Bluetooth to connect to another device.

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.... [4]

8 An organisation uses the internet and an intranet.

(a) Explain how the purpose of the internet differs from the purpose of an intranet.

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.... [4]

Employees in the organisation are allowed to access the intranet using their smartphones.

The employees are required to secure their smartphones using either facial recognition, passwords or voice recognition.

(b) Tick (✓) whether the following statements refer to **facial recognition**, **password** or **voice recognition**.

	Facial recognition (✓)	Password (✓)	Voice recognition (✓)
This method cannot access the smartphone unintentionally			
The accuracy of this method can be affected by noise			
This method requires the use of the smartphone's camera			
This method could be compromised by shoulder surfing			

[4]

9 Robots are used to spray paint cars in a car production company.

(a) Describe **two** other jobs that robots can perform in car production.

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.... [2]

(b) When the spray paint can is empty it needs to be refilled. There is a sensor in the can which measures the amount of paint.

Describe the use of the sensor and microprocessor in this application.

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.... [6]

(c) Discuss the advantages and disadvantages of the introduction of robots rather than employing humans to spray paint the cars.

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.... [6]

10 (a) Explain the differences between a VLOOKUP function and a LOOKUP function.

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.... [3]

(b) A spreadsheet contains a list of staff and the rooms they work in at a school.

	A	B	C	D	E
1	Room	Department	Name		
2	29	Languages	Aaron Garcia	31	=VLOOKUP(D2,A2:C7,3)
3	30	History	Julieta Diaz		
4	28	Chemistry	Ernesto Fernandez		
5	26	Biology	Salvador Calbo		
6	31	ICT	David James		
7	49	Mathematics	Adriene Martinez		

(i) Explain, in detail, what the formula in cell E2 does.

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.... [3]

(ii) When certain room numbers are typed into cell D2 unexpected results appear in cell E2.

Suggest improvements that could be made to ensure the correct result is displayed.

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.... [2]

A teacher in the school has created a spreadsheet to display whether a student has good timekeeping when arriving at lessons. He has produced a formula but thinks it could be improved. The formula is:

=IF(B4>=A$18,B$18,IF(B4>=A$17,B$17,IF(B4>=A$16,B$16,IF(B4>=A$15,B$15,IF(B4>=A$14,B$14,"")))))

	A	B	C
1			
2	Name of Student		
3	Half term	Lates	
4	1	17	=IF(B4>=A$18,B$18,IF(B4>=A$17,B$17,IF(B4>=A$16,B$16,IF(B4>=A$15,B$15,IF(B4>=A$14,B$14,"")))))
5	2	20	
6	3	1	
7	4	12	
8	5	18	
9	6	0	
10			
11			
12			
13			
14	0	Excellent	
15	1	Very Good	
16	5	Good	
17	15	Poor	
18	25	Very Poor	

(c) Write down the value that should appear in cell C4.

.... [1]

(d) The teacher has improved the formula and has typed in =VLOOKUP(B4,A$14:B$18,2)

Explain the advantages of using this formula compared to the original one.

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.... [4]

11 Many young people play online games. One problem with online gaming is that it is easy to give out personal details accidentally. Some users create weak passwords which could lead to their personal details being accessed.

(a) Name **two** pieces of personal data that could be accessed.

1 ....

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2 ....

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[2]

(b) Write down **three** rules that should be applied when setting a strong password.

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[3]

(c) Describe safety measures that should be taken by gamers to ensure their data is safe other than using strong passwords.

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.... [6]

12 The use of social networking is a part of modern living.

(a) Define the term social networking.

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.... [2]

(b) Describe the benefits of using social networking.

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.... [6]

13 A student is working on a project on the World Games. He has produced some information but has decided to produce a second layout including a table. The original layout and the new layout are shown.

2021 World Games

This will be the 11th World Games, a major international multi-sport event, for sports, or disciplines within a sport, that were not contested in the Olympic Games.

Dates: Thu, 15 Jul 2021 – Sun, 25 Jul 2021
Location: Legion Field, Birmingham, Alabama, United States
Host city: Birmingham, Alabama, United States
Opening ceremony: July 15
Closing ceremony: July 25
Main venue: The New Birmingham Stadium

The original layout

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The new layout

(a) Explain, step by step, how the table was created, without the text being entered by hand.

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.... [4]

(b) The student checks the text he has written using a spell checker.

Explain how a spell checker works.

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.... [2]

(c) Explain why the suggestions made by the spell checker do **not** always give the correct response.

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.... [2]

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