



Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

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INFORMATION AND COMMUNICATION TECHNOLOGY

0417/13

Paper 1 Theory

October/November 2019

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name in the spaces at the top of this page and any additional pages you use.

Write in dark blue or black pen.

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

DO **NOT** WRITE IN ANY BARCODES.

No marks will be awarded for using brand names of software packages or hardware.

Answer **all** questions.

Any businesses described in this paper are entirely fictitious.

At the end of the examination, fasten all your work securely together.

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

This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **13** printed pages and **3** blank pages.

2

- 1 Complete the following sentences about input and output devices, using items from the list below.

dot matrix printer

driving wheel

MICR

motor

speaker

TFT monitor

touchpad

wide format printer

- (a) An output device that is used to produce hard copy architectural drawings is a

..... [1]

- (b) An input device that is used in a virtual reality system is a

..... [1]

- (c) The inbuilt input device on a laptop is a

..... [1]

- (d) An output device that is designed to output music is a

..... [1]

- 2 Tick whether the following are optical, magnetic or solid state storage media.

	optical (✓)	magnetic (✓)	solid state (✓)
Hard disk			
SD card			
CD ROM			
Memory stick			

[4]

- 3 A smartphone has many uses, for example making and receiving telephone calls.

Give **four** other uses of a smartphone.

1

2

3

4

[4]

3

- 4** Explain the purpose of a router.

.....

.....

.....

..... [2]

- 5** A student is using her computer to do her homework.

For each of the statements below, identify the health problem most likely to be associated with the use of a computer and a possible solution to the problem. Your answers must be different in each case.

	Health problem	Possible solution
Reading from the monitor in poor lighting		
Using a mouse for prolonged periods of time		
Sitting too long in one position		

[6]

..... [6

5

7 The following is an external stylesheet which contains a number of mistakes.

```
body    {background-image:url('Camblogo.jpg');
         background-color:#7g7d76

h1      {text-weight:bold;
         font-size:42px
         text-align:centre}

h2      {font-size:30px;
         text-align:right;
         text-decoration: underlined;
         font-family:"Times New Roman", Times, serif}
```

Identify **five** errors which would prevent this stylesheet from working properly and, for each error, write down a possible correction.

- 1
- 2
- 3
- 4
- 5

[5]

8 An examiner has created a spreadsheet to calculate his travel and hotel expenses when he attends meetings.

Part of the spreadsheet that he has created is shown below.

	A	B	C	D	E	F	G	H	I	J	K
1	ID	Departure date	Return date	Destination	Distance	Hotel per night	Total cost for hotel	Travel cost			
2	2018/01	10/01/2019	12/01/2019	Cambridge	702	\$98.20	\$196.40	\$175.50		Distance threshold	Distance rate
3	2018/02	15/02/2019	18/02/2019	Coventry	400	\$83.40	\$250.20	\$180.00		greater than 400	\$0.25
4	2018/03	20/02/2019	22/02/2019	Manchester	149.8	\$98.20	\$196.40	\$67.41		400 or less	\$0.45
5											

If the car mileage is greater than 400 km he gets paid \$0.25 per km for the whole distance otherwise he gets paid \$0.45 per km for the whole distance.

(a) Write a formula, that is easy to replicate, to be placed in cell H2 that calculates the travel cost for the meeting. Your formula must work even when the distance rates change.

=
..... [7]

(b) Write a formula, that is easy to replicate, to be placed in cell G2 that calculates the total cost for the hotel for the meeting.

=
..... [2]

(c) When the spreadsheet is completed the examiner will need to list the details of all the meetings where the distance is 400 km or greater.

Explain how the examiner would use a filter to achieve this.
.....
.....
.....
..... [2]

7

- (d) A computer can be used to model scenarios.

Explain why computer models are used instead of creating the real thing.

.....

.....

.....

.....

.....

.....

.....

..... [4]

- 9 A restaurant keeps meals warm in an oven. The meals must be kept at a constant temperature. A temperature sensor is used to check the temperature in the oven.

Describe the use of a microprocessor to control the temperature in the oven.

.....

.....

.....

.....

.....

.....

.....

..... [4]

10 Many ATMs now allow customers to deposit cash and cheques.

(a) Describe the inputs and processing involved in depositing a cheque using an ATM.

[6]

(b) Discuss the benefits and drawbacks, to the customer, of using ATMs to deposit cheques into a bank account.

[6]

- 11** During the analysis stage for a new computer system, the systems analyst could examine existing documents.

- (a)** Name **two** other methods the systems analyst could use to research the current system. Give **one** benefit and **one** drawback of each.

Method 1

.....

Benefit

.....

Drawback

.....

Method 2

.....

Benefit

.....

Drawback

.....

[6]

- (b)** When the new computer system has been produced, it will need to be tested. There are three types of test data that can be used to test a system, normal, abnormal and extreme.

Explain what is meant by normal, abnormal and extreme test data.

Normal

.....

Abnormal

.....

Extreme

.....

[3]

10

Following testing and implementation, documentation needs to be produced.

(c) Tick **three** elements you would **only** find in technical documentation.

	Tick (✓)
Program name	
Glossary of terms	
Frequently asked questions	
Algorithm	
How to print data	
File structures	
Error messages	
List of variables	

[3]

13 Explain the following terms.

(a) HTTPS
.....
.....
..... [2]

(b) URL
.....
.....
..... [2]

14 One example of wireless communication is Bluetooth.

Describe how computers can use Bluetooth to connect to a device.

.....
.....
.....
.....
.....
.....
.....
..... [4]

- 15** Biometrics are now commonly used to increase the security of computer system access.

Discuss the effectiveness of using biometric methods to increase security.

[8]

14

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15

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