



Cambridge IGCSE™

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CENTRE
NUMBER

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INFORMATION AND COMMUNICATION TECHNOLOGY

0417/11

Paper 1 Theory

October/November 2020

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. Blank pages are indicated.

1 Complete the question using an appropriate item from the list given.

- | | | | | |
|--------------------|---------------------|-----------------|-----------|---------------|
| Blu-ray disc drive | DVD RAM drive | Hard disk drive | Keyboard | Laser printer |
| LCD monitor | Magnetic tape drive | Mouse | Pen drive | SSD |

(a) Identify **two** output devices from the list.

1

2 [2]

(b) Identify **two** optical storage devices from the list.

1

2 [2]

2 The Central Processing Unit consists of three components.

Tick (✓) whether the following statements refer to the ALU, the Control unit or the Main memory.

| | ALU (✓) | Control unit (✓) | Main memory (✓) |
|---|------------|------------------------|-----------------------|
| This is the immediate access storage | | | |
| This carries out the calculations | | | |
| This carries out logical decisions | | | |
| This directs the input and output flow in the CPU | | | |

[4]

4 The HTML of a web page consists of a head section and a body section.

(a) The head section can contain the link to the stylesheet.

Identify **two** other items found in the head section of HTML.

- 1
- 2 [2]

(b) Explain the purpose of the body section of HTML.

.....
.....
.....
..... [2]

(c) A stylesheet can contain styles and classes.

Explain the difference between a style and a class.

.....
.....
.....
..... [2]

Question 5 starts on page 6.

- (b) When a person makes a booking, a ticket will be produced for each person. The ticket will be sent by email and can then be printed out or used on a smartphone to gain entry to the event.

Design a ticket that includes elements for both visual and electronic checking for the forthcoming music event.

[6]

6 Data stored in a computer needs to be protected.

- (a) Describe what is meant by encryption.

.....

.....

.....

.....

.....

.....

..... [3]

Due to an issue with Question 6b, the question has been removed from the question paper.

7 A new database system has been set up for a bookshop. Part of a record from the database system is shown. Each field has a validation check which needs to be tested.

(a) For each field identify the most appropriate validation check. Each check must be different. The validation checks for two fields have already been identified; these types of validation check must not be used for the other fields.

| Field name | Data | Validation check |
|----------------|----------------------|-----------------------|
| ISBN | 9781471837951 | |
| Name_of_book | A View of the Castle | <i>Presence check</i> |
| Purchase_price | 16.99 | <i>Range check</i> |
| Year_published | 2018 | |
| Date_acquired | 31/01/2019 | |

[3]

(b) The Purchase_price field uses a range check. The prices of books range from 1 to 100.

Identify **three** items of test data which could be used with the Purchase_price field, giving reasons for your choice. The reasons must be different in each case.

Item 1

Reason

.....

Item 2

Reason

.....

Item 3

Reason

.....

[6]

- 10 A student is creating a database for her geography project to show all the earthquakes that occurred in 2019. She has produced part of the database which is shown.

| Country | Magnitude | Depth(km) |
|---------------|-----------|-----------|
| Vanuatu | 6.9 | 26 |
| Vanuatu | 6.7 | 24 |
| Indonesia | 6.1 | 29 |
| Vanuatu | 6.7 | 27.6 |
| Nepal | 4.1 | 10.2 |
| Myanmar | 6.9 | 136 |
| Japan | 6.2 | 9 |
| Japan | 6 | 8 |
| Vanuatu | 6.4 | 16 |
| Japan | 7 | 10 |
| Ecuador | 7.8 | 20.6 |
| South Georgia | 6.2 | 14 |
| Ecuador | 6.2 | 14 |
| Ecuador | 6 | 10 |
| Mexico | 6 | 16 |
| Mexico | 6 | 10 |
| Vanuatu | 7 | 24 |

When she has completed her database, she needs to carry out some searches on the data. To search for all the earthquakes with a depth of more than 20 km she will need to type the following search criteria.

Depth(km) >20

- (a) Write the search criteria to find all the earthquakes of a magnitude greater than or equal to 6.5, with a depth less than 15 km.

.....
 [5]

- (b) Give the name of the country that satisfies the search criteria in part (a).

..... [1]

12 A teacher is teaching students about history using a virtual reality (VR) system.

(a) Identify **three** devices that could be used with a VR system.

- 1
- 2
- 3 [3]

(b) The teacher carefully monitors the students' use of the VR system. She only allows them 20 minutes on the device before taking a break. This is to ensure that they remain healthy whilst using it.

Identify **three** health problems associated with the prolonged use of VR systems.

- Problem 1 [3]
-
- Problem 2
-
- Problem 3
-

