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INFORMATION AND COMMUNICATION TECHNOLOGY

0417/12

Paper 1 Theory

February/March 2023

1 hour 30 minutes

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 80.
- 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 12 pages.



1 (a) Explain what is meant by the term software.

.....
.....

[1]

(b) State the **two** types of software used by computers.

1

2

[2]

2 Tick (✓) the device which produces hard copy.

- A Buzzer
- B Laser printer
- C Touch screen
- D Webcam

[1]

3 State **three** items that should be included in the technical documentation of a computer system.

1

2

3

[3]

4 Young people use the internet for research and communication.

(a) Search engines can be used to research information on the internet.

Describe **three** benefits of using a search engine to find information.

- 1
-
- 2
-
- 3
-

[3]

(b) Social media can be used to communicate with friends.

Give **four** precautions that young people should take when using social media.

- 1
-
- 2
-
- 3
-
- 4
-

[4]

7 Describe the characteristics of a primary key and a foreign key.

(a) Primary key

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.....
.....
.....

[2]

(b) Foreign key

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.....

[2]

8 Many devices in the home can connect to the internet. These are called smart devices.

Describe **four** benefits of using these smart devices.

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.....

[4]

9 A web page can contain three web development layers. One of these is the content layer.

(a) State **one** use of the content layer.

.....
.....

[1]

(b) Identify the other **two** web development layers and give a use for each.

1

Use

.....

2

Use

.....

[4]

10 Some computers have touch screens.

Describe **three** benefits of using a touch screen.

1

.....

2

.....

3

.....

[3]

11 A student has downloaded a file which contains a virus.

(a) Describe the possible effects on his computer system if he opens the file.

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.....
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[2]

(b) Explain how the student could prevent the computer from being infected by viruses.

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[3]

(c) Some files containing viruses have to be quarantined as they cannot be deleted.

(i) State the type of files that may have to be quarantined rather than deleted.

.....

[1]

(ii) Explain how the software detects and quarantines the file.

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[3]

12 A tennis coach is creating a presentation to explain to teenagers the basics of playing tennis.

(a) Describe the design features that must be included to make the presentation appeal to the teenagers.

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[4]

(b) The designer needs to be aware of copyright legislation when creating the presentation.
Explain the need for copyright legislation.

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.....

[2]

13 People can watch a movie either by streaming or from a Blu-ray disc.

Give **two** advantages of watching the movie by streaming rather than from a Blu-ray disc.

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.....

[2]

- 16 A school car park is controlled by a barrier. When teachers enter the car park their number plate is read and the barrier is raised automatically.

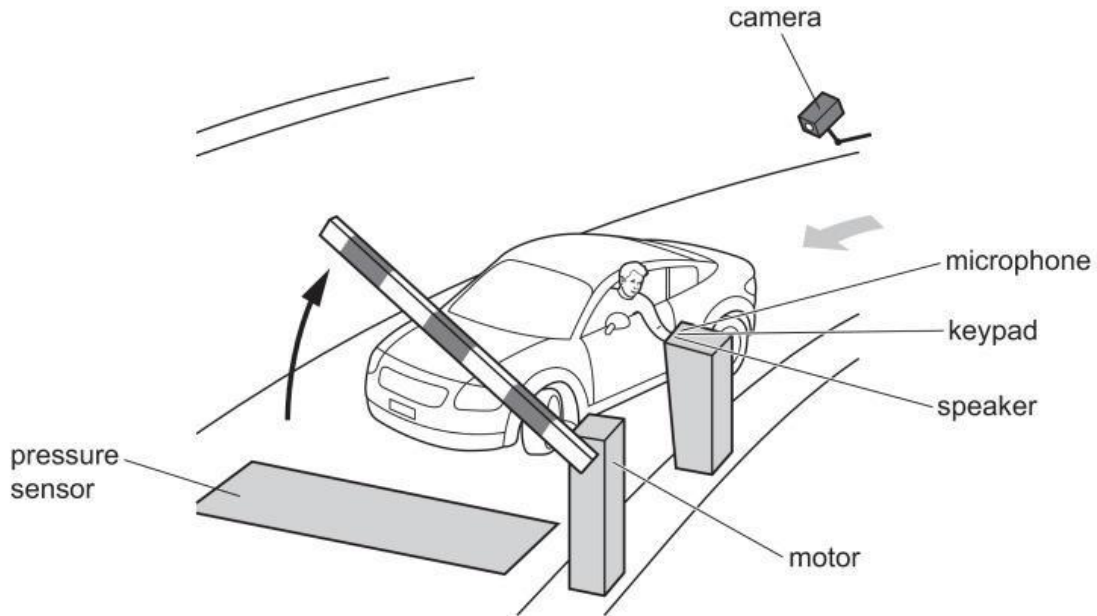


Fig. 16.1

- (a) Visitors can use the keypad as an input device to enter a code which allows the barrier to be raised.

Identify **three** other input devices shown in Fig. 16.1.

- 1
- 2
- 3

[3]

- (b) Automated Number Plate Recognition (ANPR) is used to read and check the number plate of the vehicle.

Discuss the benefits and drawbacks of using an ANPR system.

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[6]

Please turn over for Question 17.

17 Verification and validation are used to check data.

(a) Identify and describe **two** methods of verification.

Method 1

Description

.....

.....

Method 2

Description

.....

.....

[4]

(b) Explain the following validation checks.

(i) Presence check

.....

.....

[1]

(ii) Type check

.....

.....

[1]

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