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*5302604894*

**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.


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**[Turn over**

**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]

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**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 .....

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4 .....

.....

[4]

**5** The number of people using online shopping has increased. This has led to an increase in the number of journeys for the delivery drivers.

Describe how an expert system can be used to produce the best route for the delivery of items.

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..... [6]

**6** Bluetooth is a method of wireless communication.

State **two** devices found in the home which could be connected via Bluetooth.

1 .....

2 .....

[2]

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

**(a)** Primary key

.....

.....

.....

..... [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]

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**[Turn over**

**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.

.....

.....

.....

..... [2]

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

.....

.....

.....

.....

.....

..... [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.

.....

.....

.....

.....

.....

.....

.....

..... [4]

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

Explain the need for copyright legislation.

.....

.....

.....

..... [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]

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**14** Compare RAM and ROM. Your answer must include similarities and differences.

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..... [4]

**15** Tawara Stores is a small company that does not make much profit. The managing director is deciding whether to implement a new IT system using direct changeover or parallel running.

Describe the advantages and disadvantages of using direct changeover compared with parallel running in this scenario.

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..... [6]

**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.

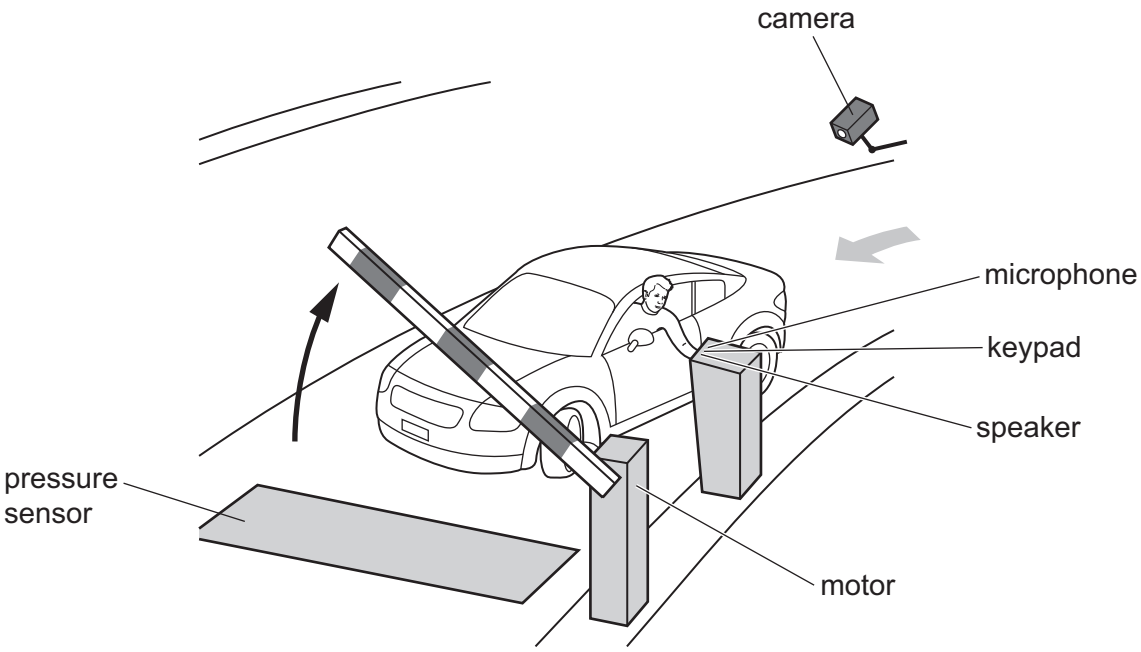



Fig. 16.1

**(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.**

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**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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