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Cambridge Assessment International Education

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2746217109

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/11**

Paper 1 Theory **October/November 2024**

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. Any blank pages are indicated.

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1 Analogue and digital data are used by computer systems.

(a) State **one** reason why analogue data has to be converted to digital data.

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..... [1]

(b) State **one** reason why digital data might have to be converted to analogue data.

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..... [1]

2 Complete each of the following sentences.

(a) Software that the user requires to carry out a task is called

..... [1]

(b) Software that the computer requires to operate is called

..... [1]

(c) The collective name for the physical components of a computer is

..... [1]

(d) The component used to process instructions in a computer is called

..... [1]

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3 A student uses a laptop computer for his studies. The laptop computer uses both backing storage and internal memory.

(a) Describe the differences between backing storage and internal memory.

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..... [4]

(b) **(i)** State **one** example of internal memory.

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(ii) Cloud storage is an example of backing storage.

State **one** other example of backing storage.

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(c) The student is considering using cloud storage.

Evaluate this type of storage.

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4 A Graphical User Interface (GUI) can be used in an expert system.

(a) Discuss the benefits and drawbacks of using a GUI.

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(b) Describe the inputs and outputs involved in the use of an expert system.

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5 An organisation is planning to replace its desktop computers with laptop computers.

Contrast a laptop computer with a desktop computer.

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6 State **two** direct data entry devices.

1 .....

2 .....

[2]

7 One function of a router is to route data packets.

(a) Identify **two** other functions of a router.

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[2]

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(b) Explain how a router routes data packets to a destination.

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8 A student needs to ensure her data is kept safe.

(a) When the student logs into the university computer system, a physical token is used as an authentication method.

Explain what is meant by a physical token.

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(b) The student has received an email with an attachment. She needs to download the attachment and store it on her hard disk.

Describe the steps that the student needs to take to ensure her data is kept safe when she downloads the attachment.

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..... [6]

9 **(a)** State **three** health problems that can be caused by entering data for a long period of time.

1 .....

2 .....

3 .....

[3]

(b) State **three** physical safety issues that can be caused by using a computer.

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10 The ICT department in a company is writing a report.

(a) Members of the department can communicate with other members using VoIP.

Explain what is meant by VoIP.

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(b) The Head of the ICT department uploads the report onto the cloud.

Describe the steps that members of the department must take to share and manage their work on the report.

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11 A traffic management company is planning to improve traffic flow at a major road junction. A computer model is to be used before any changes are made to the junction.

(a) Describe the benefits and drawbacks of using a computer model.

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(b) The junction has four roads and uses traffic lights to control the traffic flow through the junction.

Explain how the computer model operates.

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12 A company produces medicines. Chemists working in the company use 3D printers.

(a) The 3D printer is an example of an output device.

State **three** other output devices.

1 .....

2 .....

3 .....

[3]

(b) The chemists use the 3D printers to produce customised tablets.

Describe how a 3D printer produces a customised tablet.

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13 A company is planning a new computer system. The current system needs to be analysed.

Identify **two** methods of analysing the current system.

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