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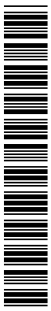
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INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

Paper 1 Theory **February/March 2025**

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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[Turn over

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1 Circle **two** input devices.

Actuator	Blu-ray disc	Cloud	Keyboard
Flash memory	Hard disk	Mouse	SD card

[2]

2 A computer system uses applications software and system software.

(a) Describe the following software.

(i) Spreadsheet

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..... [2]

(ii) Database

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..... [2]

(iii) Applet

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..... [2]

(b) State **three** types of system software.

1.....

2.....

3.....

[3]

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3 A doctor uses an expert system to diagnose a patient's illness.

(a) Describe how expert systems produce diagnoses of an illness.

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..... [4]

(b) Explain how an expert system could produce an incorrect diagnosis of an illness.

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..... [2]

4 A company is creating a customer database. The database needs to be tested with live data.

(a) Explain what is meant by live data.

.....

..... [1]

(b) Explain the issues associated with using live data to test this database.

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..... [2]

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(c) A test strategy was produced for this database.

Explain what is meant by a test strategy.

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..... [2]

5 The cloud can be used for computer gaming. One major issue is the protection of personal data.

(a) Discuss, apart from the protection of personal data, the benefits and drawbacks of gaming on the cloud.

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(b) Encryption can be used to protect personal data when gaming.

Explain what is meant by encryption.

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(c) One player wants to send the list of players and their scores to a friend as an attachment.

State the precautions that need to be taken when sending and receiving the attachment.

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..... [3]

6 Some friends are planning to explore a remote area of India. They need to stay in contact with their families and can either use a smartphone or a satellite phone.

Evaluate the use of a satellite phone rather than a smartphone in this scenario.

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7 A company is planning to implement a new computer software system. It is going to use direct changeover. One of the reasons for using this method is that the benefits are immediate.

(a) Discuss other benefits and drawbacks of using this method of implementation.

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..... [4]

(b) Explain what is meant by the benefits are immediate.

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..... [2]

8 State **one** example of a device that can be used to read data from the following storage media.

(a) Optical

..... [1]

(b) Magnetic

..... [1]

(c) Solid-state

..... [1]

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9 Computers use Network Interface Cards (NIC).

(a) Explain the purpose of a Network Interface Card (NIC).

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(b) A user wishes to connect a set of Bluetooth headphones to a computer.

Describe how the headphones can be connected to the computer by Bluetooth.

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..... [4]

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10 A company is planning to replace its computer system. It will need to carry out an analysis of the current system.

(a) State the information about the current system that needs to be identified.

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(b) A system specification is created during the analysis.

Explain the purpose of a system specification.

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..... [3]

11 A company is developing a piece of software. The company needs to have a clear sense of audience for its software so that it will be suitable for the users.

One of the characteristics that needs to be considered is the expectations of the user.

(a) State **two** other characteristics that need to be considered.

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2.....

[2]

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(b) The developers are concerned about their software being pirated.

Describe **three** methods the company could use to help prevent software piracy.

Method 1.....

Description.....

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Method 2.....

Description.....

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Method 3.....

Description.....

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[6]

12 Parents are worried about their children's use of the internet.

(a) Explain how parents could monitor the use of the internet by their children.

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..... [3]

(b) Explain how the parents could control the use of the internet by their children.

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13 **(a)** State the need for generic file formats.

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(b) Give **two** examples of generic file formats used for images.

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[2]

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