GradeMax

* 0000800000001 * DFD

Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER | | | | | |

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2282408832

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/13**

Paper 1 Theory **October/November 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** direct data entry devices.

Actuator	Keyboard	Mouse	OMR
Plotter	QR scanner	ROM	Sensor

[2]

2 A computer system uses random access memory (RAM).

State **four** characteristics of RAM.

1 .....

2 .....

3 .....

4 .....

[4]

3 A company delivers meals to elderly people. The delivery drivers use both an expert system and satnav to plan their deliveries.

(a) Describe how an expert system can be used to produce a schedule for the delivery of the meals.

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[6]

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(b) When the schedule has been produced, the delivery driver uses satnav to find the shortest route to the first person's address.

Describe how satnav can be used to find the shortest route to the address.

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4 Voice recognition is used to allow a student to log into their laptop computer.

(a) Discuss the impact of using voice recognition in this way.

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..... [6]

(b) Voice recognition is a form of biometric password.

State **two** other forms of biometric password that could be used in this way.

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[2]

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(c) The student is planning to purchase a laptop computer which uses zero login authentication.

Discuss the benefits and drawbacks of using zero login authentication.

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..... [4]

5 Tawara Cars sells sports cars.

Its cars are either electric, LPG or hydrogen powered.

It sells three different models of its cars.

Cars being sold are either new or used.

The owner of Tawara Cars has set up a database to store the details of these cars. Part of the database is shown.

Reg_number	Model	Date_of_reg	Sale_price	State_of_car	Engine_type
VX231AA	Premier	10/03/2024	$42000.00	U	LPG
AB764CJ	HydroSport	11/04/2025	$126000.00	N	Hydrogen
FF269DA	EcoSport	15/01/2024	$68000.00	U	Electric

(a) State, giving **one** reason for your choice, the most appropriate validation check on data entered into each of the following fields.

(i) Date_of_reg

Validation check.....

Reason.....

.....

[2]

(ii) Sale_price

Validation check.....

Reason.....

.....

[2]

(iii) State_of_car

Validation check.....

Reason.....

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[2]

(b) The owner of Tawara Cars is planning to code the model field to save space in the database.

(i) State a suitable code he could use.

..... [1]

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(ii) Saving space is one reason for coding a field.

State **three** other reasons for coding this field.

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[3]

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6 When planning a new computer system, questionnaires or interviews can be used during the analysis stage.

(a) Discuss the advantages and disadvantages of using questionnaires rather than interviews.

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..... [6]

(b) A system specification is part of the analysis of a system.

Explain what is meant by a system specification. Include in your answer **one** item that is part of the system specification.

Explanation.....

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Item.....

[2]

7 An examination board needs to hold a meeting with its examiners. They have decided to hold a video conference.

(a) State **three** items of hardware that would be needed to hold the video conference.

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[3]

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(b) Describe the benefits to the examination board of holding a video conference.

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(c) Describe **one** piece of software that is required for the video conference.

Software.....

Description.....

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..... [3]

8 A 3D printer is a form of inkjet printer.

Contrast a 3D printer with an inkjet printer.

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9 Smishing can be a threat to data that is stored on computer systems.

(a) Explain what is meant by smishing.

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..... [4]

(b) State **two** ways in which a user can attempt to prevent smishing attacks.

1.....

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2.....

..... [2]

10 A student is creating a web page using HTML.The web page has two sections.

(a) State the **two** sections found in a web page.

1.....

2..... [2]

(b) The student is planning to place a bookmark for this web page.

Explain the concept of a bookmark.

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11 Blogs and wikis are used on the internet.

(a) State **two** characteristics of a blog.

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2.....

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[2]

(b) State **two** characteristics of a wiki.

1.....

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2.....

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[2]

12 A school network manager backs up work files onto a magnetic tape. The headteacher of the school thinks this is old technology and has asked the network manager to backup work onto a portable solid state drive (SSD).

Describe the advantages and disadvantages of using a magnetic tape to store backups rather than a portable SSD.

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