GradeMax

Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

0243543375

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/13**

Paper 1 Theory **October/November 2022**

2 hours

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 100.
- 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 **16** pages. Any blank pages are indicated.

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[Turn over

1 Complete the following sentences using the most appropriate words from the list.

centred	a footer	a gutter	a header	indented
justified	landscape	an orphan	portrait	a widow

(a) The orientation of a page that is taller than it is wide is called

..... [1]

(b) An area at the bottom of a page is called

..... [1]

(c) The first line of a paragraph that appears as the last line of the previous page is called

..... [1]

(d) Text that is aligned horizontally in the middle of a line is called

..... [1]

2 A computer controlled glasshouse is used to grow plants.

State **three** sensors that could be used in the glasshouse.

1 .....

2 .....

3 .....

[3]

3 Circle **two** features of multimedia presentations which would **not** be found in a word processed document.

bullets	images	numbers	photographs
sound	tables	text	video

[2]

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4 A person contacts an online medical website that uses an expert system to allow users to self-diagnose illnesses.

(a) Write down the component within the expert system that matches the definition given.

(i) This component contains a database of facts.

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..... [1]

(ii) This component carries out the reasoning of the expert system.

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..... [1]

(iii) This component allows the person to interact with the system.

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..... [1]

(b) Describe how an expert system is used to diagnose an illness.

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..... [6]

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[Turn over

5 A restaurant uses a number of different types of software. These include control, measurement, spreadsheet and word processing software.

(a) Tick (✓) the most appropriate piece of software to carry out the tasks shown.

	Control (✓)	**Measurement** (✓)	**Spreadsheet** (✓)	**Word processing** (✓)
Producing menus for the restaurant				
Calculating the cost of each of the meals				
Automatically turning on the fans when the room gets too hot				
Monitoring the temperature in the restaurant				

[4]

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The restaurant owner is planning to upgrade the software used to book reservations. He has employed a systems analyst who is analysing the current system. The systems analyst can either send out questionnaires for staff to answer or observe staff working with the current system.

(b) Discuss the advantages and disadvantages of using questionnaires that staff answer rather than observing staff to gather information about the current system.

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..... [6]

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6 A web page can contain images saved as png or gif file types.

(a) State what is meant by png and gif file types.

png .....

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gif .....

.....

[2]

(b) Explain the differences between the two file types.

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..... [3]

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7 A school librarian is setting up a database of all the revision books he has in stock. The school library sells revision books to students. The books range in value from $1 to $10 and are available either in electronic book type (E) or physical book type (P).

(a) The librarian is planning to set up a number of different types of validation rule for the fields to check data entry. Write down the most appropriate field name from the table that could be used with each of the validation rules. Your answers must be different in each case.

Name_of_book	Department	ISBN	Book_type	Cost
Modern History	HIS	0140621393432	P	$5.20
GCSE ICT	ICT	0006132237	E	$1
A Level Calculus	MAT	0006153516	E	$1
Human Biology	SCI	0006511376	E	$2.30

Presence .....

Lookup .....

Range .....

Length .....

[4]

The librarian needs to set up a primary key field.

(b) Write down the most appropriate field name from the table that could be used as a primary key field.

..... [1]

Most of the revision books are available in electronic book type as digital versions of the printed books. These are stored as interactive PDF files.

(c) Describe the benefits and drawbacks of using the digital versions.

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8 An organisation has changed the way in which members of staff can enter the building. Previously they typed in a four-digit code on a key pad; now they use a device that reads a handprint.

(a) Discuss the effectiveness of using a handprint to enter the building rather than keying in a code.

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9 The use of email has replaced many forms of communication.

Describe the constraints that you need to consider when writing and sending an email.

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..... [6]

10 **(a)** For each of the following types of backing storage give **one** example of its associated media. Your answers must be different in each case.

Optical .....

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Magnetic .....

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Solid state .....

.....

[3]

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(b) Describe **three** differences between optical and magnetic backing storage.

1 .....

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2 .....

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3 .....

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[3]

11 A student is carrying out some research for school.

(a) Explain **two** ways she could search for information on the World Wide Web (WWW).

1 .....

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2 .....

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[2]

(b) Explain the differences between the internet and the World Wide Web (WWW).

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..... [4]

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12 The internet contains three web development layers. One layer is the content layer. This layer is used to enter the content of a web page structure.

(a) Name and describe the other **two** web development layers.

Layer .....

Description .....

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Layer .....

Description .....

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[4]

(b) Explain why tables can be used to structure elements within a web page.

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..... [3]

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13 A teacher is concerned that students are playing online computer games at home without considering eSafety. The teacher is going to create a set of rules that he feels they should be following.

Write down a list of eSafety rules that he could include.

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..... [6]

14 Explain why page, section and column breaks are used in documents.

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..... [3]

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[Turn over

15 An employee is carrying out work for her company at home. The work she is doing is confidential. She has been advised by her company to use encryption. She wishes to transfer some of this work to the office.

(a) Discuss **two** different methods she could use to transfer this work to the office. Include in your answer the advantages and disadvantages of each method.

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..... [6]

(b) Describe what is meant by the term encryption and why it is used.

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..... [3]

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(c) Tick **(✓)** the most appropriate working pattern to match the following statements.

	Compressed hours (✓)	**Flexible hours** (✓)	**Job sharing** (✓)	**Part-time working** (✓)
An employee works a full day but negotiates with the employer the start and end times				
An employee works the same number of hours as a full week but in fewer days				
An employee works for fewer hours than a full-time employee				

[3]

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