GradeMax

Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

5122596074

INFORMATION AND COMMUNICATION TECHNOLOGY **0417/12**

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.

© UCLES 2022

[Turn over

1 Complete the following sentences using the most appropriate words from this list of word processing terms.

bullet	centred	gutter	hanging	header
justified	landscape	orphan	portrait	widow

(a) The orientation of a page that is wider than it is high is called

..... [1]

(b) A symbol placed in front of each item in a list is called a

..... [1]

(c) The indentation of a paragraph where all the lines except the first are indented is called

..... [1]

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

..... [1]

2 Database, presentation, spreadsheet and word processing software are used by a medical centre.

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

	database (✓)	**presentation (✓)**	**spreadsheet (✓)**	**word processing (✓)**
Producing a letter to send out to patients				
Creating graphs to show numbers of people attending the medical centre				
Creating queries from patients' details				
Creating an interactive display of services offered				

[4]

© UCLES 2022

3 Smartphones use a Graphical User Interface (GUI).

(a) Give **three** benefits of using a GUI.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(b) Give **three** characteristics of a smartphone.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

GradeMax

4 Workers in an office log onto the office computer network using a password.

(a) Aaron is using his name as his password.

Give **two** reasons why this is **not** a good idea.

1 .....

.....

2 .....

.....

[2]

(b) One method that hackers use to find people's passwords is to install key-logging spyware onto computers.

Give **two** methods that could be used to safely enter passwords even if key-logging spyware has been installed on a computer.

1 .....

.....

2 .....

.....

[2]

© UCLES 2022

GradeMax

5 The secretary of a sports club is setting up a database of members to replace the current manual system. He will need to create a database structure.

(a) Describe the steps involved in setting up and testing the database structure before it can be used in the new system.

.....

.....

.....

.....

.....

.....

.....

..... [4]

When the new system is completed it needs to be implemented. The secretary of the sports club can implement it using direct changeover or parallel running.

(b) Describe the term parallel running, giving **one** benefit and **one** drawback of using this method of implementation.

Parallel running .....

.....

Benefit .....

.....

Drawback .....

.....

[3]

© UCLES 2022

[Turn over

6 In June 2000 the London Millennium Bridge opened to the public but closed shortly afterwards for repairs. The bridge was swaying as people walked across it. Before bridges are built, computer models are produced and the models are tested.

Explain why computer models are used before building a bridge.

.....

.....

.....

.....

.....

.....

.....

..... [4]

7 A club has many members. The secretary of the club wants to keep details of the club members in a database.

(a) Describe the benefits and drawbacks of storing membership details on a computer database.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

(b) The secretary collects data from the members on paper-based forms.

Describe **five** features of a well-designed paper-based data capture form.

1 .....

.....

2 .....

.....

3 .....

.....

4 .....

.....

5 .....

.....

[5]

GradeMax

8 In 2019 Cambridge recorded the highest temperature for July in the UK. The data was collected automatically using sensors by a weather station and sent to a computer.

Discuss the advantages and disadvantages of using sensors to collect data rather than humans collecting the data.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [8]

© UCLES 2022

9 Many organisations store data in the cloud.

(a) Explain what is meant by the ICT term cloud.

.....

.....

.....

.....

.....

..... [3]

(b) Explain the issues of storing data in the cloud.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

As our use of the cloud increases, new ways of accessing it safely need to be developed.

(c) The use of typed passwords is being replaced by biometric methods.

Discuss the benefits and drawbacks of using biometric methods.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [8]

10 High street banks now offer customers access to internet banking when they are in the physical bank.

Discuss the advantages and disadvantages to the bank of using internet banking in this way.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

11 A village is built next to a river. During heavy rain the river floods and endangers the people living in the village. If the river is in danger of flooding, an email is sent to all members of the village.

(a) Explain why an email group is used when contacting the villagers.

.....

.....

.....

.....

.....

..... [3]

Sensors are placed in the river to check the water level. If the water level in the river rises more than 5m above normal river levels, a flood barrier is raised to safeguard the village. The flood barrier remains raised until the water level drops to normal levels.

(b) Explain why the data from the sensors cannot be read directly by the computer and name the device that needs to be used so that the computer can read the data.

.....

.....

.....

.....

.....

..... [3]

(c) Describe how a microprocessor uses the data from the sensors to raise and lower the flood barrier.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

GradeMax

12 A computer system uses a Graphical User Interface (GUI).

Write down **two** features of a GUI and for each give a reason why they are needed.

Feature 1 .....

Reason 1 .....

.....

Feature 2 .....

Reason 2 .....

.....

[4]

13 Computers are being used in offices.

Describe how the use of computers has affected the work of employees and their working patterns.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

© UCLES 2022

[Turn over

GradeMax

14 rtf and pdf are file types.

(a) Describe what is meant by an rtf and a pdf file type.

rtf .....

.....

pdf .....

.....

[2]

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

.....

.....

.....

.....

.....

..... [3]

15 Proofreading is often confused with visual verification.

Describe the differences between proofreading and visual verification.

.....

.....

.....

..... [2]

© UCLES 2022

GradeMax

BLANK PAGE

© UCLES 2022

GradeMax

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.

© UCLES 2022