

[Turn over

- 1 Stored value cards can be used for making transactions such as paying for travel on public transport or for buying food and drink in cafes.

(a) Explain the benefits of stored value cards.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Describe **two** drawbacks of stored value cards.

.....

.....

.....

.....

.....

..... [2]

2 Different methods can be used to make objects appear to move in computer animations.

(a) Explain why key frames are used in computer animations.

.....

.....

.....

.....

.....

..... [2]

(b) Describe how property key frames are used in computer animation.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

Analyse the effects of the **two** main methods of image compression on a bitmap image.

[6]

4 Cellular networks are used to provide mobile communications for users.

(a) Describe the structure of a cellular network.

.....

.....

.....

.....

.....

..... [3]

(b) Explain how cellular networks allow large numbers of mobile (cell) phones to connect without interference from other mobile (cell) phones.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

5 Users may connect their smartphones to a local area network (LAN).

- (a) Describe **two** reasons why a wireless connection to a local area network (LAN) may **not** be as secure as a wired connection.

.....

.....

.....

.....

.....

..... [2]

- (b) Explain how a secure Wi-fi connection is established and maintained between a smartphone and a local area network (LAN).

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

6 Loops in JavaScript repeatedly execute blocks of code.

(a) Describe how a `for` loop works in JavaScript code.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Contrast the use of `while` and `do while` loops in JavaScript code.

.....

.....

.....

.....

.....

..... [2]

7 In JavaScript, an object is defined as a collection of properties which can be amended or deleted.

(a) Describe how an object may be given a new property.

.....

.....

.....

..... [1]

(b) Describe how the properties of an object in JavaScript can be displayed using a loop.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

- Evaluate the use of pilot implementation to replace the user interface for the computer system.

[8]

- 9 Describe the benefits to businesses of employees using instant messaging to communicate with other employees for business purposes.

[6]

Discuss the advantages and disadvantages to the company of using its own mail server.

[6]

Please turn over for Question 11.

- 11 Technicians improve software by carrying out maintenance. Corrective maintenance modifies software to correct problems that have been identified in error reports from users.

Identify and describe **two** other types of software maintenance carried out by technicians.

Software maintenance 1

.....

.....

.....

.....

.....

.....

Software maintenance 2

.....

.....

.....

.....

.....

.....

[6]

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.