ATAR course examination, 2019

Question/Answer booklet

APPLIED INFORMATION TECHNOLOGY

Please place your student identification label in this box

WA student number: In figures

In words _____

_____

Time allowed for this paper
Reading time before commencing work: ten minutes
Working time: three hours

Materials required/recommended for this paper
To be provided by the supervisor
This Question/Answer booklet
Multiple-choice answer sheet

Number of additional answer booklets used (if applicable):	

To be provided by the candidate
Standard items: pens (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

Special items: nil

Important note to candidates
No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised material. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

Structure of this paper

Section	Number of questions available	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of examination
Section One Multiple-choice	15	15	20	15	15
Section Two Short answer	8	8	40	52	25
Section Three Extended answer	1	1	50	30	20
Section Four Scenario	1	1	70	67	40
				Total	100

Instructions to candidates

1. The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2019*. Sitting this examination implies that you agree to abide by these rules.

2. Answer the questions according to the following instructions.

   Section One: Answer all questions on the separate Multiple-choice answer sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. Do not use erasable or gel pens. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.

3. Write your answers to the questions in Sections Two, Three and Four in this Question/Answer booklet.

4. You must be careful to confine your answers to the specific questions asked and to follow any instructions that are specific to a particular question.

5. Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.
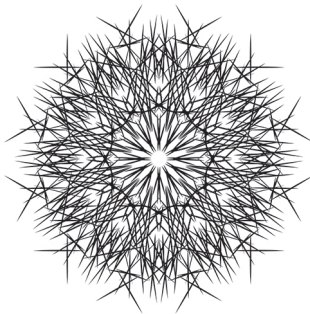
Section One: Multiple-choice 15% (15 Marks)

This section has **15** questions. Answer **all** questions on the separate Multiple-choice answer sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. Do not use erasable or gel pens. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.

Suggested working time: 20 minutes.

1. Which of the following is an example of a project planning tool used in making a television commercial?

   (a) template
   (b) survey
   (c) storyboard
   (d) site map

2. Simple workflow and publishing controls for developing and maintaining websites, including social media integration and easy administration, are available when using

   (a) online collaboration and sharing-enabled websites (Web 2.0).
   (b) hypertext transfer protocol over secure socket layer (HTTPS).
   (c) content management systems (CMS).
   (d) the world wide web consortium (W3C).

3. Consider the image shown below.

   This image is an example of the use of

   (a) line to create pattern.
   (b) space to create emphasis.
   (c) shape to create symmetry.
   (d) shape to create movement.

See next page

4.   The purpose of a code of conduct in the workplace is to

    (a)   outline the wages and benefits awarded to employees.
    (b)   develop and maintain a standard of acceptable behaviour by employees.
    (c)   determine the laws and regulations to which an employer is required to adhere.
    (d)   establish a company's responsibilities to its customers.

5.   The interaction a person has when using a product, such as a website or computer
        application, is referred to as

    (a)   usability.
    (b)   readability.
    (c)   graphical user interface.
    (d)   user experience.

6.   Increasing a mobile device's screen size changes its usability by

    (a)   making it easier to see and interact with the device.
    (b)   increasing the processing power of the device.
    (c)   increasing the difficulty of use with peripherals.
    (d)   making it easier to secure the data on the device.

7.   Which of the following is a **negative** impact of convergence in digital technologies?

    (a)   When one component of the converged technology breaks, the entire device may
            become unusable.
    (b)   Changing to converged technologies decreases efficiency within organisations.
    (c)   The single, converged device is often more expensive than the total cost of the
            separate devices.
    (d)   Changing to converged devices increases the rate of production of environmental
            wastage.

8.   A method of communicating with a computer by using items such as windows, icons and
        menus (which is used by most operating systems) is known as

    (a)   user accessibility.
    (b)   internet usability.
    (c)   a graphical user interface.
    (d)   a graphical user experience.

9.   A music track has been produced in Australia and the composer wants to collect royalties
        when someone uses it. How long does the composer own the intellectual property rights
        to the music track?

    (a)   their lifetime
    (b)   their lifetime + 20 years
    (c)   70 years
    (d)   their lifetime + 70 years

See next page

10. The privacy principles in Australia differentiate sensitive information from private information. Sensitive information includes an individual's

    (a) surname, ethnic origin and philosophical beliefs.
    (b) criminal record, postal address and political opinions.
    (c) ethnic origin, religious beliefs and date of birth.
    (d) religious beliefs, political opinions and criminal record.

11. A mobile application icon is an example of which type of intellectual property?

    (a) innovation patent
    (b) copyright
    (c) trademark
    (d) standard patent

12. Which method of backup only stores the data changed since the last full backup?

    (a) audit trail
    (b) differential
    (c) data warehouse
    (d) incremental

13. A documented proposal that outlines the way in which work can be resumed quickly and effectively after disruption to business continuity is

    (a) a cloud storage plan.
    (b) a project management plan.
    (c) a disaster recovery plan.
    (d) an anti-virus protection plan.

14. Cascading Style Sheets is a method used to

    (a) describe the wireless application protocol.
    (b) describe the presentation of web pages.
    (c) establish the confidentiality of data.
    (d) establish access to knowledge or resources.

15. Which of the following are features of sound editing software?

    (a) transactions, templates and fade-out
    (b) transactions, transparency and voice-over
    (c) transitions, transparency and templates
    (d) transitions, fade-out and voice-over

End of Section One

See next page

Section Two: Short answer   **25% (52 Marks)**

This section has **eight** questions. Answer **all** questions. Write your answers in the spaces provided.

Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 40 minutes.

Question 16   **(9 marks)**

(a) List **three** inclusivity features a graphic designer can include in a graphical user interface (GUI) to target an audience of 70-year-olds. (3 marks)

One: _____

Two: _____

Three: _____

One of the W3C standards, *Web Design and Applications*, provides guidelines for building and rendering GUI.

(b) Describe the features or design choices that demonstrate the compliance of a design with this standard in each of the following areas: (6 marks)

Accessibility: _____

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Internationalisation: _____

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Mobile web: _____

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See next page

Question 17 **(6 marks)**

Explain the following features of a Service Level Agreement (SLA), using an example of each to support your response.

Availability of service: _____

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Type of services: _____

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Question 18   **(6 marks)**

The owner of a start-up burger business is producing a promotional video for their restaurant to be played on different social media platforms. In their video, they would like to include footage of the kitchen staff, sales staff and customers enjoying their burgers.

(a)   Describe **two** features a video editing software application should have in order to produce this promotional video.   (4 marks)

One: _____

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Two: _____

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(b)   Explain to the owner **one** benefit of using online tutorials to learn how to use the software needed to produce this promotional video.   (2 marks)

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Question 19 **(6 marks)**

Describe the following project planning tools:

Site maps: _____

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Flow charts: _____

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Project management software: _____

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Question 20 **(6 marks)**

A reporter has posted comments on an Australian news website about a politician. After some consideration, the politician feels the comments are defamatory.

(a)   Define online defamation.   (2 marks)

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(b)   List **four** options available to the politician to counteract online defamation.   (4 marks)

One: _____

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Two: _____

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Three: _____

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Four: _____

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Question 21 **(7 marks)**

Governments around the world sometimes censor the information accessible to their citizens.

(a)   Identify **three** reasons why governments may want to censor information their citizens can access online.   (3 marks)

One: _____

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Two: _____

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Three: _____

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(b)   Describe **two** ways that online censorship can negatively affect citizens in a global context.   (4 marks)

One: _____

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Two: _____

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Question 22 **(8 marks)**

A graphic design company is considering the purchase of new desktop personal computers (PCs) for their office. They will require computers for the graphic design team, who work with clients to meet design specifications, and the office manager, who organises meetings, takes phone calls and settles client accounts.

The following desktop PCs are under consideration for purchase.

	Desktop PC1	**Desktop PC2**	**Desktop PC3**
CPU	3.7GHz 8-core	3.0GHz 6-core	3.2GHz 6-core
Memory	32GB of RAM	4GB of RAM	4GB of RAM
Storage	500GB Solid-state drive 4TB Hard disk drive	250GB Solid-state drive 2TB Hard disk drive	120GB Solid-state drive 2TB Hard disk drive
Graphics	8GB Video card	Integrated graphics	8GB Video card
Price	$3500	$1800	$2200

(a) (i) From among the three desktop PCs described above, choose the one most suitable for the graphic design team. (1 mark)

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(ii) Explain why this is the most suitable choice. (3 marks)

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See next page

(b)   (i)   From among the three desktop PCs described on page 12, choose the one most suitable for the office manager.   (1 mark)

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       (ii)   Explain why this is the most suitable choice.   (3 marks)

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Question 23   **(4 marks)**

Describe the communication protocols listed below that allow a computer network to share data and resources.

Transmission Control Protocol/Internet Protocol (TCP/IP): _____

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Hypertext Transfer Protocol over Secure Socket Layer (HTTPS): _____

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End of Section Two

See next page

Section Three: Extended answer   20% (30 Marks)

This section contains **one** question. Write your answers in the spaces provided.

Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 50 minutes.

Question 24   **(30 marks)**

Read the article excerpt from *The Guardian* on page 15, which focuses on the My Health Record system.

My Health Record: government warned of 'significant' patient data glitch

For copyright reasons this text cannot be reproduced in the online version of this document.

Question 24 (continued)

The My Health Record system allows doctors and medical practices to upload information about patients. It uses cloud technology to enable this to happen.

(a)   Explain **three** ways in which cloud technology can help ensure that patients have continuity of care and improved interactions with healthcare providers.   (9 marks)

One: _____

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Two: _____

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Three: _____

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(b)   Some patients have concerns about storing their medical information in the cloud. Referring to the article excerpt, explain why these concerns may be valid.   (3 marks)

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The article excerpt discusses a digital signature issue.

(c)   Explain how a digital signature could be used to secure data in this system.   (3 marks)

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Question 24 (continued)

(d)   Describe **four** security methods, other than a digital signature, the My Health Record
        system could implement to secure the stored data.   (8 marks)

One: _____

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Two: _____

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Three: _____

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Four: _____

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(e)   Explain a legal method *The Guardian* may have used to obtain the internal briefing to the Australian Digital Health Agency.   (3 marks)

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The government has outsourced some of the work required to run the My Health Record system.

(f)   Describe **two** benefits the Australian Government may have considered before outsourcing.   (4 marks)

One: _____

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Two: _____

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End of Section Three

Section Four: Scenario   **40% (67 Marks)**

This section contains **one** question. Write your answers in the spaces provided.

Supplementary pages for planning/continuing your answers to questions are provided at the end
of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the
original answer where the answer is continued, i.e. give the page number.

Suggested working time: 70 minutes.

Question 25   **(67 marks)**

Resterley is an organisation that develops sustainable eco-resorts around the world. It is
currently developing a luxury eco-resort in the South-West region of Western Australia. The
eco-resort will be based on the principles of blending modern luxury with minimal impact on the
environment and aims to be completely sustainable within the next three years.

Resterley wishes to raise awareness of the eco-resort, which is scheduled for completion in the
next six months, to ensure adequate bookings when it opens. Resterley is positive that, with the
right website and marketing, it will have a very successful eco-resort, with guests coming from
around the world.

Resterley has contracted you to design an inclusive and usable website to promote the
eco-resort.

At a minimum, the website homepage will need to include the following:
- information regarding the sustainable practices at the eco-resort
- information about the different accommodation options on offer
- links to
  - online bookings
  - an activities page
  - an events page
  - an image gallery.

(a)   Describe **two** features that need to be included in the website to enhance its usability.
                                                                        (4 marks)

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See next page

(b) In developing a website for the eco-resort, two different project management approaches are possible. Explain each of these approaches. (6 marks)

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(c) Describe **three** features that enable the inclusion of user-generated content in the website. (6 marks)

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See next page

Question 25 (continued)

Resterley have decided to name the eco-resort Ceerenity.

(d)   Design the website homepage for Ceerenity in the space provided on pages 24 and 25. You may use the space below to plan your design.

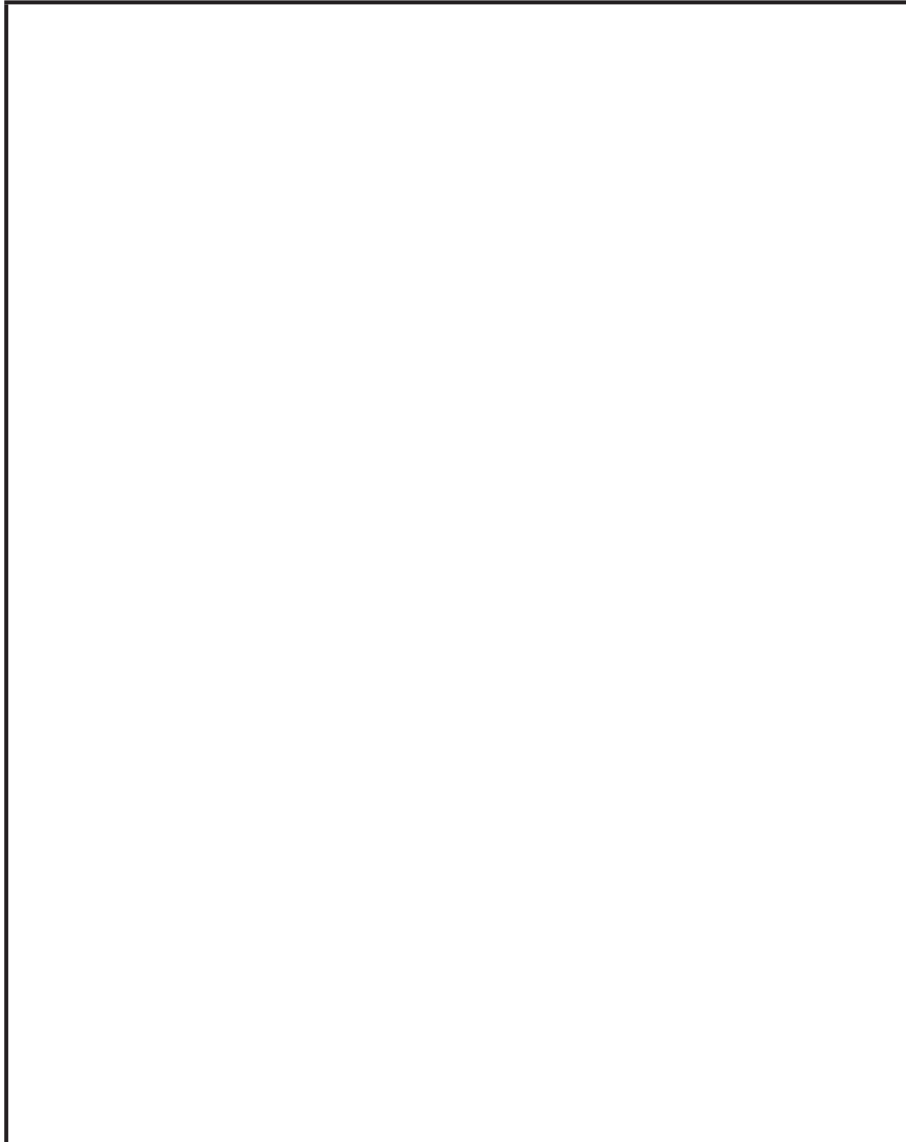   Your design must include annotations and show:

(i)	layout and structure of your intended design	(5 marks)
(ii)	elements and principles of design used and the relationship between them	(3 marks)
(iii)	organisation of content suitable for the given digital medium	(3 marks)
(iv)	user-generated content feature(s) suitable for the given digital medium	(2 marks)
(v)	a help feature that enables accessibility.	(2 marks)

Planning: anything written on this page will **not** be marked.

PLANNING ONLY

See next page

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Question 25 (continued)

Use the surrounding area for annotations.

Question 25 (continued)

(e)   Describe **three** tools which could be used to evaluate the effectiveness of your digital
        solution in accordance with the design brief. (6 marks)

Ceerenity plans to include user-generated content in its website.

(f)   By referring to Ceerenity:

(i)   describe the concept of user-generated content   (2 marks)

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(ii)   describe **two** advantages of user-generated content   (4 marks)

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(iii)   describe **two** disadvantages of user-generated content.   (4 marks)

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See next page

Question 25 (continued)

Resterley were pleased with your website design and has attributed this to the successful opening of Ceerenity. It has now asked you to develop a mobile application for guests to use while staying there which showcases:
- the geographical area
- available activities
- dining options
- special events.

(g)   You are required to design the main screen of the application in the space provided on page 29. You may use the space below to plan your response.

Your design must include annotations and show:
(i)   layout and structure of your intended design   (5 marks)
(ii)   elements and principles of design used and the relationship between them
                                                                                                                      (3 marks)
(iii)   organisation of content suitable for the given digital medium   (3 marks)
(iv)   navigation controls suitable for the given digital medium   (2 marks)
(v)   a help feature that enables accessibility.   (2 marks)

Planning: anything written on this page will **not** be marked.

PLANNING ONLY

Use the surrounding area for annotations.

Question 25 (continued)

Ceerenity is in an isolated location without access to mobile phone coverage. To allow guests to access the Special Events screen and post user-generated content, WiFi access will be provided across the eco-resort.

(h)   In designing a LAN, there are many devices Ceerenity will need to consider. Identify **one** device they will need and describe its role in providing WiFi access across the eco-resort.
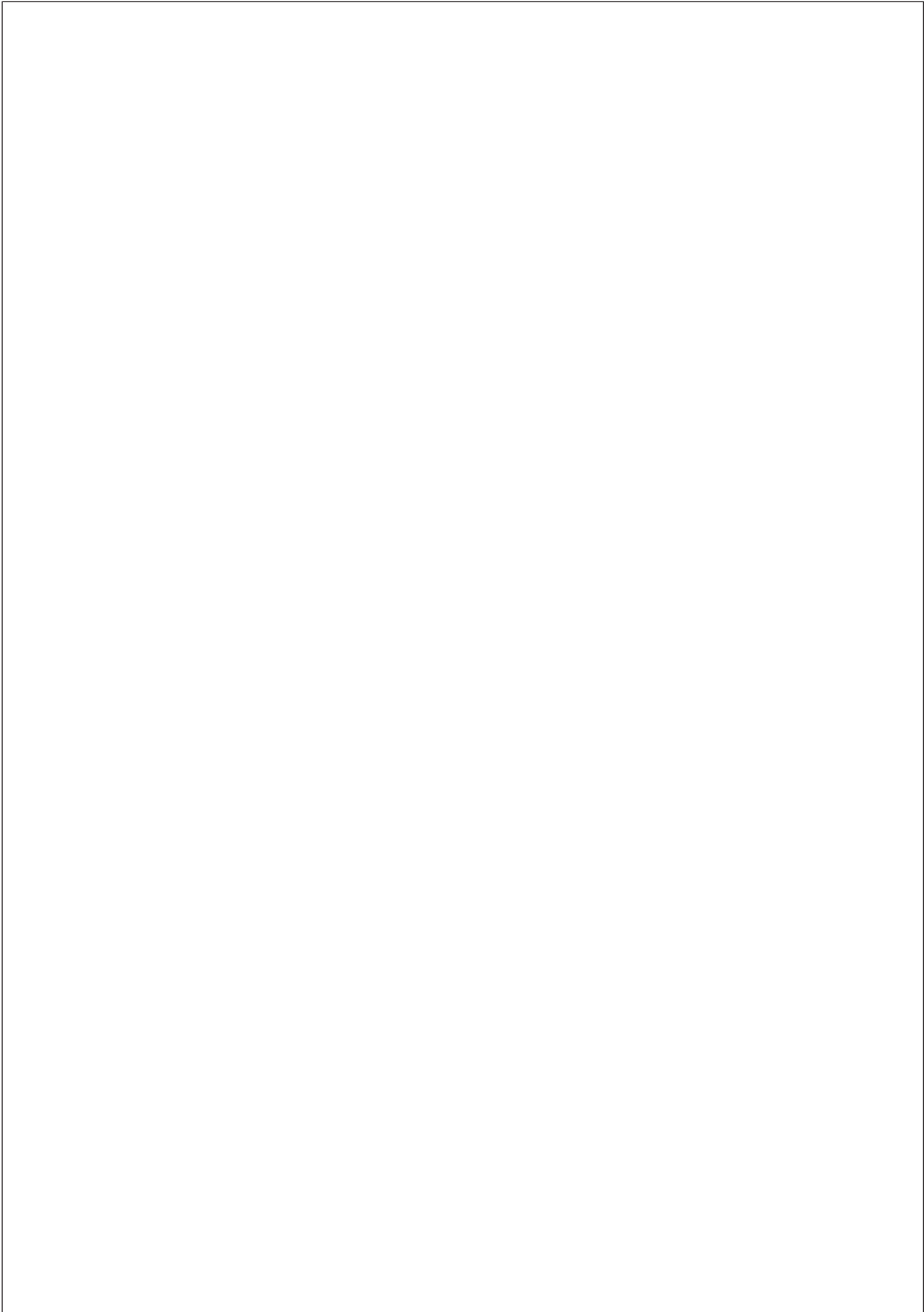
     (3 marks)

(i)   Ceerenity's WiFi network is to be accessed only by authorised guests. Describe **one** type of network security measure that will ensure authorised access only.   (2 marks)

End of questions

Supplementary page

Question number: _____

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ACKNOWLEDGEMENTS