



OFFICE OF TASMANIAN  
ASSESSMENT, STANDARDS  
& CERTIFICATION

Tasmanian Certificate of Education  
External Assessment 2019

PLACE YOUR CANDIDATE  
LABEL HERE

# INFORMATION SYSTEMS and DIGITAL TECHNOLOGIES

(ITS315118)

## Time allowed for this paper

- Working time: 3 hours
- Plus 15 minutes recommended reading time

Pages:	12
Questions:	8

## Candidate Instructions

1. You **MUST** make sure that your responses to the questions in this examination paper will show your achievement in the criteria being assessed.
2. There are **TWO** sections to this paper. Each section contains **ONE** case study.
3. You must answer **EIGHT** questions in total.
  - **ALL** questions from **Section A**.
  - **ALL** questions from **Section B**.
4. The recommended time to be spent on a section is given in the instructions in that section.
5. All written responses must be in English.

On the basis of your performance in this examination, the examiners will provide results on each of the following criteria taken from the course statement:

- Criterion 1** Identify, analyse and solve real-world information problems.
- Criterion 2** Describe, explain and analyse the components of an information system, and the inter-relationships between these components.
- Criterion 3** Describe, explain and analyse social, legal and ethical issues associated with the information systems.
- Criterion 5** Use and evaluate an information system.
- Criterion 8** Communicate ideas and information in a variety of forms.

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## CANDIDATE INSTRUCTIONS

You must complete all your answers using an appropriate software program.

You are required to save your response to both sections in **one** file on the USB memory stick provided to you.

The file title **MUST** be your TASC ID, e.g. 12W12572. Your TASC ID must also be shown in the footer of your document.

You should save your file regularly whilst working. (Check the date and time stamp of your saved file prior to completion).

If the file is not saved correctly, and **cannot** be accessed on the USB drive, it **cannot** be assessed and TASC takes **no** responsibility for the inability to assess your work.

When you have completed the exam you **must also save the final version of your file in pdf format** on the provided USB memory stick.

In this examination you may use the internet to assist in answering Section A and are expected to use the internet when researching your answers for Section B.

Any source of information **must** be referenced **after your answer to that question** by supplying URL(s) of the source(s), and by identifying any other communications made, such as email or instant messaging. If you have communicated with anybody via email you **must** also include a pdf copy of all emails and their contents as part of the files saved on the USB memory stick.

You **must not** collaborate with any other candidate undertaking this examination or teacher of this subject, either verbally or electronically. To do so will mean that you are considered to be in breach of the TASC External Assessment Rule. Penalties will apply.

# SECTION A

Answer **ALL** questions in this section.

It is recommended that you spend 10 minutes reading the information contained in this section and a further 80 minutes answering the questions.

This section assesses **Criteria 1, 2, 3, 5 and 8**.

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## Case Study:

Bikes North is a bike hire business located in Launceston, Tasmania. The owners are currently using a spreadsheet-based information system to manage the day-to-day hiring of their pushbikes. One administration staff member takes calls and emails from customers, he or she then keys these into stand-alone spreadsheet software. Bookings are confirmed to customers by a personal email or phone call made by the administration person. No other details are currently kept in this software. The software uses several linked spreadsheet worksheets; one has all the bike details including costs and the quantity of each type of bike available (eg. men's/women's, 24/26/28 inch wheel); another has a list of the name of each customer and the date and type of the bike they hired, for how long and at what cost; a third sheet has daily totals of the bikes that were hired and money received.

Bikes North has decided to expand their business by creating a new store in Hobart. The new business will be known as Bikes TAS. Although the current system works for their small operation, they recognise that changes need to occur so that they can better manage the bike hiring. The new system would need to allow multiple accesses from different locations.

Answer the following with reference to the case study.

### Question 1 (20 minutes)

*This question assesses Criteria 2, 5 and 8.*

Bikes North has approached you and your team of fellow IT students to help them by taking on a project to improve on their current system.

With reference to the current system for booking and managing transactions

- (a) Summarise and evaluate the **current** information system (equipment, people, data and procedures).
- (b) List the positives and negatives in a table.
- (c) Identify and detail possible improvements that could be made to the current information system as described in the case study above, particular in relation to the addition of a new store in Hobart.

**Section A continues.**

## Section A (continued)

### Question 2 (40 minutes)

*This question assesses Criteria 1 and 8.*

Bikes North has given you the green light to develop a new Information System for them.

- (a) Describe in detail what you and your team would do, during the Planning phase of the Project Life Cycle (PLC).
- (b) Describe in detail how you would work with Bikes North on the Design Stage of the Systems Development Life Cycle (SDLC).
- (c) Describe in detail the SDLC processes and methods you would plan to use in the Development Stage for the new system.
- (d) What are the PLC activities you would do with Bikes North when it came to working on the Closure part of the project?

### Question 3 (20 minutes)

*This question assesses Criteria 3 and 8.*

- (a) What are the potential social, ethical and legal implications of moving from the existing stand-alone to a shared system?
- (b) The owners have recently heard of "Mandatory data breach notification". They would like you to explain what this means to their business.

## SECTION B

Answer **ALL** questions in this section.

You may need to refer to the **Section A Case Study** when answering the questions in this section.

It is recommended that you spend **20 minutes** researching and then a further **70 minutes** answering the questions.

This section assesses **Criteria 1, 2, 3, 5 and 8**.

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### Case Study:

Bikes North has now successfully merged its operations and it is now known as Bikes TAS, having offices in both the Launceston and Hobart. They are ready to undertake their first major project and are looking to you for advice.

The Bikes TAS managers have seen the popularity of electric bikes (e-bikes) rise remarkably in recent years. Given the large number of tourists that visit Tasmania each year, they see that establishing an e-bike hire service as a feasible way of growing their business even further. Bikes TAS is keen to explore what options may be suitable including individual and group hire and even escorted groups where a local guide can be booked to take groups to specific points of interest.

Briefly research examples of e-bike hiring services currently available on the Internet.

### Question 4 (15 minutes)

*This question assesses Criteria 5 and 8.*

- (a) List two URLs of businesses or organisations that provide e-bike hire services which differ in the way they operate.
- (b) By discussing the various parts of an Information System (**equipment, people, data and procedures**) found in **EACH** of the two sites you have researched, make a comparison/analysis of the suitability of each to meet the needs of Bikes TAS.

### Question 5 (10 minutes)

*This question assesses Criteria 5 and 8.*

Considering your two researched systems and the needs of Bikes TAS:

- (a) List two benefits of each system.
- (b) List two disadvantages of each system.
- (c) Make a judgement as to which of the researched systems you believe would be most suitable for Bikes Tas.

## Section B (continued)

### Question 6 (15 minutes)

*This question assesses Criteria 2 and 8.*

Based on the information you have researched in Question 4, as well as any other suggestions you may have, describe a **unique and feasible** Information System which could be implemented to achieve Bikes TAS goal.

- Address all parts of an information system (equipment, people, data and procedures).
- Use a variety of ways to describe how the new system would both look and function.
- Use graphics and/or diagrams to help your explanation.

### Question 7 (10 minutes)

*This question assesses Criteria 1, 5 and 8.*

- (a) Describe in detail the SDLC processes and methods you would plan to use in the Development Stage for the new system.
- (b) List and describe the test criteria you would use to check that the new system you proposed is working correctly.

### Question 8 (20 minutes)

*This question assesses Criteria 3 and 8.*

- (a) Once the project has been completed, Bikes TAS would be keen to electronically promote the services to the wider community. What social, ethical or legal issues need to be addressed in relation to **either** online marketing, **or** email campaigns **or** social networking initiatives?
- (b) With any new system that is implemented it is possible that some customer data will be stored by a third party vendor. This may include name and address data as well as credit card and/or payment details.

Identify and explain some of the social, legal and ethical issues that you believe need to be considered in relation to storage of customer data when implementing their new system.

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