Captivate
EDUCATION

SAMPLE QUESTIONS
One question from each section of this exam, with its marking scheme, so teachers can see what the full paper is like. Full exam and solutions: captivateeducation.com.au/trial-exams

Applied Computing: Data Analytics

Question and Answer Book

Practice examination 1 – 2027

- Reading time is 15 minutes
- Writing time is 2 hours

Approved materials

- One scientific calculator

Materials supplied

- Question and Answer Book
- Detachable Insert containing a case study for Section C in the centrefold
- Multiple-Choice Answer Sheet

Instructions

- Follow the instructions on your Multiple-Choice Answer Sheet.
- At the end of the examination, place your Multiple-Choice Answer Sheet inside the front cover of this book.

Students are not permitted to bring mobile phones and/or any unauthorised electronic devices into the examination room.

Contents

Section A (20 questions, 20 marks)

Section B (5 questions, 20 marks)

Section C (14 questions, 60 marks)

Practice material in the layout of the 2025 VCAA paper – generated 2027. Not a VCAA examination.

SAMPLE

Section A – Multiple-choice questions

Instructions

- Answer **all** questions in pencil on your Multiple-Choice Answer Sheet.
- Choose the response that is correct or that best answers the question.
- A correct answer scores 1; an incorrect answer scores 0.
- Marks will not be deducted for incorrect answers.
- No marks will be given if more than one answer is completed for any question.

Sample – Question 1 of the 20 questions in this section.

Question 1

Wiremu is building a data visualisation for a junior netball association. Members can select a team and filter the charts, but the data is updated only once, at the end of each season.

This type of data visualisation is best described as

A. a long-form infographic.

B. an infographic series.

C. a dashboard.

D. a dynamic data visualisation.

End of Section A

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Section B – Short-answer questions

Instructions

- Answer **all** questions in the spaces provided.
- Write your responses in English.

Sample – Question 1 of the 5 questions in this section.

Question 1 (2 marks)

Mei is preparing an infographic about walking-trail use in her shire. She downloaded a data set from a public repository and has written the following entry for her reference list.

Walking trail usage counts [Data set]. https://data.example.org.au/trail-counts

Identify **two** elements that are missing from Mei's entry and that the American Psychological Association (APA) referencing system requires. 2 marks

Element 1

Element 2

SAMPLE

Section C – Case study

Instructions

- Use the case study provided in the Insert to answer the questions in this section.
- Answers must apply to the case study.
- Answer **all** questions in the spaces provided.
- Write your responses in English.

Sample – Question 1 of the 14 questions in this section.

Question 1 (2 marks)

Marisol has asked Ethan to propose the research question that the dashboard described in the Insert will answer.

Write a suitable research question for the dashboard that can be answered using the data sources listed in the Insert. 2 marks

End of sample questions

SAMPLE

Insert for Section C

Southern Shoals Lifesaving Association

The Southern Shoals Lifesaving Association is a private not-for-profit organisation that provides volunteer surf patrols at five beaches on Victoria's south-west coast: Kelp Point, Tern Bay, Saltbush Beach, Shelly Cove and Driftwood Beach. Its 640 volunteer members patrol the beaches on weekends and public holidays from December to March, and its income comes from membership fees, a local council grant and three business sponsors.

Marisol Ortega is the association's operations manager and leads the project described below. Ethan Kowalczyk is a volunteer member who works as a data analyst and has offered to build the dashboard. The association's board meets on Thursday 6 May 2027 to decide whether to apply for a larger council grant, and the sponsors will review their sponsorship at the same time.

The dashboard project

Until now each beach's patrol captain has written a one-page summary at the end of the season. The board has asked for an interactive dashboard instead, so that board members and sponsors can explore patrol hours, rescues and beach attendance for the 2026–27 season themselves. The dashboard must:

- show the number of rescues at each beach in each month of the season
- show the total volunteer patrol hours for each beach
- show the estimated number of beachgoers at each beach on each patrol day, alongside the tide and weather conditions
- allow the user to filter every chart by beach and by month
- be easy to use for board members and sponsors, many of whom have limited experience with data tools
- work in a web browser on the phones, tablets and laptops that board members and sponsors already use.

The association has no budget for new software, so Ethan must use the spreadsheet and data visualisation software the association already licenses. Ethan can work on the project only on weekday evenings, and the dashboard must be ready for the board meeting.

Data sources

- **Patrol logs** — at the end of every patrol, the patrol captain enters the patrol hours, the number of rescues and an estimate of the number of beachgoers into a logbook app. The app exports a spreadsheet for each beach.
- **Member survey** — Marisol wants to find out why members volunteer and how many hours each member could patrol in future seasons.
- **Tide and weather data** — daily tide heights, wave heights and maximum temperatures for the coast, downloaded from a public repository published in 2026 by the National Coastal Data Service.

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Current data security practices

Member records are kept in a cloud-based member database. For each member it stores the given name, family name, date of birth, home address, mobile phone number, email address, emergency contact name and phone number, and any medical conditions that patrol captains should know about, such as asthma or severe allergies. All twelve patrol captains log in to the member database with the same username and password, which is written on the whiteboard in the Kelp Point clubhouse. The database does not use multi-factor authentication, and a copy of it is saved to a USB drive in the clubhouse at the end of each month.

Data collection

Ethan has combined the patrol-log exports for the number of rescues at each beach into one spreadsheet. Table 1 shows the spreadsheet as it was received, before any cleansing.

	A	B	C	D	E	F
1	**Beach**	**Dec 2026**	**Jan 2027**	**Feb 2027**	**Mar 2027**	**Season total**
2	Kelp Point	6	11	9	4	
3	Tern Bay	1O	18	14	7	
4	Saltbush Beach	3	5	-3	1	
5	Shelly Cove	8		10	5	
6	Driftwood Beach	4	7	6	44	
7	Monthly average:					
8					Highest total:	

Table 1. Number of rescues by beach and month, 2026–27 season

SAMPLE

Marking scheme for the sample questions

Section A

Question	Key	Question	Why
1	**C**	Wiremu is building a data visualisation for a junior netball association. Members can select a team and filter the charts, but the data is updated only once, at the end of each season. This type of data visualisation is best described as	The study design describes dashboards as “interactive, static or live data”. Members can filter the charts (interactive) but the data is updated only at the end of the season (static), so this is a dashboard. D is incorrect as a dynamic data visualisation uses live data; A and B are static infographics.

Section B

Question 1. (2 marks)

*Identify **two** elements that are missing from Mei’s entry and that the American Psychological Association (APA) referencing system requires.*

To be awarded full marks, students were required to:

identify two elements of an APA reference-list entry that Mei’s entry lacks (1 mark each).

- the author (the organisation or person that published the data set)
- the year of publication, in brackets after the author

The title, the [Data set] description and the URL are already present.

Common errors included “the URL” or “the title”, which Mei has included, and “the date accessed”, which APA 7th edition does not require for a stable data set.

Sample full-mark response

> Element 1: the author, which for a data set is usually the organisation that published it. Element 2: the year the data set was published, written in brackets after the author.

Section C

Question 1. (2 marks)

SAMPLE

Write a suitable research question for the dashboard that can be answered using the data sources listed in the Insert.

To be awarded full marks, students were required to:

write a research question that begins with what, how or why and is not a yes/no question (1 mark), and that is specific and measurable using the patrol logs, survey or tide and weather data described in the Insert (1 mark).

- How did the number of rescues, patrol hours and beachgoers vary across the association's five beaches during the 2026–27 season?
- What is the relationship between tide and weather conditions and the number of beachgoers and rescues at each beach on patrol days in 2026–27?

Common errors included statements rather than questions, yes/no questions ("Are the patrols effective?") and questions that the listed data could not answer (for example, about members' fitness).

Stimulus specification — Insert Table 1 (spreadsheet). Columns A–F, rows 1–8; row 1 a dark header row: Beach | Dec 2026 | Jan 2027 | Feb 2027 | Mar 2027 | Season total. Row 2 Kelp Point 6, 11, 9, 4. Row 3 Tern Bay *1O* (letter O for zero), 18, 14, 7. Row 4 Saltbush Beach 3, 5, *-3*, 1. Row 5 Shelly Cove 8, *blank*, 10, 5. Row 6 Driftwood Beach 4, 7, 6, *44*. F2:F6 empty bordered cells. Row 7: "Monthly average:" right-aligned in A7, empty bordered cells B7:E7. Row 8: "Highest total:" right-aligned in E8, empty bordered cell F8. Planted faults (italic): B3 type, D4 range, C5 existence, E6 an unreasonable value that passes a type check (the patrol log shows 4). Cleansed values: Tern Bay Dec 10, Saltbush Feb 3, Shelly Cove Jan 12, Driftwood Mar 4. Cleansed season totals: 30, 49, 12, 35, 21; January average 53 ÷ 5 = 10.6; highest total 49. Uncleansed totals that a SUM would return (text ignored, blank as 0): 30, 39, 6, 23, 61 — these are the values drawn in the Question 9 chart. Invented organisation; no Source line.

Sample full-mark response

> How did the number of rescues and beachgoers at each of the five patrolled beaches change from month to month during the 2026–27 season, and how did this relate to the tide and weather conditions?

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