

Name: _____

Class: _____

PRACTICE EXAM WITH SOLUTIONS
UNIT 1 COMPUTING
Reading time: 10 minutes
Writing time: 80 minutes

QUESTION AND ANSWER BOOKLET

Section	Number of questions	Number of questions to answer	Marks available
A	15	15	15
B	13	13	45
Total			60

This practice examination relates to Chapters 1–5 of the *Computing VCE Units 1 & 2* (Lawson et al, 2016, 6th edition, Cengage Learning Australia) textbook.

Section A

QUESTION 1

Qualitative data is composed of:

A opinions.

QUESTION 2

How are data and information related?

C Data is processed into information.

QUESTION 3

A local area network:

D is geographically limited in size.

QUESTION 4

A disadvantage of wireless networking is:

A security.

QUESTION 5

Interviews are mainly used to collect:

B opinions and reactions.

QUESTION 6

In project management, a milestone:

B is a point of major progress.

QUESTION 7

A contingency plan in a project:

C is a pre-prepared response to something going wrong.

QUESTION 8

An ethical dilemma occurs when:

A there are two choices, and they are of equal desirability.

QUESTION 9

An 'accessible' website is good for:

D people with disabilities.

QUESTION 10

Efficiency is:

C a measure of how much time, money and effort are needed.

QUESTION 11

What is produced during the analysis stage of website development?

A A list of constraints

QUESTION 12

The evaluation stage of the problem-solving methodology differs from testing because:

A testing checks that the system works, while evaluation checks that it is achieving its goals.

QUESTION 13

An IPO chart is used to:

D design data and processing requirements.

QUESTION 14

A pie chart would be the best tool to show:

C the relative numbers of male and female students in a class.

QUESTION 15

Infographics avoid using:

B too much text.

Section B

QUESTION 1

Explain the main difference between a theory and a hypothesis.

Answer: A theory is well proven by multiple experiments and observations (1 mark). A hypothesis is an unproven yet testable proposed explanation for an observation. (1 mark)

QUESTION 2

A researcher writes the following statement:

Of secondary school mathematics teachers teaching students in Years 7–10, 61% have studied mathematics at university to at least second-year level.

- a** Is this qualitative or quantitative data?

Answer: Quantitative

- b** Explain how to distinguish between the two types of data.

Answer: Quantitative data is based on empirical, measurable, numeric measurement (1 mark). Qualitative data is based on opinion (1 mark).

QUESTION 3

Zahra, a researcher, says she wants to collect primary data about a particular issue. Her research assistant, Jason, suggests that it would be better to gather secondary data about the same issue.

- a** Under what circumstances would Zahra's plan be appropriate?

Answer: Zahra's plan is appropriate if she wants to gather original (1 mark), timely (1 mark) data from the stakeholders. It would also be suitable if she is interested in collecting qualitative data, such as opinions (1 mark). (Any two are acceptable answers.)

- b** Identify two benefits of using Jason's plan.

Answer: Jason's plan would be cheaper (1 mark) and quicker (1 mark) to undertake, and there is a great deal of pre-existing secondary data available from many reliable sources on many subjects (1 mark). (Any two are acceptable answers.)

QUESTION 4

A list of tasks typical to the creation of a solution appears in the left-hand column of Table 1.1. In the right-hand column of Table 1.1, identify the stage of the problem-solving methodology (PSM) in which each of the tasks would be undertaken.

Table 1.1

TASK	PSM stage
List evaluation criteria	<i>Design</i> (1 mark)
Write user documentation	<i>Development</i> (1 mark)
Interview users about the ease of use of the new system that has been recently installed	<i>Evaluation</i> (1 mark)
Conduct user acceptance testing	<i>Development</i> (1 mark)

QUESTION 5

Alan, a website developer, notices that a page on a website he is visiting has poor contrast and suffers from inconsistency. List two examples each of what he could be detecting on the site, in terms of:

a poor contrast.

Answer: Any two of the following are acceptable.

- The colour of text is similar to the background colour (1 mark).
- Text is placed over an image with a pattern or texture (1 mark).
- Text is placed over an image with similar colours (1 mark).
- Text is hard to read, for any of the above reasons (1 mark).

b inconsistency.

Answer: Any two of the following are acceptable.

- Text formatting styles change without reason (1 mark).
- Many different fonts, colours and styles are used (1 mark).
- Icons or buttons mean different things on different pages (1 mark).
- Menus are placed in different places on different pages (1 mark).
- Not every page has a link back to the homepage (1 mark).

QUESTION 6

Jacob produces the following presentation of data.

FamilyName	GivenName	Income (\$)	PhoneNumber
Bird	Gregory	103 567	+1385 3945 4944
Chang	Hyun	78 345	(04) 4956 3939
Robinson	Marilyn	93 567	0402 395 495

a Identify two conventions Jacob used in the table, and explain how they contribute to improving the communication of the data.

Answer:

- Bold titles make the information stand out and easier to find (2 marks).
- Shaded heading cells visually distinguish the heading from other data cells (2 marks).
- Right-justified incomes makes numbers easier to compare (2 marks).
- Indicating units (\$) in the income heading saves repeating the sign in every cell below (2 mark).

b Explain why it is important to use relevant conventions when presenting data.

Answer: Users expect data to be presented in the usual, expected way so that is easier to understand quickly and navigate through (1 mark). Inventing your own conventions only tends to inconvenience users who will need to use their own time and energy to learn your different style (1 mark).

QUESTION 7

Jennifer is a designer of various information products. Tick [✓] the relevant boxes below to identify the appropriate design tools (from the left column) that would help Jennifer to design each of the products.

Tools	Website	Spreadsheet	Database
IPO chart		✓ (1/2 mark)	✓ (1/2 mark)
Mock-up	✓ (1/2 mark)	✓ (1/2 mark)	✓ (1/2 mark)
Site map	✓ (1/2 mark)		

QUESTION 8

Donald decides to name the homepage file for his website 'My Landing Page/homepage.html'. Identify two reasons why this name would not be suitable.

Answer:

- Web servers consider a filename finished when they see a space (1 mark)
- The slash is a forbidden character in file names (1 mark).

QUESTION 9

Pablo is inserting two images onto a webpage. One uses GIF format and the other is saved as JPEG. Suggest what each image probably contains.

a GIF

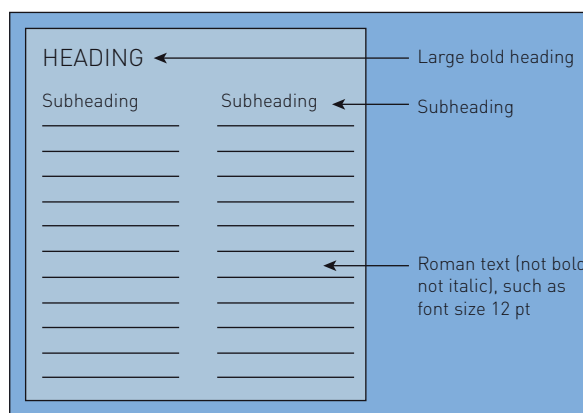
Answer: A solid-colour logo, cartoon, simple graphic or animated image (1 mark each for any suggestion)

b JPEG

Answer: A digital photo (1 mark) with many subtly different shades of colour (1 mark)

QUESTION 10

A website's design includes the following sketch.



Identify the design element this sketch demonstrates.

Answer: Hierarchy

QUESTION 11

Choose a contemporary issue associated with the use of information systems that is causing conflict. Write a report (200–300 words) that identifies the stakeholders, explains how the issue is causing conflict between them and suggests a possible way to resolve the conflict.

Answer: Responses will vary based on the issue they have chosen, but students should be scored to:

- select a relevant issue (1 mark)
- correctly and completely identify stakeholders (1 mark)
- explain how the issue causes conflict (2 marks)
- suggest a realistic resolution (2 marks).

QUESTION 12

There are various methods for referencing the sources of research data, such as Harvard, Chicago, APA and IEEE. However, all methods are used to acknowledge the use of intellectual property. Why is it important to acknowledge the use of intellectual property?

Answer: To prevent accusations of plagiarism (1 mark) and to acknowledge other people's intellectual property in your own work (1 mark)

QUESTION 13

Amir, a business owner, is discussing the storage and computing hardware at his business with his daughter, Jamila. He says it is getting it old and he wants to replace it soon. He makes a list of the hardware and software he needs to buy. Jamila suggests that he move his business into cloud storage and cloud computing instead.

a Identify and explain the advantages and disadvantages of following Amir's plan.

Answer: By owning and controlling his own hardware and software, Amir has total control over it, and can secure his data completely (1 mark).

Any one of the following disadvantages: However, if any break-ins or natural disasters occur, his data will be vulnerable (1 mark). In a few years, he will need to repeat this process because his hardware and software will be out of date again (1 mark).

b Identify and explain the advantages and disadvantages of following Jamila's plan.

Answer: Outsourced data storage and computing facilities reduce the cost of local hardware and software, maintenance and worries about updates and security (1 mark).

Any one of the following disadvantages: However, it raises concerns about how the remote data is being protected, used or misused (1 mark), and the fact that Amir will not have access to his data if there is an internet outage (1 mark).