Name: _____

Class: _____

PRACTICE EXAM

UNIT 2 COMPUTING

Reading time: 10 minutes
Writing time: 80 minutes

QUESTION BOOKLET

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

Grade: _____
Scale:

A+	54–60	A	48–53	B	42–47	C	36–41	D	30–35	E	15–29	UG	0–14

This practice examination relates to Chapters 6–8 of the *Computing VCE Units 1 & 2* (Lawson et al, 2016, 6th edition, Cengage Learning Australia) textbook.

Section A

Instructions for Section A

Circle the correct answer. Choose the response that is **correct** or that **best answers** the question.
A correct answer scores 1 and 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.

QUESTION 1
Documentation is written in the:

A analysis stage.

B design stage.

C development stage.

D evaluation stage.

QUESTION 2
Which of the following statements is most true of primary data?

A Primary data can be difficult and expensive to collect.

B Primary data cannot fully be trusted.

C Primary data is based purely on facts and measurements.

D People other than the researchers collect it.

QUESTION 3
Data with integrity:

A has been validated.

B is out of date.

C comes only from primary sources.

D is trustworthy.

QUESTION 4
A database consists of:

A tables that contain fields, and the fields are made up of records.

B tables that contain records, and the records are made up of fields.

C records that contain tables, and the tables are made up of fields.

D fields that contain records, and the records are made up of tables.

QUESTION 5
What is a database query?

A A way of requesting specific data

B A way of checking data integrity

C Using interviews to collect data for the database

D A format for the presentation of data

QUESTION 6
An unauthorised individual makes changes to some of the data in a database after its creation. In what way is this potentially damaging to the database?

A Authenticity

B Relevance

C Timeliness

D Security

QUESTION 7
An example of a non-technical (social, legal and useability) constraint is:

A hard disk space.

B compatibility with an operating system.

C bandwidth.

D the need to obey certain laws.

QUESTION 8
You are developing an application to burn Blu-ray discs. A requirement of the application that you would consider 'out of scope' would be:

A it can write to discs made by different manufacturers.

B it is easy to use.

C it has an entertaining interface.

D it works reliably.

QUESTION 9
What is a 'convention'?

A A design principle

B An accepted method of doing something

C A mode of presenting data, such as choosing a table or a graph

D The same as a 'format'

QUESTION 10
Which is the most appropriate choice to evaluate the **effectiveness** of a system?

A Using a stopwatch to measure how long the system takes to finish a computation

B Counting the number of worker-hours the system has consumed over 3 months

C Using validation techniques to prevent the entry of inaccurate data

D Interviewing the system's users to ask them whether they think it is easy to use

QUESTION 11
Why are data visualisations valuable tools?

A They make presentations more interesting.

B They make masses of numeric data more meaningful.

C Data can be shown in detail.

D They only use authentic, primary data.

QUESTION 12
A programmer uses a compiler to:

A convert algorithms into source code.

B find errors in code.

C convert source code into executable code.

D translate pseudocode into executable code.

QUESTION 13
Primary storage includes:

A hard disk drives (HDD).

B random access memory (RAM).

C filing cabinets.

D the first storage device in a system.

QUESTION 14
One characteristic of 'floating point' data type is that it:

A stores variable-length text.

B can be used for true/false answers.

C can hold any type of data.

D stores numbers with decimal places.

QUESTION 15

An example of a functional requirement is:

A the square root of a variable.

B that the system should be easy to use.

C that software should be tested thoroughly.

D that the system should be able to generate graphs of data.

Section B

Instructions for Section B

Answer **all** questions in the space provided.

QUESTION 1

Identify and explain one advantage of using a custom-designed program, rather than one you can buy off-the-shelf commercially.

(2 marks)

QUESTION 2

Refer to the following code to answer the question. Note: 'sts' is an abbreviation of 'status'.

```
321
322 function getState(  stsDOC, stsDSC, stsDJS, stsDBS, stsDWS )
345
346 function getStateReason( stsDWS, stsDOC, stsDSC )
347 {
348         var stateReason = '';
349
350         if( typeof stsDWS !== 'string' || stsDWS === '' ||
351             typeof stsDOC !== 'string' || stsDOC === '' ||
352         typeof stsDSC !== 'string' || stsDSC === ''
353         ) {
354                 return '';
355         }
356
357         if (stsDSC !== 'NO' || stsDOC !== 'NO') {
358             stateReason = 'AttentionRequired';
359         } else if (stsDSC === 'NO' && stsDOC === 'NO' && stsDWS === '1900') {
360             stateReason = 'Paused';
361         } else if (stsDSC === 'NO' && stsDOC === 'NO' && stsDWS === 'NO') {
362             stateReason = 'None';
363         } else {
364             stateReason = '';
365         }
366
367         return stateReason;
368 }
369
```

a Using examples from the code, demonstrate how two different naming conventions have been used.

(2 marks)

b What feature of a function distinguishes it from other procedures in a program?

(1 mark)

c Using examples from the code, explain the importance of code indentation.

(2 marks)

QUESTION 3

From object-oriented programming, list an example of each of the following:

a a property.

(1 mark)

b a method.

(1 mark)

c an event.

(1 mark)

QUESTION 4

a What is the relationship between a bit and a byte?

(1 mark)

b Sandeep wants to send a 1 gigabyte (1GB) file to her friend Xing. Her ADSL connection has a maximum upload speed of 1 Megabit per second (1 Mbps) and a download speed of 10 Mbps. In seconds, approximately how long will it take for Xing to receive her file?

(2 marks)

QUESTION 5

Nigel creates the following pseudocode.

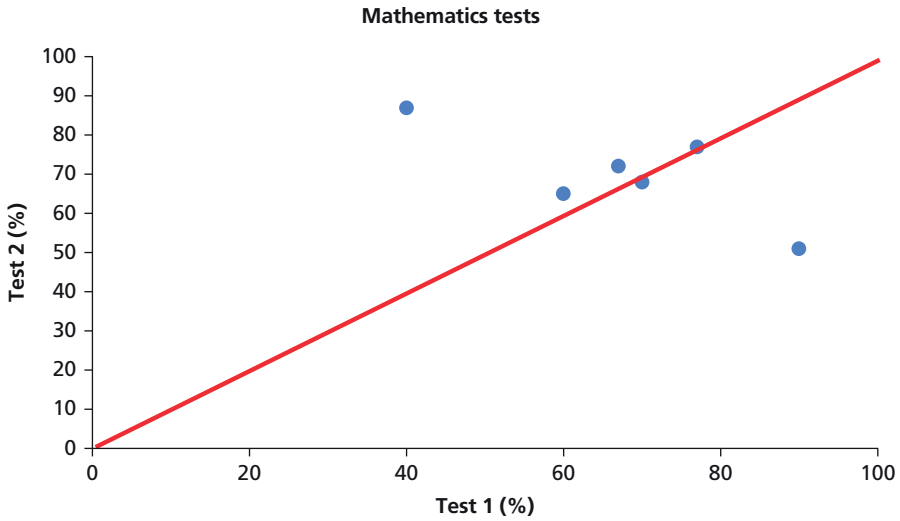
```
BEGIN
  Create an integer array called intNum with 12 slots numbered 1 to 12.
  Display "Starting"
  N ← 5
  FOR i ← 1 to 6
    intNum(i) = i * i
  NEXT i
  Display intNum(N)
END
```

Identify the output of the code.

(2 marks)

QUESTION 6

Refer to the following data visualisation to answer the question. Each dot represents the performance of a student in two tests.



What is one conclusion could you draw from this visualisation about the students or the tests?

(2 marks)

QUESTION 7

You need to find out the opinion of students at your school about the curriculum.

a Would you be more likely to use primary or secondary data?

(1 mark)

b Justify your choice.

(2 marks)

c You need to gather the opinions of at least 300 students.

i Identify the data-gathering method and technique you would choose.

(1 mark)

ii Justify your choice.

(2 marks)

d You find online that similar research has been conducted in 1985 by a school in Mississippi, USA. The researchers reported some very interesting findings that could save you from collecting more data. Would you use the American data? Explain why or why not.

(2 marks)

e You write a question that asks respondents about their gender (male, female or intersex). You want to store this data so that it will take up as little space as possible. Identify the data type you would choose, and give examples of other stored data.

(2 marks)

QUESTION 8

There are many advantages to using electronic database management systems. However, what is one major disadvantage of using them to store all of your data?

(2 marks)

QUESTION 9

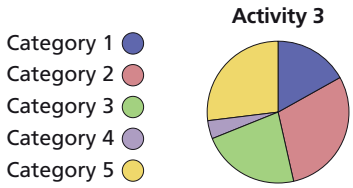
Your digital music collection contains both data and metadata. Explain the relationship between data and metadata.

(2 marks)

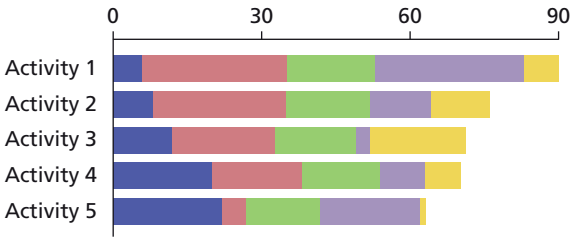
QUESTION 10

You collect data from a large number of people about how many hours they spend on five different activities during their day. You are unsure how to present the data graphically. You consider these options:

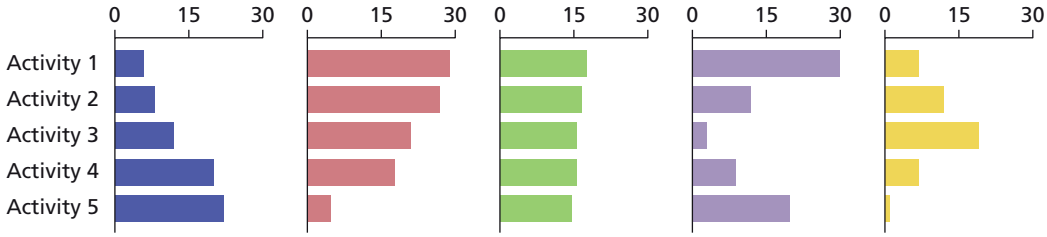
a



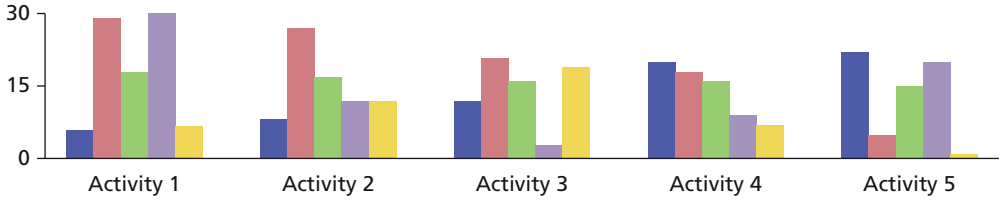
b



c



d



Identify the format you would choose, and justify your reason for choosing it.

(3 marks)

QUESTION 11

Using correct database terminology, fill in the missing words in the labels below.

'BookTitle' is a _____.

tblFavouriteBooks

ID	ISBN	BookTitle	FamilyName	GivenName	Genre
1	9781920769703	Shadowboxing	Birch	Tony	Short stories
2	9781865080574	Birds of Passage	Castro	Brian	Literature
3	9780199210770	Words Words Words	Crystal	David	Non-fiction
4	9780747590668	Rebecca	du Maurier	Daphne	Literature
5	9780743455961	On Writing	King	Stephen	Non-fiction
6	9780143009610	The Boat	Le	Nam	Short stories

This row is a _____.

(2 marks)

QUESTION 12

Samantha manages her family's business records. One day she creates this in her database.

Field:	cusCustomerTitle	cusCustomerFirstNam	cusCustomerLastNam	cusCustomerSuburb	cusCustomerMobile
Table:	tblCustomers	tblCustomers	tblCustomers	tblCustomers	tblCustomers
Sort:					
Show:	☑	☑	☑	☐	☑
Criteria:				"Fairfield" Or "Northcote"	

a Identify the database component pictured above.

(1 mark)

b Outline what type of data it would select and display.

(2 marks)

c Samantha sometimes uses macros in her database. Using an example, describe how macros can be useful in databases.

(3 marks)

QUESTION 13

Simon has a great deal of sensitive data about his small but forward-thinking business on his computer and he is concerned that his competitors might discover it, or that it could be stolen. He is beginning to think that keeping it all on his hard disk drive is unwise, so he is considering saving his business data to a cloud storage host.

Discuss the main arguments for and against Simon using a cloud storage service.

(3 marks)