nelsonnet

Name: _____

Class: _____

CHAPTER TEST

Chapter 6 Programming

Section	Number of questions	Number of questions to be answered	Number of marks	Marks achieved
A	15	15	15	
B	5	5	25	
Total			40	

Grade: _____

Scale:

A+	36–40	A	32–35	B	28–31	C	24–27	D	20–23	E	11–19	UG	0–10

INSTRUCTIONS

Write your **name** and **class** in the space provided above. All written responses must be in English.

MATERIALS

- Question book of 8 pages.
- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are **NOT** permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- Calculators are **NOT** permitted in this examination.
- Students are **NOT** permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

Section A

Multiple-choice questions

INSTRUCTIONS FOR SECTION A

- Circle the correct answer in pencil for multiple-choice questions.
- 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 given for a question.

1 System software includes:

  A a game.

  B an operating system.

  C a text editor.

  D software burnt onto CD or DVD.

2 Prototype software:

  A is an experimental program.

  B is used by professional programmers.

  C looks and feels like a finished program, but is incomplete.

  D does not work.

3 A main difference between a high-level language and a low-level language is that:

  A a high-level language lacks direct access to underlying hardware.

  B a low-level language is more powerful.

  C a high-level language is much harder to learn.

  D a low-level language is used by beginners.

4 A compiler:

  A converts pseudocode into source code.

  B lets programmers edit source code.

  C ports software from one platform to another.

  D converts source code into executable code.

5 A platform is:

  A the hardware in a computer.

  B a combination of CPU and operating system.

  C another word for a programming language.

  D the list of commands made available by a programming language.

      COMVC11TT00014

6 Debugging:

   A makes programs more efficient.

   B finds and corrects programming errors.

   C ensures input data are accurate.

   D verifies that a program's output is accurate.

7 The difference between data and information is that:

   A data is processed to create information.

   B information is processed to create data.

   C data is more complex than information.

   D information is more reliable than data.

8 RAM:

   A stores programs and data between runtimes.

   B is software permanently burnt into silicon chips.

   C is stored on disk.

   D loses its data when the power is turned off.

9 Solid state disks (SSD) are so-called because:

   A they keep their memory when power is turned off.

   B they are built in a way that prevents their read/write heads from crashing.

   C they have no moving parts.

   D they never fail.

10 Roughly, how many kilobytes are in a gigabyte?

   A 1 000

   B 1 000 000

   C 100

   D 1 000 000 000

11 A variable:

   A stores multiple values in RAM.

   B stores a record on disk.

   C has a value that is set once and cannot be changed again.

   D stores a value in RAM.

12 A floating point value:

    A can store decimal places.

    B can change its value without intervention by the programmer.

    C can store text data.

    D can store any sort of data.

13 The Boolean data type is used to store:

    A a single text character.

    B a pointer to a memory location.

    C a series of numbers.

    D true/false values.

14 When storing graphic, video or audio data, it is common to reduce its storage requirement and transmission time using:

    A validation.

    B compression.

    C iteration.

    D encryption.

15 Non-functional requirements describe:

    A functions the software should be able to carry out.

    B why software is not working properly.

    C qualities the software should have.

    D what a program is not expected to be able to do.

Section B

Short-answer questions

INSTRUCTIONS FOR SECTION B

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

1 Complete the missing information in the following data dictionary.

Name	Data type	Example	Description
	Date	28 May 2000	Date of birth
boolMarried	Boolean		Is person married?
		(03) 1234 5678	Phone number
Salary		$400.34	Weekly salary

(5 marks)

2 a A company needs to store thousands of invoice documents on disk. They want them to sorted easily by customer name and then the date of the invoice. For example, all the invoices for Beth Adams should come before those of Ajani Zhara. Beth's 2013 invoices should appear before her 2015 transactions. Give an example of a file-naming scheme that would best accomplish this goal.

(5 marks)

b Explain one important benefit of using either Hungarian notation or CamelCase when naming objects in a program.

(2 marks)

3 a Fill in the missing information in the following IPO chart.

Input (data)	Processing (algorithm)	Output (information)
• DOB • Current Date		Age in years
	Quantity * Cost Per Item	Subtotal
• Is Tax payable? • Tax rate %	Subtotal + (If tax is payable, Subtotal * Tax Rate %)	

(3 marks)

b Name one property and one method of a textbox in a program.

(2 marks)

4 a What output would the following pseudocode produce?

```
BEGIN
        A ← 7
        IF A <=7 THEN
                A ← A * 2
        END IF
        DISPLAY A
END
```

(1 mark)

b What output would the following pseudocode produce?

```
BEGIN
    A ← 10
    WHILE A > 10
        DISPLAY A
        A ← A - 1
    END WHILE
    DISPLAY "END"
END
```

(1 mark)

c Identify two reasons why programmers use pseudocode rather than immediately writing a program in a real programming language.

(2 marks)

d Define 'algorithm.'

(1 mark)

5 a How is validation different from testing?

(2 marks)

b Explain why internal documentation is used in source code.

(1 mark)

c Using an example, explain the importance of code indentation.

(2 marks)