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| Parade Colour Crest (small) April 2007 | **STUDENT NAME:** |  |
| **SUBJECT TEACHER:** | J. Schwartz | **TUTOR GROUP:** |  |

 **Year 11**

**VCE Information Technology, Unit 2**

***(*b2iIT25a*)***

**Written examination**

**Monday, 14 November, 2011**

Reading time: 8:55 pm to 9:10 pm (15 minutes)
Writing time: 9:10 pm to 10:40 pm (90 Minutes)

**QUESTION AND ANSWER BOOK**

**Structure of book**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Section* | *Number of questions* | *Number of questions to be answered* | *Number of marks* | *Suggested time per section* |
|  | A | 20  | 20  | 20 | *20 mins* |
|  | B  | 14  | 14  | 73 | *70 mins* |
|  |  |  | Total = 93 marks | *Total = 90 mins* |

**INSTRUCTIONS TO STUDENTS**

* 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.
* No calculator is allowed in this examination.

**Materials supplied**

* Additional space is available at the end of the book if you need extra paper to complete an answer.

**Instructions**

* Write your **student name, tutor group & subject teacher’s name** in the space provided above on this page.
* All written responses must be in English.

**Students are NOT permitted to bring mobile phones, mp3 players and/or any other unauthorised electronic devices into the examination room.**

**SECTION A – Multiple-choice questions**

**Instructions for Section A**

Answer **all** questions by circling the corresponding letter on the separate answer sheet.

Choose the response that is **most** **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.

1. Which stage of the Problem Solving Methodology would include drawing a layout diagram of a web page?
	1. Analysis.
	2. Evaluation.
	3. Design.
	4. Development.
2. Which stage of the Problem Solving Methodology would include surveying customers to find out what they think of the web site?
	1. Analysis.
	2. Evaluation.
	3. Design.
	4. Development.
3. Which stage of the Problem Solving Methodology would include writing instructions on how to use the solution?
	1. Analysis.
	2. Evaluation.
	3. Design.
	4. Development.
4. Which stage of the Problem Solving Methodology would include writing criteria to use to evaluate the solution?
	1. Analysis.
	2. Evaluation.
	3. Design.
	4. Development.
5. Which stage of the Problem Solving Methodology would include discussing the constraints of the solution?
	1. Analysis.
	2. Evaluation.
	3. Design.
	4. Development.
6. Which stage of the Problem Solving Methodology would include reporting on the effectiveness of a solution?
	1. Analysis.
	2. Evaluation.
	3. Design.
	4. Development.
7. Which kind of data visualization would be best to use to show the importance of various ideas in a text document?
	1. Bubble Chart.
	2. Pie Chart
	3. Scatter Chart
	4. Word Cloud
8. Which kind of data visualization would be best to use to show the importance of various types of advertising to attract customers to a shop?
	1. Bubble Chart.
	2. Pie Chart
	3. Scatter Chart
	4. Word Cloud
9. Which kind of data visualization would be best to use to show any relationship between the duration of volcanic eruptions and the time between volcanic eruptions?
	1. Bubble Chart.
	2. Pie Chart
	3. Scatter Chart
	4. Word Cloud
10. Which kind of data visualization would be best to use to show relationship between three different pieces of related data?
	1. Bubble Chart.
	2. Pie Chart
	3. Scatter Chart
	4. Word Cloud
11. When considering the audience for a data visualization, you would probably not consider
	1. Age
	2. Culture
	3. Height
	4. Special needs
12. The three main types of control structures in computer programming languages are
	1. Conditional, oblique and recursive
	2. Iterative, sequential, and conditional.
	3. Modular, recursive, and iterative
	4. Sequential, modular and oblique
13. Software design tools do NOT include
	1. Data Dictionaries
	2. IPO Charts
	3. Processing Diagram
	4. Structure Charts
14. Checking that the user has entered just numbers in the input slot for an age is an example of
	1. Evaluation
	2. Processing
	3. Testing
	4. Validation
15. Checking that the average score given by the computer is the correct value is an example of
	1. Evaluation
	2. Processing
	3. Testing
	4. Validation
16. Checking that the program solves the problem for which it was written is an example of
	1. Evaluation
	2. Processing
	3. Testing
	4. Validation
17. Design elements for any output do NOT include
	1. Colour and contrast
	2. Orientation
	3. Schedule
	4. Structure
18. Conventions for presenting a data visualization do NOT include
	1. Author’s name
	2. Explanatory Title
	3. Light background colour
	4. Source of data used
19. Which of these statements is not true?
	1. Programming languages are generally more flexible than scripting languages.
	2. Programming languages are usually smaller and simpler than scripting languages.
	3. Programming languages usually handle complex data better than scripting languages.
	4. Scripting languages are designed to work within specific applications.
20. In a programming language the following are usually examples of branching structures
	1. If…Then
	2. If…Then…Else
	3. Repeat…Until
	4. Select Case

**SECTION B – Short-answer questions**

**Instructions for Section B**

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

1. Briefly explain the following design elements. 2 x 3 marks
	1. Proportion (Visual Hierarchy)

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* 1. Clarity and Consistency

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1. Clearly differentiate between:
	1. Primary data and secondary data 3 marks

Primary data is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Efficiency and effectiveness 3 marks

Efficiency is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Explain why the flash file format is a good format for data visualizations. 2 marks

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1. Use the following terms to complete the table below. Terms may be used once, more than once or not at all. 5 marks

Boolean Character Decimal Integer String

|  |  |
| --- | --- |
| Sample Data | Data Type |
| 17 |  |
| “Fred” |  |
| False |  |
| “2” |  |
| 194.7 |  |

1. What are the four characteristics of a project? 4 marks

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Consider the following algorithm.

Start

 Get N

 If N > 25 then

 Display “Too many people.”

 Tot 🡨 0

 Count 🡨 0

 Done 🡨 False

 Repeat

 Get Score

 If Score < 0 then

 Done 🡨 True

 Else

 Tot 🡨 Tot + Score

 Count 🡨 Count + 1

 Until Count = 25 or Done //This line has an error in it.

 A 🡨 Tot / Count

 Display A

Stop

* 1. What does this algorithm do? 3 marks

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* 1. Describe how you would test the processing. 6 marks

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* 1. There is an error in the line which starts “Until”. Write the corrected line. 1 mark

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1. Consider the management of a project
	1. Explain the use of a Gantt Chart. 2 marks

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* 1. What is the critical path? 2 marks

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1. An old phrase in the use of computers is GIGO which stands for “Garbage In, Garbage Out”. How does this phrase relate to the newer term of “data integrity”?
 3 marks

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1. When do we use CSV files? 3 Marks

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1. During which stages of the problem solving methodology should a project team consult with their client? For each stage describe the purpose of the consultation.
 You may not need all four of the following answer slots 12 marks

Stage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Purpose: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Stage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Purpose: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Stage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Purpose: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Stage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Purpose: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Four sources of error when collecting data are listed below. Explain each. 4 x 2 marks
	1. Partial response

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* 1. Processing error

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* 1. Respondent error

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* 1. Undercount

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1. What is the purpose of: 2 x 2 marks
	1. Process testing?

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* 1. Layout testing?

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1. What columns should be included in a testing table? 4 marks

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1. Describe one de-bugging technique. 2 marks

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**End of Examination**