COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF CONSUMER INTELLIGENCE AND INFORMATION SYSTEMS
DEPARTMENT OF APPLIED INFORMATION SYSTEMS
JANUARY 2020 SUPPLEMENTARY EXAMINATION

MODULE:	Development Software 1B
CODE:	DSW01B1
DATE:	January 2020 (Supp_Exam)
DURATION:	2 hours
TOTAL MARKS:	100

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NUMBER OF PAGES:	06 including cover page

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INSTRUCTIONS:

- This is a CLOSED book examination.
- **Answer all questions.**
- Electronic devices and smart watches are NOT allowed.
- You must write your student number on the answer booklet, write all your answer in it, and hand it in.
- Write neatly and legibly in the answer booklet.
- For all multiple-choice questions, indicate your answer clearly. Your answer must be a unique option. If two or more answers are indicated, you will be marked wrong for that question. Multiple choice that allow more than one answer to be selected are clearly indicated.
- The general University of Johannesburg policies, procedures, and rules pertaining to written assessments apply to this examination.

Section A – General Questions [30 marks]

[All questions in this section carries 2 mark each, unless stated otherwise]

A1.

A version of visual studio that is made available to the public at no cost is:
(a).   Community   (b).   Professional
(c).   Enterprise   (d).   Version 2015
(e).   Version 2017

A2.

Visual Studio was developed by:
(a).   Google   (b).   Apple
(c).   .Net   (d).   Microsoft
(e).   Android

A3.

List four reasons for using recursion.   **(4 marks)**

A4.

What is the structure that allows repeated execution of a block of statement is
a(n)_____?

A5.

List two important components of a Unified Modelling Language (UML) class diagram.

A6.

Programs in which you create and use objects that have attributes similar to their real-world
counterparts are known as _____ programs.

A7.

The technique of packaging as object's attributes into a cohesive unit that can be used as an undivided
entity is _____.

A8.

Which of the following is a class?

          (a). System   (b). Console   (c). Void   (d). WriteLine ()

A9.

In C#, a container that groups similar classes are known as_____?

A10.

Programming errors such as using incorrect punctuation or misspelling words are collectively known
as _____ errors.

A11.

List the mandatory elements in the declaration of method.

A12.

List four reasons for using recursion. **(4 marks)**

A13.

A program that translates high –level programs into intermediate or machine code is a(n)_____.

Section B – Code Fragments, Algorithm, UML & GUI [30]

B1.

Create **an algorithm** that checks if a person qualifies to vote for the next coming municipality elections.

 (6 marks)

B2.

What is the output of the following code segment? **(4 marks)**

```
bool a = true;
bool b = false;
Console.WriteLine(a && b);
Console.WriteLine(a || b);
Console.WriteLine(!a);
Console.WriteLine((5 > 7) ^ (a == b));
Console.ReadLine();
```

B3.

Design a **class** Book, with a list of attribute visibly containing attributes **title** and **author** and the following methods **SetTitle(), GetTitle(), SetAuthor()**, **GetAuthor()** and **Tostring()**. (**10 marks**)

B4.

Design a GUI interface for the factorial problem. The interface should include all controls and demonstrate what will be the output when the user inputs 5. You should explain in detail how a factorial is calculate and what is a factorial problem? **(10 marks)**

Section C –Console Programs [40 marks]

[In writing your programs/code on paper you should start your code as if you are on Line 8, you do not have to write Line 1 to 7]

C1.

Determine the output of the following program if possible. If buggy, specify the bug. **(8 marks)**

```
static void Main(string[] args)
        {
               int sum = 0;
               for (int i = -20; i < 0; i++)
               {
                      sum += i;


               }
               Console.WriteLine(sum);
        }
```

C2.

Create a **program** that accepts a user message and determines whether it is short enough for a social networking (e.g. Twitter or Facebook) service that does not accept message that are longer that 120 long. **(10 marks)**

C3.

Create a **program** that initializes an array of ten strings. You can then use Reverse () method to reverse the array. Add a method called *ReversedArray()* to display a message that describes what is the output of the program**. (12 marks)**

C4.

Create a **program** that accepts a phrase from the user and passes it to a method that returns the number of vowels in the phrase. The program should not consider such as *(e.g. w, r, q, m, h & g)* to be vowels.

(10 marks)

End of paper. Good luck!

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