



## University of Vavuniya

First Examination in Information Technology - 2019

First Semester-December 2020/January 2021

Held on October/November 2021

IT1134 Fundamentals of Programming (Theory)

Online Examination

Question-Set 2 of 2

- Time Allowed : **30 Minutes**
- Answer **only one** of the **two** Questions
- This is a closed-book examination.

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2. (a) Write array declarations, including initialization, for each of the following tasks: [20%]
- i. A list of 10 integer marks: 89, 75, 82, 93, 78, 95, 81, 88, 77, and 82.
  - ii. A list of 15 character codes, with the first seven codes being *f*, *j*, *m*, *q*, *t*, *w*, and *z*.
- (b) State clearly the concept of scope of an identifier with aid of suitable examples. [15%]
- (c) Describe the principal reason for passing arguments by reference. [10%]
- (d) Write a function declaration and a function definition for a function that takes one argument of type **int** and one argument of type **double**, and that returns a value of type **double** that is the average of the two arguments. [25%]
- (e) Write an iterative and recursive functions to display **Fibonacci** series of first ten numbers. [30%]



3. (a) Explain how **structures** are different from **arrays** in programming. [20%]
- (b) Write C++ statements to accomplish each of the following tasks:
- Define a struct, **UniStudent**, to store the following data about a Student:  
**FirstName(String), LastName (String), RegistrationNo(String), YearOfStudy(int)**, and the **Course(String)**. [20%]
  - Declare a **UniStudent** variable and store the following information:  
**First Name: Vivekanandan,**  
**Last Name: Angayya,**  
**Registration No: 2020IT01,**  
**YearOfStudy: 1**  
**Course: IT.** [10%]
  - Write a function to print **UniStudent** information. [15%]
- (c) Consider the following C++ code:
- ```
double salary = 78000;
double raise;
try
{ cout << "Enter the raise: ";
cin >> raise;
cout << endl;
if ( raise < 0.0)
throw raise;
cout << "Salary increase:  $ " << salary * raise / 100 << endl; }
cout << "Exiting the try block." << endl;
catch
{
cout << "Negative raise:  " << x << endl;
}
```
- Find errors, if any, in the above code and provide the correct code. [15%]
  - Find the output if the inputs are **5** and **-4**, after the correction of the code. [20%]