ΠΑΜΙΒΙΑ UΠΙVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE

QUALIFICATION : BACHELOR OF COMPUTER SCIENCE	
QUALIFICATION CODE: 07BACS	LEVEL: 7
COURSE: ADVANCED PROGRAMMING	COURSE CODE: APG710S
DATE: JUNE 2019	PAPER: THEORY
DURATION: 3 Hours	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	MS NDINELAGO T NASHANDI
MODERATOR:	MR. BARUANI ATUMBE JULES

THIS QUESTION PAPER CONSISTS OF 2 PAGES

(Excluding this front page)

INSTRUCTIONS

1. Answer ALL the questions on the answer scripts.

2. Write clearly and neatly.

3. Number the answers clearly.

PERMISSIBLE MATERIALS
1. Calculator.

SECTION B (50 Marks)

1. Create a function that takes in two integers by reference as parameters and return the quotient of the two integers.A user defined exception should be thrown if a divided by zero is attempted.**[10 marks]**

2. Create a friend function that add and return the sum of two numbers. The friend function belongs to class called SumX. The definition of the function should be outside the class. **[5 Marks]**

3. Define the class Person which has name (String) and age (int) as data members and Define the following constructors:

    a. Default

    b. With name as parameter (Assume age is 17)

    c. With name and age as parameters

    d. Copy constructor   **[5 marks]**

    e. Using the class above, define two subclasses Student and Lecturer. **Student subclass** override the display method in the Pesron class and it should display the name and assignment marks and **Lecturer Subclass** override the **display** method in the Pesron class and it should displays the name and number of publications (int). Create a main program using polymorphism to display the data of one student and one Lecturer. **Dynamic binding of function should be used. [10 marks]**

4. Create a function template called compare that takes in two parameters of the same any data type and return true if they are equal except for characters' type. Further Create a template specialization function for a char type that's print out the two characters.**[10 marks]**

5. Assume you were tasked to compile a list of names for your five friends. As software development's student create a C++ program that will capture your five friends into a vector called friends and create two iterators for the created vector. The first iterator should point to the first name/element in the vector and the second iterator should point to the last name/element in the vector. Print out the first and last name from the vector using the created iterators. **[10 Marks]**

*****End of Examination*****