**For the written section**, use MS Word to type your answers. Make sure to answer the question. If it asks for function, write only the function and its body.

Write your answers on the exam or on scratch paper (make sure your name is on all papers turned in). **TAKE YOUR TIME and READ QUESTIONS CAREFULLY!!!!** TEST TOTAL POINTS = 60.

1. (5 points)

Write statements to define a class that includes the following. The class will not necessarily be complete – you only have to write the member functions that I ask for. You do not need to write a main function. If any member function that you write calls another member function, you must write that function also.

**a. Define a class, Tree, with the following data members:**

* **plant type (string),**
* **plant age (integer),**
* **plant height (floating-point)**
* **plant price (floating point)**

1. **Write a default constructor function for your class which will set the type to an empty string and the age, price and height to zero.**
2. **Write a member function (getPrice) for your class that returns the price for a tree. The price will be the sum of the three times the age and four times the height.**

# Below write your code

# End you code segment

1. **(5 pts) Create a function (getResults) that takes a string (myString) as a parameter. It returns “True” if the myString is alphanumeric; otherwise, it returns “False”**

# Below write your code

# End you code segment

1. **(5 pts) Write a function (getResults) that takes a string (myString) as a parameter. It returns the count of unique characters in the string.**

# Below write your code

# End you code segment

1. **(5 pts) Write a function (getResults) that takes 2 strings (myString1, myString2) as parameters. It returns the count of the common elements in both the strings.**

# Below write your code

# End you code segment

1. **(5 pts) Write a function (getResults) that takes 2 lists (myList1, myList2) as a parameter. Both the lists have integer values. It returns the sum of the common numbers in both the lists.**

# Below write your code

# End you code segment

1. **(5 pts) Create a function (getResults) that takes an integer (myNumber) as a parameter. The function will return 999 if the integer is evenly divisible by 11 and 12; otherwise., it will return 111**

# Below write your code

# End you code segment

1. **(5 pts) Write a function (getResults) which has a string (myString) parameter.myString is a sequence of comma-separated values. The function returns the count of unique values in the list**

# Below write your code

# End you code segment

1. **(5 pts) Define a class named Rectangle with a constructor that initializes the length and width with parameters (value1, value2). Write a method (getPerimeter) which returns the perimeter (2 \* length + 2 \* width)**

# Below write your code

# End you code segment

1. **(5 pts) Based on Question #8, define an object (myRectangle) with 2 parameters (10, 20)**

# Below write your code

# End you code segment

1. **(5 pts) Write a class,Student, with a constructor that initializes the name to an empty list. Write the setter and getter for the data attribute, name.**

# Below write your code

# End you code segment

1. **(5 pts) Write a function that returns only float value. The function will allow the users to enter only float values between 0 and 110.**

**Use try/except to catch the exceptions error.**

**If entered value is not a float, display “Error!!! Not a real number”.**

**If the number is out of range display “Error!!!outside the range”.**

**If the number is not between the range, the users will be prompted to enter another number.**

**It will return only the valid number.**

# Below write your code

# End you code segment

1. **(5 pts) Write a function (getResults). The function will ask users to enter integer until -999 is entered. The function will return the count of unique numbers.**

# Below write your code

# End you code segment