

**UNIVERSITY OF TECHNOLOGY, MAURITIUS**

**BSc (Hons.) Computer Science with Network Security**

**Cohort: BCNS/15B/FT**

**Full – Time**

**Practical Test 1**

MODULE: Object Oriented Software Development

MODULE CODE: PROG1119C

Duration: 1 Hour 30 minutes

**Instructions to Candidates:**

Answer **all** questions using Java codes in NetBeans IDE.

All questions carry equal marks.

Total Marks: 25

**Answer All Questions**

**Question 1 [5 marks]**

Create the class **Fruit** for a market fruit seller such that it contains the following:-

1. String variable: name

Integer variable: quantity

Double-precision variable: cost(**1 mark)**

1. Declare 3 types of fruits using the above-mentioned variables : **(2 marks)**

|  |  |  |
| --- | --- | --- |
| Name | Quantity | Cost for each fruit (Rs) |
| Peach | 5 | 9.99 |
| Pear | 3 | 22.75 |
| Pineapple | 7 | 20.50 |

1. Using Arithmetic operators, calculate the total cost of **15 fruits** and display the output in a dialog box. (**2 marks)**

**Question 2[15 Marks]**

Mr. Lord is going to invest into a new house. UBP Company has many agents working in its company. All agents need to make sales for the company, hence through negotiation; the agent can propose a price to attract a customer to make a sale. Mr. Lord hired a building agent from the same company named, Mr. Louisville to know the cost and volume of concrete needed for his roof. **[Note: the values are in meters and volume in m3.]**

1. Create a new class called **concrete** with variables length, breath, height and cost of data type integer and having access modifier public. **( 1mark)**
2. Create method**getCost** to return cost of the concrete needed. **(1 mark)**
3. Create a default constructor to initialize the variables with default values listed:

Length =45, breadth=35, height =10 and cost =90.**(2 marks)**

1. Declare a new object called **concreteObj1** to take the default value from the default constructor. **(2marks)**
2. Display the output of the volume with the default constructor. **(1 mark)**
3. Create method **set\_length** to assign value to the attribute length.
4. Create method **set\_breadth** to assign value to the attribute breath.
5. Create method **set\_height** to assign value to the attribute height.
6. Create method **set\_cost**to assign value to the attribute height. **(2 marks)**
7. Create method **get\_length** to return value to the attribute length.
8. Create method **get\_breadth** to return value to the attribute breath.
9. Create method **get\_height**to return value to the attribute height.
10. Create method **get\_cost**to return value to the attribute height. **(2 marks)**
11. Now create another object called **concreteObj2** and assign the values as follows: Length = 45, breadth = 35 , height = 10 and cost = 60 to the setter method.**(2 marks)**
12. Create a new variable called **result** in which will store volume of the values from the get methods. **(1 mark)**
13. Using the Dialog box, display contents from the variable result. **(1 mark)**

**Question 3 [5 Marks]**

**Scenario:**

UTM consists of three schools namely, SITE, SBMF and SSDT. All the three schools have same Director General, Dr Goorah but the head of school of SITE is Dr Armoogum.

Demonstrate this scenario using the Inheritance and the overriding method concept from Object Oriented Programming in Java Language.