

Premier University
Department of Computer Science & Engineering
3rd Semester Final Exam (Retake), Spring 2020
Course Title: Object Oriented Programming
Course Code: CSE - 211

Time: 2 Hours

Total Marks: 35

Answer the following questions

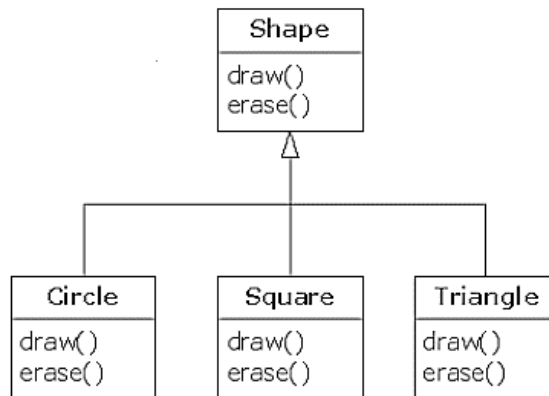
- Q.1**
- a.** What are the properties of static variables and methods? Why the main() method is declared as static? **3**
 - b.** Define interfaces? How do you implement interface? **2**
 - c.** What is the output from the following Java program fragment? **2**

```
public static void main(String[] args)
{
    int A = 10;
    int B = 20;
    update(A, B);
    System.out.println(A+ " " + B);
}
public static void update (int X, int Y)
{
    X = X + Y;
    Y = Y + X;
    System.out.println(X + " " + Y);
}
```
- Q.2**
- a.** What is exception? Explain the syntax of try block and catch block with an example. **3**
 - b.** Write Java code to exchange two integer variables using a method named **swap**. The main method will call the **swap** method and the changes inside the **swap** method must be visible to the **main** method. You also need to write the main method. **3**
 - c.** Write two different ways to create string in java **1**
- Q.3**
- a.** How do classes help us to organize our programs? Write down the requirements of a recursive function. **3**
 - b.** Describe the role of the **final** keyword and give a list of guidelines for when it should and when it should not be used. **3**

c. Java is platform-independent and portable. - Justify 1

Q.4 a. What are the benefits of package? Explain Java API packages. 3

b. Considering the following illustration and inheritance rules, design the classes. 4



Q.5 a. How multiple inheritance is implemented in Java? Can abstract class be final - explain in brief. 3

b. Write down a function named "Compute_Volume" to compute the volume of a 3D rectangular box with height h, width w and length l. Then, write a new function by changing the previous function a little so that it can compute the volume of a rectangular box as well as that of a cube. Remember that, a cube has only one parameter. The "Compute_Volume" function should be able to handle the following calls:

- I. Compute_Volume(30,20,10);
- II. Compute_Volume(10,10,10);
- III. Compute_Volume(10);