SSN College of Engineering

Department of Computer Science and Engineering

UCS1313 – Object Oriented Programming Using Java Lab

II Year CSE - C Section (III Semester)

Academic Year 2019-20 **Lab Test (20/09/2019)**

For Odd Numbers

1. Draw the class diagram for the below problem. (10)

2. Create a package named "MyPack" with a Shape as a class. Shape contains dim1 as private member. Have constructor to initialize the field. Declare calVolume(), surfaceArea() as *abstract* methods. (10)

3. In the same package create a class Cylinder inherits from Shape. Cylinder contain color, dim1, dim2 as private fields. Have constructor to initialize the fields. Add the function display() to Cylinder which returns color, dim1,dim2, volume and surface area of the cylinder. (10)
   Hint: cylinder volume = pi r^2 h; cylinder surface area= 2 pi r h + 2 pi r^2

4. For the invalid input to dim1, dim2 throw "NumberFormatException" and handle the exception in main. (10)

5. In outside package create a class named Test which includes the Cylinder class in package. Create an object for Cylinder and display the volume and surface area of cylinder. Raise and handle the exception for the invalid input.(10)

==========BEST OF LUCK==========

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For Even Numbers

1. Draw the class diagram for the below problem. (10)

2. Create a package named “MyPack” with a Engineer as a class. Engineer contains name, age, degree and basic as private members. Have constructor to initialize the field. (10)

3. In the same package create a class Technician, Clerk inherits from Engineer. Technician contain skill as private field. Clerk has typing speed as private field. Have constructor to initialize the fields. Add the method calSalary() to both Technician and Clerk. (10)
Hint:
Tech salary = basic+(da= 60% of basic)+(hra=10% of basic) – (medical + pf).
Clerk salary = basic+(da= 50% of basic)+(hra=5% of basic) – (medical + pf).

4. For the invalid input to basic, throw “InvalidBasicException” and handle the exception in main. Raise the exception whenever the values for basic < 5000 and basic >30000. (10)

5. Outside the package create a class named Test which includes the Technician and Clerk. Create an object for Technican and Clerk and display the details of each. Raise and handle the exception for the invalid basic input. (10)

==========BEST OF LUCK==========