***Package, Inheritance, Method overriding/overloading,***

***interfaces, abstract class, static modifier***

**1. Box class using overloaded constructors and objects as parameters and return values and recursion.**

**2. Program demonstrating static modifiers and instance and static init blocks.**

**3. Bank Program:**

**Customer having savings account. Design base class Customer(name, phone number).Derive a class depositor(accno, balance) from customer. Derive class Borrower(loan-no, loan-amt) from Depositor. Write necessary member functions to read and display details of n customers using method overriding**

**also.**

**4. Create a class telephone containing name, telephone number and city and write member functions for the following:**

**Search telephone number with given name.**

**Search name with given telephone number**

**Search all customers in given city(Using Function Overloading)**

**5. Define an Employee class with suitable attributes having getSalary() method,which returns salary withdrawn by particular employee. Write class Manager which extends class Employee, override the getSalary() method, which will return salary of manager by adding travelling allowance, house rent allowance**

**etc.**

**6. Create an abstract class Person. Define 2 classes Employee and Worker from it. Use Proper method to accept and display the details for the same. The fields of Employee are Emp\_no, Emp\_name, address. Similar fields for worker are**

**name and working hours.**

**7. Write Java Program to accept "n" numbers through the command line and store all the prime numbers and perfect numbers into the different arrays and display both the arrays.**

**8. Class Shape consists of one final method area() and volume().Create 3 subclasses Rectangle, Circle and Triangle and calculate area and volume of it.**

**9. Create an interface Shape. Derive 3 classes sphere, cone and cylinder from it. Calculate area and volume of all(using method overriding).**

**10. Write package for Games, which have 2 classes Indoor and Outdoor. Use a function display() to generate the list of players for the specific games. Use default and parameterized constructors. Make use of protected access specifier.**

**11. Create a package TYBSc which will have 2 classes as class Mathematics with methods to add 2 numbers and 3 float numbers and class Maximum with a method to find the maximum of 3 nos.**

**12. Accept name, address, rollno, percentage with base class and cast annual income in derived class and check if scholarship is sanctioned or not. If cast is not open and annual income is less than 100000 then scholarship is sanctioned.**

**13. Create base class college(name, address) and generate from college one derived class principal(name, address).Derive a class from Principal i.e. Salary(sal) and print all the attributes.**

**14. Write a package StrPack having 2 classes Con and Comp. Con Class has to concatenate 2 strings and Comp Class compare 2 strings. Display the proper message on execution.**

**15. Create package vehicle which will have 2 classes as class 2-wheeler and 4-wheeler. 2-wheeler with method(CC, price). 4-wheeler with method show(regno, regyear).**