

**GOVERNMENT POLYTECHNIC, AHMEDABAD**  
**PROGRAMME: DIPLOMA IN COMPUTER ENGINEERING**

**Course Name: Java Programming (303-3350703)**

**Practical list**

**Term date: 07/06/2021 to**  
**Semester & division: 5A , 5B ,5C**

**Faculty Name:**  
**No of labs per week: 2**

<b>Sr. No.</b>	<b>Topic Name</b>	<b>Course Outcome</b>
1	Install JDK; write a simple “Hello World” or similar java program, compilation, debugging, executing using java compiler and interpreter.	C303.1
2	Write a program in Java to generate first n prime numbers.	C303.2
3	Write a program in Java to find maximum of three numbers using conditional operator	C303.2
4	Write a program in Java to find second maximum of n numbers without using arrays	C303.2
5	Write a program in Java to reverse the digits of a number using while loop.	C303.2
6	Write a program in Java to convert number into words & print it	C303.2
7	Write programs in Java to use Wrapper class of each primitive data types	C303.2
8	Write a program in Java to multiply two matrices.	C303.2
9	Write a static block which will be executed before main ( ) method in a class.	C303.3
10	Write a program in Java to demonstrate use of this keyword. Check whether this can access the private members of the class or not.	C303.3
11	Write a program in Java to develop overloaded constructor. Also, develop the copy constructor to create a new object with the state of the existing object.	C303.3
12	Write a program in Java to demonstrate the use of private constructor and write a method, which will count the number of instances, created sing default constructor only.	C303.3
13	Write a program in Java to demonstrate the use of 'final' keyword in the field declaration. How it is accessed using the objects.	C303.3
14	Develop a program based on variation in methods i.e. passing by value, passing by reference, returning values and returning objects from methods.	C303.3
15	Write a program in Java to demonstrate single inheritance, multilevel inheritance and hierarchical inheritance.	C303.3

16	Create a class to find out whether the given year is leap year or not. (Use inheritance for this program)	C303.3
17	Write an application that illustrates how to access a hidden variable. Class A declares a static variable x. The class B extends A and declares an instance variable x. display( ) method in B displays both of these variables.	C303.3
18	Write a program in Java in which a subclass constructor invokes the constructor of the super class and instantiate the values.	C303.3
19	Write a program that illustrates interface inheritance. Interface P12 inherits from both P1 and P2. Each interface declares one constant and one method. The class Q implements P12. Instantiate Q and invoke each of its methods. Each method displays one of the constants.	C303.3
20	Write an application that illustrates method overriding in the same package and different packages. Also, demonstrate accessibility rules in inside and outside packages.	C303.3
21	Describe abstract class called Shape which has three subclasses say Triangle, Rectangle, Circle. Define one method area() in the abstract class and override this area() in these three subclasses to calculate for specific object i.e. area() of Triangle subclass should calculate area of triangle etc. Same for Rectangle and Circle	C303.3
22	Write a program in Java to demonstrate implementation of multiple inheritance using interfaces.	C303.3
23	Write a program in Java to demonstrate use of final class.	C303.3
24	Write a program in Java to develop user defined exception for 'Divide by Zero' error.	C303.4
25	Write a program in Java to demonstrate multiple try block and multiple catch exception	C303.4
26	Write a small application in Java to develop Banking Application in which user deposits the amount Rs 1000.00 and then start withdrawing of Rs 400.00, Rs 300.00 and it throws exception "Not Sufficient Fund" when user withdraws Rs. 500 thereafter.	C303.4
27	Write a program that executes two threads. One thread displays "Thread1" every 2,000 milliseconds, and the other displays "Thread2" every 4,000 milliseconds. Create the threads by extending the Thread class	C303.4
28	Write a program that executes two threads. One thread will print the even numbers and another thread will print odd numbers from 1 to 50.	C303.4
29	Write a program in Java to demonstrate use of synchronization of threads when multiple threads are trying to update common variable.	C303.4
30	Write a program in Java to create, write, modify, read operations on a Text file.	C303.5

**Sign of Faculty**