LIST OF EXPERIMENTS (PRESCRIBED BY GGSIPU)

Advanced Java Programming Lab	L	P	C
		2	1

Discipline(s) / EAE / OAE	Semester	Group	Sub-group	Paper Code
CSE/IT/CST/ITE	6	PCE	PCE-1	CIE-306P
EAE	6	FSD-EAE	FSD-EAE-1	FSD-318P
CSE-in-EA	7	OAE-CSE-EA	OAE-2	OSD-453P
OAE	7	SD-OAE	SD-OAE-5A	OSD-453P

Marking Scheme:
1. Teachers Continuous Evaluation: 40 marks
2. Term end Theory Examinations: 60 marks

Instructions:
1. The course objectives and course outcomes are identical to that of (Advanced Java Programming) as this is the practical component of the corresponding theory paper.
2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 10 experiments must be performed by the students, they may be asked to do more. Atleast 5 experiments must be from the given list.

Course Objectives :

1.	To learn the ability to design console based, GUI based and web based applications
2.	To learn how to create dynamic web pages, using Servlets and JSP.
3.	To learn Designing applications using pre-built framework.
4.	To learn how to do distributed programming in Java using RMI, CORBA.

Course Outcomes (CO)

CO 1	Able to Understand advanced programming concepts.
CO 2	Able to Develop server side programs using JSP and Servlets
CO 3	Able to Develop component-based java software using java beans.
CO 4	Able to develop advanced projects based on java.

Course Outcomes (CO) to Programme Outcomes (PO) mapping (scale 1: low, 2: Medium, 3: High)

	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO 1	3	2	2	3	2	-	-	-	3	2	2	3
CO 2	3	2	2	3	2	-	-	-	3	2	2	3
CO 3	3	2	2	3	2	-	-	-	3	2	2	3
CO 4	3	2	2	3	2	-	-	-	3	2	2	3

1. Write a Java program to demonstrate the concept of socket programming. (CO1, CO2)
2. Write a Java program to demonstrate the concept of applet programming. (CO1, CO2)
3. Write a Java program to demonstrate the concept of multi-threading. (CO1)
4. Write a Java program to demonstrate the concept of applet. (CO1)
5. Write a Java program to demonstrate the use of Java Beans. (CO3)
6. Write a Java program to insert data into a table using JSP. (CO2, CO3)
7. Write JSP program to implement form data validation. (CO2, CO3)
8. Write a Java program to show user validation using Servlet. (CO2, CO3)
9. Write a program to set cookie information using Servlet. (CO2, CO3)
10. Develop a small web program using Servlets, JSPs with Database connectivity. (CO4)

Advanced Java Programming (Additional/ Advanced List of experiments beyond GGSIPU Syllabus)

1. Create a class Box that uses a parameterized constructor to initialize the dimensions of a box. The dimensions of the Box are width, height, depth. The class should have a method that can return the volume of the box. Create an object of the Box class and test the functionalities.(CO1)

2. Create a base class Fruit which has name ,taste and size as its attributes. A method called eat() is created which describes the name of the fruit and its taste. Inherit the same in 2 other class Apple and Orange and override the eat() method to represent each fruit taste. (Method overriding)(CO1)

3. Write a program to create a class named shape. It should contain 2 methods- draw() and erase() which should print "Drawing Shape" and "Erasing Shape" respectively. For this class we have three sub classes- Circle, Triangle and Square and each class override the parent class functions- draw () and erase (). The draw() method should print "Drawing Circle", "Drawing Triangle", "Drawing Square" respectively. The erase() method should print "Erasing Circle", "Erasing Triangle", "Erasing Square" respectively. Create objects of Circle, Triangle and Square in the following way and observe the polymorphic nature of the class by calling draw() and erase() method using each object. Shape c=new Circle(); Shape t=new Triangle(); Shape s=new Square(); (Polymorphism) (CO1)

4. Write a Program to take care of Number Format Exception if user enters values other than integer for calculating average marks of 2 students. The name of the students and marks in 3 subjects are taken from the user while executing the program. In the same Program write your own Exception classes to take care of Negative values and values out of range (i.e. other than in the range of 0-100) (CO1)

5. Write a program that takes as input the size of the array and the elements in the array. The program then asks the user to enter a particular index and prints the element at that index. Index starts from zero.This program may generate Array Index Out Of Bounds Exception or NumberFormatException . Use exception handling mechanisms to handle this exception. (CO1)

6. Implement Datagram UDP socket programming in java. (CO1,CO2)

7. Implement Socket programming for TCP in Java Server and Client Sockets.(CO1,CO2)

8. Write an applet for event handling which prints a message when clicked on the button.(CO1,CO2)

9. Write a program to Pass Parameters to Applet in Java. (CO1)

10. Creating a Simple Banner using Applet in Java.(CO1)

11. Implement Painting using mouseDragged() method of MouseMotionListener in Applet.(CO1)

12. Implement Producer-Consumer Problem using multithreading.(CO1)

13. Illustrate Priorities in Multithreading via help of getPriority() and setPriority() method.(CO1)

14. Illustrate Deadlock in multithreading.(CO1)

15. Implement a program Java Bean to represent person details.(CO3)

16. Write a program in java to demonstrate encapsulation in java beans.(CO3)

17. Create a database in MySQL using JSP and perform insertion and retrieval operations.(CO2)

18. Create a Java JSP login and Sign Up form with Session using MySQL.(CO2)

19. Implement Regular Expressions validation before submitting data in JSP.(CO2)

20. Implement Customizable adapter class in a registration form in JSP.(CO2)

21. Implement form validation in marriage application input.html form page using JavaScript (CO2)

1. Person name is required.
2. Person's name must have a minimum of 5 characters.
3. Personage is required.
4. Personage must be a numeric value.
5. Personage must be there between 1 to 125.

22. Design Servlet Login and Logout using Cookies.(CO2)

23. Create a servlet that prints all the request headers it receives, along with their associated values.(CO2)

24. Create a servlet that recognizes a visitor for the first time to a web application and responds by saying "Welcome, you are visiting for the first time". When the page is visited for the second time, it should say "Welcome Back".(CO4)

25. Create User Registration using Jsp, Servlet and Jdbc.(CO4)

26. Create Employee Registration Form using a combination of JSP, Servlet, JDBC and MySQL database.(CO4)