ST.JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

IV SEMESTER **COMPUTER SCIENCE**  TIME: 2HRS/WEEK

CS 4653 (2) **OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB** MAX.MARKS:50

w.e.f. 20-21 admitted batch-“20AH” **PRACTICALS** **SYLLABUS**

**COURSE OBJECTIVES:** To enable the students to:

* Understand the fundamentals of object oriented programming in java, including defining classes, invoking objects along with constructors, arrays and vectors.
* Discuss the principles of inheritance, interface and packages.

**COURSE OUTCOMES:**

After Completion of this course the student would be able to:

* Use an integrated development environment to write, compile, run and test simple object oriented java programs.
* Apply skills using basic control structures, arrays, object oriented principles including encapsulation and information hiding.
* Implement multithreaded programs and Exception handling.
* Apply the programming concepts as and when required in the future application development.

**1.** Write a program to read ***Student Name, Reg.No, Marks[5]*** and calculate ***Total***, ***Percentage, Result***. Display all the details of students

**2.** Write a program to perform the following String Operations

**a.** Read a string

**b.** Find out whether there is a given substring or not

**c.** Compare existing string by another string and display status

**d.** Replace existing string character with another character

**e.** Count number of works in a string

**3.** Java program to implements Addition and Multiplication of two N X N matrices.

**4.** Java program to demonstrate the use of Constructor.

**5.** Calculate area of the following shapes using method overloading.

**a.** Triangle

**b.** Rectangle

**c.** Circle

**d.** Square

**6.** Implement inheritance between ***Person (Aadhar, Surname, Name, DOB, and Age)*** and ***Student (Admission Number, College, Course, Year)***classes where ReadData(), DisplayData() are overriding methods.

**7.** Java program for implementing Interfaces

**8.** Java program on Multiple Inheritance.

**9.** Java program for to display ***Serial Number from 1 to N*** by creating two Threads

**10.** Java program to demonstrate the following exception handlings

a. Divided by Zero

b. Array Index Out of Bound

c. File Not Found

d. Arithmetic Exception

e. User Defined Exception

**11.** Create an Applet to display different shapes such as Circle, Oval, Rectangle, Square and Triangle.

12. Write a program to create ***Book (ISBN,Title, Author, Price, Pages, Publisher)***structure and store book details in a file and perform the following operations

a. Add book details

b. Search a book details for a given ISBN and display book details, if available

c. Update a book details using ISBN

d. Delete book details for a given ISBN and display list of remaining Books

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