2023

COMPUTER SCIENCE — HONOURS — PRACTICAL

Paper : CC-12P

(OOPS Lab Using Java)

Full Marks : 30

Marks Distribution

Source Code	: 15
Output	: 05
Sessional	: 04
Viva-voce	: 06

SET-4

Answer *any one* question.

1. Develop a Java program for an online shopping cart. Allow users to add products to the cart, view the cart contents, and calculate the total price. Each product should have a name, price, and quantity. Use a class for products and implement a menu-driven system for user interaction.

2. Build a Java program to manage student grades. Enable users to input student information, assign grades, and calculate average grades. Implement a class structure for students, and create a menu system for tasks like adding students, assigning grades, and displaying average grades.

3. Write a Java program to transpose a matrix. Given an N×M matrix, the transpose of the matrix is obtained by swapping the rows and columns.

4. Write a function in Java to remove duplicates from a sorted array in-place, and return the new length of the array.

5. Write a Java program to find the length of the longest substring without repeating characters, in a given string.

6. Create a basic stack data structure using arrays. Include methods for push, pop, and checking if the stack is empty.

7. Develop a secure Java program for an online banking application. Users create accounts with create Account (String username, String password). Perform transactions using makeTransaction (double amount), and check balances with checkBalance( ). The program outputs information on account creation success, transaction status, and updated balances.