



SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS

CONTINUOUS ASSESSMENT TEST - II - WINTER SEMESTER - 2023-24

Program Name & Branch: M.TECH - SE

Class Number(s): VL2023240503413, 3417,
3405, 3407, 3422

Course Code: ICSE102L

Course Name: Structured and Object-
Oriented Programming

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Maximum Marks: 50

Exam Duration: 90 Mins

ANSWER ALL THE QUESTIONS (5 X 10 = 50 MARKS)

Q.NO.	Questions	Max. Marks
1.	A shopkeeper orders stock in the inventory system which contains product details like product_ID, name, no.of_items, brand_name, and size. The system calculates the price of stock for each product and finally displays the total sum of stocks and prices kept in a single order. Apply an appropriate concept that is suitable to solve the given statement using C.	10
2.	A car reseller needs an application for his business. Once he buys a car from the party, feeds the details of the car like car_model, manufacture_year and price. If the car is 2 years old or less classifies it as a new car, so he can sell a car with 25% profit. If the car is greater than 2 years and less than 6 years old classifies it as a moderate car, so he can sell a car with 15% profit. If the car is more than 6 years old he classifies it as an old car, so can sell a car with a 10% profit. Solve the problem using object-oriented concepts in C++. Make use of parameterized constructors with price and manufacture_year as its arguments.	10

3. Create a program to analyze geometric shapes. Define classes Triangle and Rectangle. Write a friend function compare_Shapes() that compare areas of class Triangle & Rectangle and print the largest one. 10
4. Create a class "number" with an integer data member. Create a member function "get()" to get the values from the user. Use a static data member that increments the count by 1 when the function "get()" is called. Use a static member function to display the value of count and a normal member function to display the value of the data member associated with the object. Create a minimum of 3 objects and implement the same. 10
5. Define a base class Vehicle with members for make, model, and year. Derive classes Car and Truck from Vehicle with additional members such as number of doors for cars and payload capacity for trucks. Write a C++ program to create objects of each class, input their details, and display the information. 10