Vidya Vikas Mandal's
Shree Damodar College of Commerce & Economics, Margao-Goa
SY BCA, Semester – III,   Supplementary Examination June 2023
Object Oriented Concepts (CAC109)

<u>**Duration: 2 Hours**</u>

Max. Marks:60

Instructions:
1) All Questions are compulsory.
2) Start each question on a fresh page
3) Figures to the right indicate Full Marks.

Q1)A. **Define the following.**   5x1=5 Marks

     a) Data Abstraction.

     b) Instantiation

     c) Class in Object Oriented Programming

     d) Method Overriding

     e) Compile-Time Error

Q1)B. **Answer the following in about 25 to 30 words each.**   5x1=5 Marks

     a) Describe Double/Dual Association Relationship with the help of an example.

     b) Explain the term checked exceptions.

     c) Give two examples of Run-Time errors.

     d) State the significance of **'this'** keyword in Object Oriented Programming.

     e) Explain the purpose of **'extends'** and **'implements'** keywords in Object Oriented Concepts.

Q2) **Answer the following.**   **10 Marks**

     A) List and explain any 2 benefits of Object-oriented programming.   2

     B) Explain the three properties of an Object.   3

     C) Draw an Activity Diagram for Online Shopping System.   5

Q3) **Answer the following.**   **10 Marks**

     A) Explain any two types of actors used in the Use Case diagram.   2

     B) Differentiate between Interfaces and Abstract classes.   3

     C) Based on the information given below draw the class diagram along with   5
appropriate multiplicity and relationships.
A vehicle rental system gives the cars to the customers on their service request.
The system has three entities namely a car, customer and a manager. The car
entity has car number, model name, Year of manufacture. The car entity has one
operation called as drive. The customer entity holds properties such as customer

id, customer name and phone number. The customer entity does the car booking, car return and enquires operations. The manager entity has attributes as Manager ID, Manager Name and Date of Booking. The Manager entity performs issue car and accept car operations. The customer books the car. One customer can book zero or one car at a time. The manager entity manages car. One manager manages many cars.

Q4) **Answer the following.**   **10 Marks**

    A) Discuss 'Destructor' and its importance.   **2**

    B) Explain Generalization relationship used in the Class diagram with the help of an example.   **3**

    C) Draw a Use Case diagram Student Attendance Management System.   **5**

Q5) **Answer the following.**   **10 Marks**

    A) Illustrate Single and Multilevel Inheritance with the help of neat diagrams.   **2**

    B) List and explain in detail the various Access Modifiers.   **3**

    C) Compare and Contrast Method Overloading and Method Overriding (2 points each). Support your answer with an example for each.   **5**

Q6) **Answer the following.**   **10 Marks**

    A) State 2 points each to differentiate between **'throw'** and **'throws'** Exception Handling Mechanism.   **2**

    B) Differentiate between Aggregation and Composition with the help of a diagram.   **3**

    C) Explain in detail the Try and Catch Block used in Exception Handling.   **5**