



Aditya Ray

# Indian Institute of Information Technology Vadodara

**Course ID:** CS 201  
**Full Marks:** 30

**Course name:** Object Oriented Design and Programming  
**Date:** 18.10.2022

**Exam Duration:** 120 minutes

**Instructions: Attempt All Questions Sequentially.**

- ✓ 1. Differentiate between Composition and Aggregation in class diagram with examples. [2]
- ✓ 2. Software engineering considers both technical matters and non-technical matters. List two technical matters and two non-technical matters that are within the domain of software engineering. [2]
- ✓ 3. What are the different strategies followed for eliminating code duplication within a single class. Write a program code in Java or C++ where a single class performs multiple tasks without code duplication. [2+4]
- ✓ 4. Choose the correct answer among the below two options and answer the associated questions accordingly:
  - ✓ All methods and attributes in the Superclass are by default available to all the Subclasses. Draw and mention how your class diagram depicts such a scenario.
  - All methods and attributes in the Superclass are not by default available to all the Subclasses. Draw and mention how your class diagram depicts such a scenario.[4]
- ✓ 5. Which of the following is more appropriate for representing a system. Explain your choice with appropriate justification;
  - Use-case diagram
  - Sequence diagram
  - Class diagram[4]
- ✓ 6. Mention with explanation and sample diagrams related to all the different types of relationships that multiple classes can have in a class diagram. [6]
- ✓ 7. Explain the following with the help of diagrams:
  - Extend relationship in use-case diagram
  - Include relationship in use-case diagram
  - Sloping line in sequence diagram[6]