



PRESIDENCY UNIVERSITY

BENGALURU

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| Roll No. | | | | | | | | | | | | | | |
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End - Term Examinations – MAY/ JUNE 2025

Date: 02-06-2025

Time: 01:00 pm – 04:00 pm

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| School: SOCSE | Program: B. Tech CAI\CBC\CDV\CIT\COM\CSD\CSG\ISE\IST\CBD | |
| Course Code: CSE3082 | Course Name: Object Oriented Analysis and Design | |
| Semester: IV | Max Marks: 100 | Weightage: 50% |

| CO - Levels | C01 | C02 | C03 | C04 | C05 |
|-------------|-----|-----|-----|-----|-----|
| Marks | 14 | 36 | 24 | 26 | 0 |

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

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|-----|--|---------|----|-----|
| 1. | Define inheritance with example. | 2 Marks | L1 | C01 |
| 2. | What is meant by functional model in OMT? | 2 Marks | L1 | C01 |
| 3. | List any two types of object relationships. | 2 Marks | L2 | C02 |
| 4. | What is a use-case model? | 2 Marks | L2 | C02 |
| 5. | What is the use of activity diagram in analysis? | 2 Marks | L2 | C02 |
| 6. | State the role of state chart diagram in OOD. | 2 Marks | L2 | C03 |
| 7. | What are static and dynamic modeling? | 2 Marks | L2 | C03 |
| 8. | Define object storage and persistence. | 2 Marks | L2 | C04 |
| 9. | Explain any one error-based testing technique. | 2 Marks | L2 | C04 |
| 10. | What is the difference between alpha and beta testing? | 2 Marks | L2 | C04 |

Part B

Answer the Questions.

Total Marks 80M

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| 11. | a. | Explain the evolution of OO methodologies. | 5 Marks | L1 | CO1 |
| | b. | Describe the OMT modeling process. | 5 Marks | L1 | CO1 |
| | c. | What are the benefits of using Unified Approach in OOAD? | 10 Marks | L1 | CO1 |
| Or | | | | | |
| 12. | a. | Write a note on object-oriented system development lifecycle. | 5 Marks | L1 | CO1 |
| | b. | Compare structured and object-oriented analysis. | 5 Marks | L1 | CO1 |
| | c. | List and explain types of relationships in UML. | 10 Marks | L2 | CO2 |

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| 13. | | <p><u>Title: Online Food Delivery System</u></p> <p>A startup is building an online food delivery system where users can browse restaurants, place orders, and track delivery. Each user creates an account, adds their address, and pays online via credit card or UPI.</p> <p>Restaurants list their menus, which include items, prices, and availability. Users can add items to the cart, place orders, and rate restaurants after delivery.</p> <p>Each order includes multiple items, a total price, a delivery address, and a status (e.g., preparing, out for delivery, delivered). The system assigns a delivery agent to each order, who uses the app to update delivery status.</p> | | | |
| | a. | Identify classes from the above problem statement using Noun Phrase approach. | 5 Marks | L2 | CO2 |
| | b. | Explain CRC cards with a suitable example from the above problem. | 5 Marks | L2 | CO2 |
| | c. | Describe use of Class Diagram in OOAD. Draw a class diagram for the above-described system | 10 Marks | L2 | CO2 |

Or

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| 14. | | <p><u>Title: Library Management System</u></p> <p>A university library wants to develop a computerized system to manage its day-to-day activities. The system should allow students and faculty to borrow and return books, search the catalog, and reserve books. The library maintains records of books, members, borrowed books, and due dates.</p> <p>Each book has a title, author, ISBN number, and availability status. Members have a unique ID, name, and membership type (student or faculty). The system should also generate fines for overdue books and notify users via email.</p> <p>Librarians should be able to add new books, remove old books, and update book information. The system must also produce reports on borrowed books and fine collections.</p> | | | |
| | a. | Explain Use case driven approach steps with the help of the system description. | 10 Marks | L2 | CO2 |

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| | b. | Differentiate between Aggregation and Composition with diagram. | 5 Marks | L2 | C02 |
| | c. | Draw a Use Case diagram for an Library Management system. | 5 marks | L2 | C02 |

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| 15. | a. | Differentiate between class diagram and collaboration diagram. | 10 Marks | L3 | C03 |
| | b. | Discuss best practices for refining attributes. | 5 Marks | L3 | C03 |
| | c. | Describe the role of packages in modularity. | 5 Marks | L3 | C03 |
| Or | | | | | |
| 16. | a. | Discuss the role of axioms in OO design | 5 Marks | L3 | C03 |
| | b. | Explain designing methods and protocols with examples. | 5 Marks | L3 | C03 |
| | c. | Prepare a sequence diagram for a railway reservation system. | 10 Marks | L3 | C03 |

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| 17. | a. | Explain steps to create access layer classes for a banking system. | 10 Marks | L3 | C04 |
| | b. | Explain various GUI usability testing strategies. | 5 Marks | L3 | C04 |
| | c. | Draw a deployment diagram for an e-commerce portal. | 5 Marks | L3 | C04 |
| Or | | | | | |
| 18. | a. | Write short notes on: (i) Debugging (ii) Integration testing. | 10 Marks | L3 | C04 |
| | b. | Explain component diagram with a healthcare system example. | 5 Marks | L3 | C04 |
| | c. | Define Quality Assurance testing and its categories. | 5 Marks | L3 | C04 |