

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS

IV–B.TECH–II–Semester End Examinations (Advanced Supply) – June- 2025

OBJECT ORIENTED ANALYSIS AND DESIGN

(CSM)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) List any two principles of modeling. [2M]
- b) What are the key components of a conceptual model in UML? [2M]
- c) What is the purpose of a package in UML? [2M]
- d) Differentiate between class diagrams and object diagrams. [2M]
- e) What is an interaction diagram? [2M]
- f) Define a use case in UML. [2M]
- g) What is the purpose of an activity diagram? [2M]
- h) Define events and signals in UML. [2M]
- i) Define an artifact in UML. [2M]
- j) What is the purpose of an artifact diagram? [2M]

PART-B

(50 Marks)

2. Discuss the principles of modeling in UML. Why are they significant? [10M]

OR

3. Explain various phases of the Software Development Life Cycle (SDLC) and their relevance in UML modeling. [10M]

4. Differentiate between Interfaces, Types, and Roles in UML with examples. [10M]

OR

5. Given the specifications of an E-commerce system, draw a Class diagram showing Customer, Product, Order, Payment classes with appropriate relationships and multiplicity. [10M]

6. What are interactions in UML? Explain how interaction diagrams are used in modeling dynamic behavior. [10M]

OR

7. Develop an activity diagram for a user login and registration system for a mobile app. [10M]

8. Explain the significance of time and space in modeling concurrent systems. [10M]

OR

9. Develop Component and Deployment diagrams for a cloud-based Online Examination System. Show different components (web app, database, user interface) and their deployment across nodes. [10M]

10. Explain the structure and components of frameworks with examples. [10M]

OR

11. What are design patterns? Discuss the importance of patterns in software development. [10M]
