CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Regular) - December- 2025
DESIGN PATTERNS
(CSM)

[Time: 3 Hours]   **[Max. Marks: 60]**

Note: This question paper contains two parts A and B.
  Part A is compulsory which carries 10 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   **(10 Marks)**

1. a) List any two categories of design patterns.   [1M]
   b) What are the benefits of using design patterns?   [1M]
   c) What are user operations in document editor?   [1M]
   d) What is spell checking?   [1M]
   e) List differences between Factory Method and Abstract Factory.   [1M]
   f) Give a real-world example of Singleton.   [1M]
   g) Define composite objects.   [1M]
   h) Provide an example of Decorator pattern.   [1M]
   i) What is the role of Visitor pattern?   [1M]
   j) Define Strategy pattern.   [1M]

PART-B   **(50 Marks)**

2.   What is a catalog? Explain catalog of design pattern.   [10M]

OR

3.   What is a Design pattern? How it supports to develop the applications? [10M]

4.   How to Design a Document editor? Explain.   [10M]

OR

5.   Describe how patterns help solve problems related to window systems and UI support. [10M]

6.   Describe the Builder Design pattern.   [10M]

OR

7.   Explain abstract factory design pattern.   [10M]

8.   What is a structural pattern? Explain composite design patterns.   [10M]

OR

9.   Discuss the structure and working of Adapter and Bridge patterns with examples. [10M]

10. Explain the Strategy pattern and compare it with Template Method.   [10M]

OR

11. Explain the Memento pattern and discuss its applications.   [10M]

****