

Code No: **R15A0528****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****IV B.Tech I Semester Supplementary Examinations, Oct/Nov 2023****Design Patterns****(CSE)**

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**Time: 3 hours****Max. Marks:****75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

**PART-A (25 Marks)**

- 1). a What is the meaning of “Intent” in design pattern? [2M]
- b How to use a design pattern? Write the guidelines. [3M]
- c How many objects is the Singleton responsible for creating? [2M]
- d What are the consequences of the Abstract Factory pattern? [3M]
- e Define Bridge pattern. [2M]
- f Sketch the structure of composite pattern. [3M]
- g What are the Consequences of Chain of Responsibility Pattern [2M]
- h Write the Pattern name and Classification of Observer Pattern [3M]
- i What is Template method pattern? [2M]
- j What is the purpose of Visitor pattern? [3M]

**PART-B (50 MARKS)****SECTION-I**

- 2 a) What are the different ways in which patterns and frameworks share similarities and in which they differ? Discuss. [5M]
  - 2 b) Describe the consistent format for describing the design patterns. [5M]
- OR
- 3 How a Design pattern solves the design problem? Illustrate with an example [10M]

**SECTION-II**

- 4 a) Discuss about the supporting multiple window systems design problem. [5M]
  - 4 b) Explain the consequences of the Abstract Factory pattern and Builder patterns [5M]
- OR
- 5 Explain in detail about “supporting multiple window systems” [10M]

**SECTION-III**

- 6 Discuss the Intent, Applicability, Sample code, and Known uses of the following Patterns:
  - a) Adapter [5M]
  - b) Flyweight [5M]

OR
- 7 Discuss the pattern name, Applicability, Consequences and Related Patterns of the following Patterns

a) Bridge [5M]

b) Proxy [5M]

**SECTION-IV**

8 What is Command Pattern? Describe in detail about structure, participants and collaborations of Command pattern. [10M]

OR

9 a) Write about the implementation issues of memento pattern. [5M]

9 b) Write about the implementation issues of mediator pattern. [5M]

**SECTION-V**

10 a) Write about the intent, motivation, structure and applicability of Visitor pattern. [5M]

10 b) Explain the implementation issues of Strategy pattern and write a sample code. [5M]

OR

11 Explain the following:

a) Discussion of behavioral patterns [5M]

b) Template method pattern. [5M]

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