

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER IX- EXAMINATION –SUMMER-2024

Subject Code: 2698601

Date: 02/05/2024

Subject Name: Design Pattern

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1 (a) Answer the following 07**
1. What are the three types of pattern design in java?
 2. When should we use the design patterns?
 3. What is smalltalk MVC?
 4. The Factory Method Pattern is also known as-----
 5. The Bridge Pattern is also known as-----.
 6. What is early instantiation?
 7. What is Advantage of Prototype Pattern?
- (b) What is the design pattern? How design patterns solve the design problems? Also discuss the advantage of design pattern. 07**
- Q.2 (a) Explain builder design pattern with example. 07**
- (b) What is prototype design pattern? Explain its advantage and usage. 07**
- OR**
- (b) Explain factory method pattern .Also draw the UML diagram. 07**
- Q.3 (a) What is singleton design pattern? How to create singleton design? Draw its structure. 07**
- (b) What is adapter pattern? Explain its advantage and usage. Also discuss specification for adapter pattern. 07**
- OR**
- Q.3 (a) Explain bridge pattern with example. Also draw the UML diagram. 07**
- (b) What is the advantage of proxy pattern? Also explain the use of proxy pattern. 07**
- Q.4 (a) Discuss the various behavioral design patterns. 07**
- (b) Explain chain of responsibility with example. 07**
- OR**
- Q.4 (a) Discuss about the Interpreter pattern with its implementation. 07**
- (b) Explain in detail about the difference between the mediator patterns, memento pattern. 07**
- Q.5 (a) Describe the state pattern in detail 07**
- (b) Draw common structure of template pattern and explain how to implement it. 07**
- OR**
- Q.5 (a) Explain the structure of Visitor patterns. 07**
- (b) What is the Catalogue of Design Patterns? Explain essential element of design pattern. 07**
