

## Unit-1

1. What is a design pattern?
2. List and explain the four essential elements of Design Patterns.
3. Classify and briefly explain the design patterns.
4. Explain how design patterns solve design problems.
5. Explain design patterns in Smalltalk MVC.
6. What are all the criteria used to classify design patterns?
7. Name three classification of design patterns based on purpose of the design pattern and also based on purpose.
8. Define dynamic binding.
9. How design patterns solve design problems? Explain with a suitable example.
10. Difference between abstract class and concrete class in design pattern.
11. What is a mixin class in design pattern?
12. How can we differentiate to inherit/implement a class/interface?
13. Define white box reuse and black box reuse.
14. Differentiate between inheritance and composition.
15. Write short note on delegation with its characteristics, advantages and disadvantages.
16. Discuss different approaches to select a proper design pattern?
17. Write down steps to use a design pattern after selecting design pattern.

## Unit-2

1. What is Lexi? List and explain the various problems that are associated with it.
2. Explain document structure and discuss the various components present in the document structure.
3. Explain formatting.
4. Explain embellishing the user interface.
5. Explain supporting multiple look and feel standards.
6. Explain supporting multiple window systems.
7. Explain user operations.

8. What are considered to Design the application?
  - i) User Operations Spelling Checking
  - ii) Hyphenation.
9. Describe the monoglyph in detail.
10. Discuss creational design patterns.
11. What is an abstract factory method? Where should it be applicable? Discuss benefits and liabilities of an abstract factory method.
12. Describe builder method. Discuss in which situation it is being used. Draw the structure for the builder method.
13. Draw the diagram that shows how builder and director cooperate with clients.
14. What is a factory method? In which situation factory method is being used?
15. Discuss the importance of factory methods.
16. How to implement factor methods in various ways?
17. What is the prototype method? Where should it be applicable? Discuss benefits and liabilities of prototype methods.
18. Write a short note on singleton. Discuss in which situation the singleton method is being used.
19. Draw the common structure of the singleton method. How to implement a singleton method?

### Unit-3

1. Discuss various structural design patterns.
2. What is an Adapter pattern? State the importance of adapter pattern.
3. Discuss issues to be considered while adapting Adapter pattern.
4. What is a bridge method? In which situation bridge method is applicable?
5. Discuss the importance of bridge patterns. Write the implementation

of the bridge method.

6. What is a composite method? In which situation composite method applicable?
7. Discuss the issues to implement a composite method.
8. What is a decorator? In which situation decorator pattern is applicable?
9. Discuss the issues to implement decorator patterns.
10. What is a façade pattern? In which situation façade pattern is applicable?
11. Discuss the issues to implement facade patterns.
12. What is a Flyweight pattern? State the importance of Flyweight pattern.
13. Discuss issues to be considered while Flyweight pattern.
14. What is a proxy pattern? State the importance of proxy patterns.
15. Discuss issues to be considered while proxy patterns.
16. What are all the types of proxy patterns?

#### Unit-4

1. Discuss behavioral patterns in detail.
2. Describe chain of responsibility pattern. What is the intent and consequences for chain of responsibility pattern?
3. What is the command pattern? State the importance of command pattern. In which situation is the command pattern applicable?
4. Describe Interpreter. What is the intent and consequences for chain of Interpreter?
5. Discuss Iterator with its intent and consequences.
6. Describe Interpreter. What is the intent and consequences for chain of Interpreter?
7. Describe Mediator. What is the intent and consequences for chain of Mediators?  
Describe Memento. What is the intent and consequences for chain of Memento?

Describe Observer. What is the intent and consequences for chain of Observer?

### Unit-5

1. Describe State pattern. What is the intent and consequences for chain of state pattern?
2. Describe Strategy pattern. What is the intent and consequences for Strategy pattern?
3. Describe Template Method pattern. What is the intent and consequences for Template Method pattern?
4. Describe Visitor pattern. What is the intent and consequences for Visitor pattern?
5. Discuss expectations from design patterns.