



B.Tech VIII Semester Regular/Supplementary Examinations, April 2023

Design Patterns
(Computer Science and Engineering)

Maximum Marks: 70

Date:03.05.2023 Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

- 1 What is design pattern
- 2 How to select a design pattern
- 3 Draw the structure Factory Method.
- 4 Explain briefly about "Monoglyph"
- 5 Describe the motivation for Composite Pattern.
- 6 What is the intent of Decorator pattern?
- 7 What is the intent of Memento pattern?
- 8 List the benefits of Iterator pattern
- 9 Write about Applicability of State Pattern.
- 10 Write about the purpose of Behavioral patterns.

(10x2M=20 Marks)

Part-B

Answer All the following questions.

- 11 A. Explain in detail about design patterns in Smalltalk MVC. (5M)
B. What is the basis for classifying design patterns? Categorize and tabulate the design patterns. (5M)
- OR
- 12 A. How to use design patterns? Explain in detail. (5M)
B. Write the general template used for describing the design patterns. (5M)
- 13 A. Explain in detail about "supporting multiple window systems". (5M)
B. Discuss the Motivation, Structure, Collaborations and Implementation of the Abstract Factory design pattern.(5M)
- OR
- 14 A. Discuss about Lexi's user interface and its design problems. (5M)
B. What are consequences of Builder pattern? Explain Builder pattern implementation. (5M)
- 15 Discuss the pattern name, Applicability, Consequences and Related Patterns of the following Patterns a) Bridge b) Proxy (5+5)M

- OR
- 16 A. Discuss about the structure, participants and consequences of Adapter pattern and explain the functions of each. (5M)
B. State the uses and related patterns of Flyweight and Facade design patterns. (5M)
- 17 A. Explain in detail about Command pattern. (5M)
B. What are the issues to be considered while applying Observer pattern? (5M)
- OR
- 18 A. What are the consequences of Chain of Responsibility pattern? Explain. (5M)
B. Describe the implementation issues of Mediator pattern. (5M)
- 19 Discuss briefly about the following Patterns: a) Visitor b) Strategy. (5+5)M
- OR
- 20 A. Explain the participants, collaborations and sample code of Template method. (5M)
B. What can we expect from a Design Pattern? (5M)