

Code No: 137SG

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, February/March - 2022

DESIGN PATTERNS

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

- 1.a) Discuss about describing a design pattern.
- b) How to use a design pattern? Explain. [8+7]
- 2.a) Describe specifying object interfaces and specifying object implementations.
- b) Explain the catalog of design patterns. [7+8]
- 3.a) Describe the concept of transparent enclosure with example.
- b) Explain about encapsulating implementation dependencies in Lexi's design. [8+7]
- 4.a) Discuss about recursive composition.
- b) Describe Iterator class and subclasses in Lexi's design. [7+8]
- 5.a) What are useful techniques to implement Abstract Factory pattern? Explain.
- b) Write and explain the sample code of Singleton pattern. [8+7]
- 6.a) Explain implementation issues of Builder pattern.
- b) Describe additional benefits of Prototype pattern in detail. [8+7]
- 7.a) Discuss about motivation and structure of Composite pattern.
- b) Describe two key benefits and liabilities of Decorator pattern. [8+7]
8. Explain the following:
 - a) Consequences of Observer pattern
 - b) Implementation and sample code of Template Method pattern. [8+7]

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