

Code No: 117CF

**R13**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year I Semester Examinations, November/December - 2017**

**DESIGN PATTERNS  
(Common to CSE, IT)**

**Time: 3 Hours**

**Max. Marks: 75**

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART- A**

**(25 Marks)**

- 1.a) What is design pattern? [2]
- b) Explain design patterns in Smalltalk MVC. [3]
- c) Draw the structure Factory Method. [2]
- d) Explain about recursive composition. [3]
- e) Write intent of Proxy pattern. [2]
- f) Write motivation of Wrapper pattern. [3]
- g) What are known uses of Iterator pattern? [2]
- h) Write benefits and drawbacks of Mediator pattern. [3]
- i) What is the intent of Strategy pattern? [2]
- j) Describe patterns in software. [3]

**PART-B**

**(50 Marks)**

- 2.a) What are some common causes of redesign? Explain. [5+5]
  - b) How to use a design pattern? Explain in detail. [5+5]
- OR**
- 3.a) Discuss about toolkits and frameworks. [5+5]
  - b) Draw a diagram to describe design pattern relationships. [5+5]
- 4.a) Describe formatting in Lexi's design. [5+5]
  - b) What are consequences of Builder pattern? Explain Builder pattern implementation. [5+5]
- OR**
- 5.a) Explain about encapsulating the analysis in Lexi's design. [5+5]
  - b) Write sample code of Prototype pattern. [5+5]
- 6.a) Explain the sample code of Flyweight pattern. [5+5]
  - b) Discuss about implementation issues of Decorator pattern. [5+5]
- OR**
- 7.a) Write about motivation and consequences of Façade pattern. [5+5]
  - b) Write sample code of Composite pattern. [5+5]

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- 8.a) Explain about Mediator pattern.
- b) Explain about motivation of Mediator pattern.

[5+5]

**OR**

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- 9.a) Briefly discuss about Memento pattern.
- b) Describe implementation of Command pattern.

[5+5]

- 10.a) Write some of the benefits and liabilities of the Visitor pattern.
- b) Discuss about the pattern community.

[5+5]

**OR**

11. Explain the following:

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- a) Discussion of behavioral patterns
- b) Template method pattern.

[5+5]

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