

Code No: 815BF

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA V Semester Examinations, April/May - 2019****DESIGN PATTERNS****Time: 3 Hours****Max. Marks: 60****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

**PART - A****5 × 4 Marks = 20**

- 1.a) How to select a design pattern? Explain. [4]
- b) What are design problems in Lexi's design? Explain. [4]
- c) What are known uses of Proxy and Decorator? [4]
- d) Describe implementation of Cursor. [4]
- e) Write brief discussion on behavioral patterns. [4]

**PART - B****5 × 8 Marks = 40**

- 2.a) Explain the following phrases: i) Programming to an interface not an implementation  
ii) Favor object composition over class inheritance.
- b) How design patterns solve design problems? [4+4]
- OR**
- 3.a) Explain the catalog of design patterns.
- b) Discuss about design patterns in Smalltalk MVC with example. [4+4]
- 4.a) Describe structures of Builder and Prototype.
- b) Discuss about user operations in Lexi's design. [4+4]
- OR**
- 5.a) Explain motivations of Abstract Factory and Factory Method.
- b) Discuss about supporting multiple window systems. [4+4]
- 6.a) Describe motivations of Proxy and Decorator.
- b) Write and explain the sample code of Flyweight. [4+4]
- OR**
- 7.a) What are advantages of Bridge pattern? Explain about its implementation.
- b) Briefly explain about Facade pattern. [4+4]
- 8.a) Discuss about implementation of Iterator.
- b) Explain in detail about Command pattern. [4+4]
- OR**
- 9.a) Describe structures of Memento and Mediator.
- b) Write and explain about sample code of Interpreter. [4+4]
- 10.a) Explain about motivation and implementation of Strategy.
- b) Discuss in detail about Template Method. [4+4]
- OR**
11. Write history of design patterns. What to expect from design patterns? Explain. [8]