

# FACULTY OF INFORMATICS

B. E. 4/4 (IT) I – Semester (Suppl.) Examination, June / July 2011

Subject: Software Reuse Techniques (Elective – III)

Time: 3 Hours

Max. Marks: 75

Note: Answer all questions from Part A. Answer any FIVE questions from Part B.

## PART – A (25 Marks)

1. Mention any three advantages of software re-use? 3
2. Define a design pattern. How are design patterns classified? 3
3. What is a component subsystem? Give examples. 3
4. What is a use case component? Give examples. 2
5. Draw the structure of prototype pattern? Mention its participants? 3
6. What are the related patterns of singleton pattern? 2
7. What is the intent of composite pattern? Draw the structure of composite object? 3
8. What is the intent of broker architectural pattern? 2
9. What is the purpose of template pattern? 2
10. Draw the structure of decorator pattern. 2

## PART – B (50 Marks)

- 11.(a) Explain briefly the various steps in object-oriented analysis. 6
- (b) Explain how design model helps in system development. 4
- 12.(a) Explain the intent, structure and participants of abstract factory pattern? 5
- (b) What is the difference between class behavioural and object behavioural patterns. Give examples. 5
13. Explain in detail about Façade structural pattern. 10
- 14.(a) Explain the intent, structure and consequences of applying adapter pattern. 5
- (b) Explain the intent, applicability and implementation issues of observer pattern? 5
- 15.(a) Explain the intent and consequences of applying forwarder-receiver pattern? 5
- (b) What is a publisher-subscriber pattern? Explain. 5
- 16.(a) What is layered architecture? Explain its advantages. 5
- (b) What is a black board architecture? Explain. 5
17. Write short notes on: 10
  - a) Model-view-controller architecture.
  - b) Application and component subsystems.