

**Second Semester M.Tech. Degree Examination, June-July 2009**  
**OOAD and Design Patterns**

Time: 3 hrs.

Max. Marks:100

Note : Answer any FIVE full questions.

- 1 a. Explain how object oriented development differs from traditional software development approach. (08 Marks)  
b. Discuss the concept of encapsulation, abstraction and Inheritance with help of suitable examples. (06 Marks)  
c. Differentiate the following with examples.  
i) Aggregation versus Association ii) Aggregation versus Composition (06 Marks)
- 2 a. What is supersub class structure? And explain the generalization and multiple inheritance concepts of class modeling with examples. (10 Marks)  
b. Draw and explain the state diagram for the telephone line with all the state sequences caused by event sequences. (10 Marks)
- 3 a. Consider a physical bookstore, such as in shopping mall.  
i) List three actors and explain the relevance of each actor. ii) Prepare a use case diagram iii) Prepare normal and exception scenarios for each use case. iv) Prepare sequence diagram corresponding to each normal scenario. (12 Marks)  
b. Explain the following relationship in the use case diagram with examples.  
i) include ii) extend iii) generalization. (08 Marks)
- 4 a. List and explain the various types of unnecessary classes to find the good classes in the domain class model with ATM system as an example. (08 Marks)  
b. Describe in detail the following steps in constructing an application interaction model using ATM system as an example.  
i) Find actors and use cases ii) Find Initial and Final events iii) Prepare normal, variation and exception scenarios iv) Find external events. (12 Marks)
- 5 a. Define System Design. Give the concepts of breaking a system into subsystems and elaborate the Layers and Partitions organization of subsystems. (08 Marks)  
b. Explain any four architectural styles for various kinds of systems. (12 Marks)
- 6 a. Briefly explain the various steps involved in class design with suitable examples. (12 Marks)  
b. Discuss the concepts of Fine tuning classes and Fine tuning generalization in implementation modeling. (08 Marks)
- 7 a. What makes a pattern? Briefly explain the categories of pattern. (08 Marks)  
b. Describe the following design pattern with appropriate examples. (12 Marks)  
i) Whole – part ii) Master - slave.
- 8 Write Short Notes on :  
a. Meta data  
b. Application state model  
c. Frame works  
d. View handler. (20 Marks)

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