

**[4364]-763**  
**B. E. (Computer Engineering)**  
**(Semester - I) Examination - 2013**  
**Object Oriented**  
**Modeling and Design**  
**(2008 Pattern)**

**Total No. of Questions : 12**                      **[Total No. of Printed Pages :2]**  
**[Time : 3 Hours]**    **[Max. Marks : 100]**

***Instructions :***

- (1) Answer **three** questions from section I and **three** questions from section II*
- (2) Answers to the **two sections** should be written in **separate answer-books**.*
- (3) Neat diagrams must be drawn wherever necessary.*
- (4) Black figures to the right indicate full marks.*
- (5) Assume suitable data, if necessary.*

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**SECTION-I**

- Q1) a) What is the need of modeling software system? What are object oriented concepts used in software modeling and how? [8]
- b) What do you mean by MDA? Give the metamodel of UML. [8]

**OR**

- Q2) a) How the 4+1 view architecture of the system models all the view of the system? [8]
- b) Explain the behavioural things in UML [8]
- Q3) a) How UML supports requirements modeling? [8]
- b) Give the activity diagram for computation of percentage of marks and report card generation in an assessment system. State you assumptions. [8]

**OR**

- Q4) a) Give the usecase diagram for sports event management system with descriptions of usecase and actors identified. [8]
- b) What are entity classes? Identify and model in UML the entity classes in a bus ticket reservation system. [8]

- Q5) a) Explain the element of a class diagram with an example. [8]  
b) Explain the application of composite structure diagram. [6]  
c) What do you mean by an active class? [4]

OR

- Q6) a) Give the class diagram for online store management system. [8]  
b) Explain the concept of realization and collaboration. [6]  
c) How class and object diagrams are related? [4]

## SECTION-II

- Q7) a) Explain the behavioural modeling with any two UML diagram. [8]  
b) How timing diagram can be used in real time systems? [6]  
c) Give any two operators used in sequence diagram. [4]

OR

- Q8) a) Explain the sequence diagram elements with a sequence diagram for transaction on a bank account. [8]  
b) Explain following  
1) Composite State  
2) Self transition  
3) Orthogonal State [6]

- c) How interaction overview diagram is related to activity diagram? [4]  
Q9) a) Explain elements and purpose of a component diagram. [8]  
b) How do you model the deployment view in UML? [8]

OR

- Q10) a) What are types of interfaces of a component? How it is modeled in UML? [8]  
b) Give the deployment diagram for client server 2 tier, event registration system. [8]

- Q11) a) Explain the forward engineering and reverse engineering. [8]  
b) Give the solution for observer design pattern. [8]

Or

- Q12) a) Explain the design pattern template with an example. [8]  
b) How do you forward engineer a class diagram? [8]