

Code No: R41052

R10

Set No. 1

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2014

UML AND DESIGN PATTERNS

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Explain the importance of requirements management in software development cycle. [8]
b) What is an object model? Discuss its evolution. [7]
- 2 a) How to identify the class relationship? Explain with an example. [8]
b) Explain forward and reverse engineering of object diagram with an example. [7]
- 3 a) Define use case. State and Explain different relationships that can be defined among usecases. [8]
b) What is an event? Briefly explain how to model events in UML with an example. [7]
- 4 a) Distinguish between a Component diagram and a Deployment diagram. Illustrate with examples. [7]
b) Elaborate on the common modeling techniques of Deployment. [8]
- 5 a) What is a design pattern? Give the classification of design pattern. [8]
b) Write notes on the design patterns in small talk MVC. [7]
- 6 a) Discuss about the implementation issues in builder design pattern. [8]
b) What is the motivation for singleton pattern? Explain in detail. [7]
- 7 a) Explain the role of structural patterns in design patterns. [8]
b) Describe applicability, structure and participants of adapter pattern. [7]
- 8 a) Write and explain the consequences and issues of memento pattern. [8]
b) Give a brief note on observer pattern. [7]

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Set No. 2

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Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) What is analysis? Explain view point oriented analysis and method based analysis. [8]
b) Write the importance of modeling. [7]
- 2 a) What is class in UML? Explain in detail. [7]
b) Explain the common modeling techniques of relationships. [8]
- 3 a) What is use case? Draw the use case diagram for "library information system" [8]
b) Give the state machine diagram for ATM. [7]
- 4 a) Explain the component diagram with an example. [7]
b) What are the common uses of deployment diagrams? Draw the deployment diagram for online shopping. [8]
- 5 a) Briefly explain one design problem that the design patterns solve. [8]
b) How to use a design pattern? Explain. [7]
- 6 a) Discuss about the implementation issues in singleton design pattern. [8]
b) Explain sample code of builder design pattern. [7]
- 7 a) Write short notes on flyweight pattern. [7]
b) Enumerate on the structures, participants, & collaborations of proxy. [8]
- 8 a) Explain the Known uses & related patterns of command pattern. [7]
b) What is the structure & participants of Memento pattern? Explain. [8]

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Set No. 3

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UML AND DESIGN PATTERNS

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) State and explain different system models. [8]
b) Explain the principles of modeling. [7]
- 2 a) Describe the modeling webs of relationships. [8]
b) Write notes on the modeling object structures. [7]
- 3 a) Draw the use case diagram for online book shop system with brief explanation. [8]
b) Explain the forward and reverse engineering of use case diagram. [7]
- 4 a) What is the significance of deployment diagrams. Draw deployment diagram for ATM. [8]
b) Describe the common modeling techniques of component. [7]
- 5 a) Explain the describing design pattern. [8]
b) How to select a design pattern? Explain with an example. [7]
- 6 a) What are the known uses of singleton pattern? Discuss. [8]
b) Explain sample code of factory method design pattern. [7]
- 7 a) What is the intent of bridge pattern? Explain the structure & applicability of this pattern. [8]
b) Give a brief note on proxy pattern. [7]
- 8 a) Explain the structure & participants of chain of Responsibility with one example [8]
b) What are the benefits & liabilities of the observe pattern? [7]

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Set No. 4

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UML AND DESIGN PATTERNS

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Explain the conceptual model of the UML. [8]
b) Briefly explain object oriented modeling. [7]
- 2 a) Discuss how object diagram can be used in modeling object structures. [8]
b) Explain the modeling semantics of class. [7]
- 3 a) Draw the activity diagram for ATM and explain. [8]
b) What are the common modeling techniques of use case diagrams? Explain. [7]
- 4 a) Discuss clearly the forward and reverse engineering of component diagrams. [8]
b) What is a component diagram? State and explain different types of components. [7]
- 5 a) What are common causes for redesigning the design patterns? Explain them in detail. [7]
b) Give a detailed note on organizing the catalog. [8]
- 6 a) Write short notes on abstract factory pattern. [8]
b) Explain the structure & participants of prototype with an example [7]
- 7 a) What are the Known uses & related patterns of facade pattern? Explain. [8]
b) Write & explain the structure & participants of Decorator pattern. [7]
- 8 a) What is the motivation for Iterator pattern? Explain. [8]
b) Describe the structure & participants of strategy pattern. [7]