

Code No: **RT41052**

**R13**

**Set No. 1**

**IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017**

**UML AND DESIGN PATTERNS**

**(Common to Computer Science and Engineering and Information Technology)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

\*\*\*\*\*

**PART-A (22 Marks)**

1. a) What is OOAD? Briefly explain its origin and how it is used. [3]
- b) What is inception? Explain the artifacts of inception. [4]
- c) Define SSD with an example. [4]
- d) Define design pattern? What is the actual purpose of it? [3]
- e) List out the UML diagrams. Explain which diagrams are static and dynamic. Why? [4]
- f) Explain the contents and the different relationships used in use case? [4]

**PART-B (3x16 = 48 Marks)**

2. a) Briefly describe how the OOAD and UML helps in project development. [8]
- b) Explain what are the mapping disciplines to UML artifacts? [8]
3. a) What is meant by FURPS? Explain briefly? [8]
- b) Briefly explain what are the use case types and formats [8]
4. a) What are the interaction diagrams? Briefly explain with examples. [8]
- b) Define and differentiate the sequence diagram and system sequence diagram with example? [8]
5. a) Discuss about indirection pattern with example. [8]
- b) What is singleton? Explain how it helps in communication with an example and its code? [8]
6. a) What are activity diagrams? Explain briefly. [8]
- b) Explain object diagram with example. [8]
7. a) What are the dependency relationships in use case? Explain with notations and examples? [8]
- b) Draw use case diagram for online shopping. [8]



**IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017**  
**UML AND DESIGN PATTERNS**

(Common to Computer Science and Engineering and Information Technology)

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

\*\*\*\*\*

**PART-A (22 Marks)**

1. a) What is the difference between UML and OOAD? [3]
- b) How the requirement analysis can be done? [4]
- c) Explain How to identify concepts in domain model? [4]
- d) What is meant by persistent storage? Where it is used and why? [4]
- e) Differentiate state chart and activity diagram? [4]
- f) What is meant by generalization and where it is used? [3]

**PART-B (3x16 = 48 Marks)**

2. a) Explain iterative development and unified process [8]
- b) Define UML. How it is used? What actually it deals about and its contents? [8]
3. a) Explain the use case diagram for a library management system [8]
- b) What are the goals and scope of a use case [8]
4. a) Discuss about Use case realizations? Explain with the help of GRASP patterns. [8]
- b) Draw the class diagram for customer support system. [8]
5. a) Briefly Explain singleton design pattern. [8]
- b) Explain how the problem of assigning responsibilities can be solved? Give example. [8]
6. a) Give an overview on component diagram [8]
- b) Draw the sequence diagram for library management system? [8]
7. a) What is generalization? Explain how it is used in use case model with an example? [8]
- b) What are the domain model refinements? [8]



**IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017**  
**UML AND DESIGN PATTERNS**

(Common to Computer Science and Engineering and Information Technology)

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

\*\*\*\*\*

**PART-A (22 Marks)**

1. a) What are the typical activities in OOAD? [4]
- b) Define UP context and UP artifacts [4]
- c) What is the process of adding associations in a domain model [4]
- d) Explain the fabrication design pattern. [4]
- e) What is the goal of a component diagram? [3]
- f) How to identify things in domain model? [3]

**PART-B (3x16 = 48 Marks)**

2. a) What is a design pattern and explain the goals for a good design? [8]
- b) Discuss about UML artifacts and SDLC phases and how they can be mapped? [8]
3. a) Explain the elements and sections of a use case. [8]
- b) Draw the use case diagram for point of sale. [8]
4. a) Design class diagrams for case study with the skeleton code. [8]
- b) Give an account on sequence diagram with an example. [8]
5. a) Explain how fabrication solve the problem of elements having high coupling. [8]
- b) What is indirection? Briefly explain [8]
6. a) Give an overview on Object Diagrams. [8]
- b) Explain how fork and join help in activity diagram with example. [8]
7. a) What is the architecture of a domain model? Explain with a neat sketch. [8]
- b) Explain in detail about the total relationships in UML and define how many relationships are used for use case. [8]



**IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017**  
**UML AND DESIGN PATTERNS**

**(Common to Computer Science and Engineering and Information Technology)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

\*\*\*\*\*

**PART-A (22 Marks)**

1. a) What are the UML artifacts? Explain [4]
- b) How to identify additional requirements? [4]
- c) Define elaboration? Explain its process [4]
- d) What is the design pattern for solving the privacy issue? Explain. [4]
- e) Differentiate between class and activity class. [3]
- f) What is the difference between note and node. [3]

**PART-B (3x16 = 48 Marks)**

2. a) Give an account on MVC architecture with a neat diagram? [8]
- b) What are the UML diagrams? Explain them with notations and the relationships used? [8]
3. a) Explain the process of writing requirements for the case study in the use case model [8]
- b) Discuss about contents in a use case diagram and explain how it can be drawn with an example. [8]
4. a) Design class diagrams in each MVC layer. [8]
- b) How the mapping can be done from design to code [8]
5. a) Briefly explain about façade [8]
- b) Explain about publish – subscribe design pattern [8]
6. a) Briefly explain component diagram. [8]
- b) Draw a State chart Diagram for library management system. [8]
7. a) Explain in detail about the packaging model elements [8]
- b) Draw use case diagram for ATM. [8]

