

**ST. ANN'S COLLEGE OF ENGINEERING & TECHNOLOGY,  
CHIRALA  
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**Frequently asked questions**

Subject: **UML & Design Patterns**  
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Academic Year : **2017-18**  
Year/Semester: **IV-I CSE-A**

**UNIT-1**

1. What are the various relationships used in UML?
2. What are your comments on "UML as programming language"? Explain.
3. What are the unified processes (UP) phases? Explain with the help of diagram.
4. What are different perspectives to apply UML?
5. What is a design? Explain the goals of good design?
6. Explain MVC architecture with an Example?
7. Mention different types of workflows in OOAD?
8. Explain Iterative development with an example ?
9. Briefly discuss about the steps how to select a design pattern?
10. What are the benefits of Iterative Development?
11. Explain different phases in unified process?
12. Write short notes on Describing design patterns?
13. Define design pattern? State use of design pattern?
14. Explain about Object Oriented Analysis and Design process?
15. Write about Unified Process work flows?

**UNIT-2**

1. What are three common use case formats?
2. How to write use cases in Inception, elaboration with examples.
3. What are the elements of supplementary specification?
4. What are different types and categories of requirements in UP?
5. What is use case? Explain different elements in use case with an example?
6. Draw a neat use case diagram for online railway reservation system?
7. Write short notes on FURPS model?
8. How are requirements organized in UP artifacts?
9. Explain use case diagram with an example?
10. Describe the scope of the use case model?
11. Explain use case types and formats with examples?
12. What different artifacts that may start in Inception phase? Explain
13. What is the purpose of Inception phase?
14. How to find use cases? Explain with an example.
15. What are three types of use cases? Explain with examples.

**UNIT-3**

1. "Is GRASP a set of patterns or principles". Justify the statement?
2. What are the basic concepts of a sequence diagram? Explain with an example?
3. What are use case realizations ? Explain with use case realizations patterns?
4. What is the purpose of GRASP patterns?
5. Briefly discuss about the GRASP design patterns?
6. What are different artifacts that may start in elaboration phase? Explain

7. What are the advantages of Domain Modeling?
8. How are requirements organized in UP artifacts?
9. Explain use case diagram with an example?
10. Mention any three differences between sequence and collaboration diagrams ?
11. Explain system sequence diagram with an example.
12. What are conceptual classes? What are different strategies to find conceptual classes?
13. What is meant by interaction diagram?
14. Explain the operation of Mapping Designs to Code
15. Explain GRASP designing objects with responsibilities.

#### UNIT-4

1. Write down principle involved in design pattern fabrication.
2. What are creational patterns? Explain any one creational pattern with example.
3. Compare and contrast the structural and behavioral patterns.
4. Write the intent of fabrication design pattern?
5. Explain Intent, Motivation and Applicability for factory design pattern with an example?
6. Describe the concept of Publish-Subscribe?
7. Write the intent of Indirection design pattern?
8. Explain in detail about factory design pattern?
9. Explain Applicability, Structure and participants for singleton design pattern with an example?
10. Write the intent of publish-subscribe design pattern?
11. Explain differences between pure fabrication and indirect fabrication?
12. Explain Applicability, Structure and participants for façade design pattern with an example?
13. Write the intent of factory pattern
14. Explain about Façade design pattern
15. Discuss about Indirection pattern with an example.

#### UNIT-5

1. How to apply activity diagrams in UML.
2. How to apply state chart diagrams? Explain with examples.
3. What are the differences between component and deployment diagrams? What are the types of components in UML?
4. Define sub-machine?
5. Explain common modeling techniques for State chart diagram?
6. Draw a neat Activity diagram for ATM application?
7. Describe Fork and Join in activity diagram?
8. Explain common modeling techniques for Activity diagram?
9. Draw a neat component diagram for online shopping?
10. Write the differences between class and object diagrams?
11. Explain common modeling techniques for component diagram?
12. Draw a neat state chart diagram for library management system?
13. Define Events, States and Transitions.
14. Discuss about activity diagrams.
15. What artifacts to be identified for drawing component diagram.

## UNIT-6

1. What is the relationship between aggregation and composition?
2. Explain about conceptual subclasses, conceptual super classes and abstract conceptual classes in UML.
3. Write a use case diagram for online railway reservation system.
4. Define package and draw the UML notation for Package.
5. Explain in detail about Use case relationships
6. Briefly explain about packaging model elements
7. Define Association and Aggregation.
8. Explain use case template with an example?
9. Explain the usage of generalization relationship in various UML diagrams?
10. Write short notes on specialization relationship?
11. Explain stereo types for dependency relationships in detail?
12. Define guidelines to model association classes, abstract classes and association role names?
13. Explain generalization relationship with example?
14. What are association classes? What are the guidelines to add association class? Illustrate with an example.
15. Discuss about Aggregation and Composition relationships.

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