19Z505 OBJECT ORIENTED ANALYSIS AND DESIGN

2 2 0 4

OBJECT MODEL: Complexity - Structure and Attributes of Complex Systems - Designing Complex Systems - Foundations of Object Models - Elements of an Object Model – Unified Software Development Process. (6 +6)

UML AND USE CASE MODELING : Introduction - UML Views - Classification of UML Diagrams - Use Case Diagrams: Modeling Requirements - Components - Use Case Identification and Description - Use-Case Relationships (6 + 6)

BEHAVIORAL MODELING: Activity Diagram: Components – Construction. State Diagram: Components – Construction. Sequence Diagrams - Collaboration Diagrams - Timing Diagrams (6 + 6)

CLASSES AND OBJECTS: UML Class Diagrams - conceptual classes and description classes – Associations – Attributes – conceptual class Hierarchies – Aggregation and Composition- identification of analysis and design classes. (6 + 6)

STRUCTURAL DIAGRAMS AND PATTERNS : Package Diagram - Component Diagram - Deployment Diagram - Design Patterns MVC (6+6)

(14 topics on whole to concentrate)

Unit 1

1. first unit theory

Unit 2

2. use case diagram
3. use case specification

Unit 3

4. activity diagram
5. state diagram
6. sequence diagram
7. collaboration diagram
8. timing diagram

Unit 4

9. class diagram
10. guidelines for drawing class diagram and the related theory

Unit 5

11. package diagram
12. component diagram
13. deployment diagram
14. MVC

Specific Questions to focus on

Overall:

1. **The purpose of the diagram (confirm 2 to 4 qtns about this in all sem papers)**
2. **The difference between each diagram with others**
3. **The components and its uses with example for each**

Unit 1:

1. Discrete vs continuous nature of Complex Systems
2. Complex vs Non complex sys
3. Five attributes of CS (vv imp)
4. OOD, OOA, OOP
5. Illusion of simplicity

6. Complexities of problem domain
7. Class and object relation - IS-A and HAS relationships
8. Role of decomposition - Algorithmic decomposition vs OO Decomposition
9. Major and Minor elements (vv imp)
10. Unified Process model - phases
11. Unified Process model - workflow (vv imp - both UPM)

Unit 2

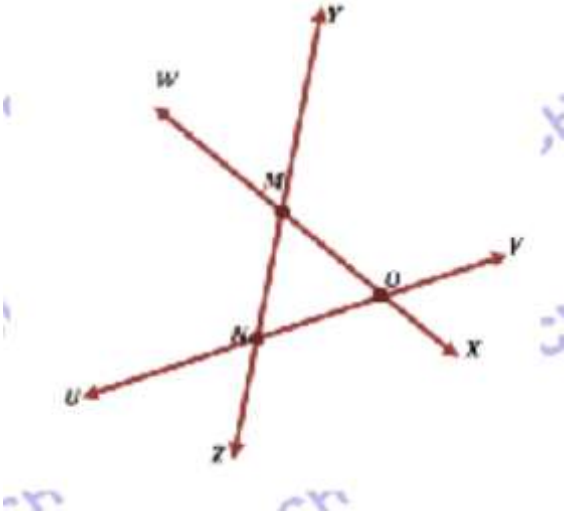
1. Structural diagrams vs Behavioral diagrams - for any of the units from 2 to 4
2. UML all theory - why, how, why it is an expressive modeling language
3. System vs model vs view
4. Pathways and use case specification details
5. 4+1 architectural view model in UML (both sem papers) - 6 mark
6. Guidelines for use case specification and the components of use case diagram

Unit 3

1. All state diagram components and clear cut differences between them
2. History state - shallow vs deep history state
3. Purpose of each diagram
4. State and Activity diagram - first priority
5. Sequence and timing - second priority
6. Collaboration - last

Unit 4

1. All the relationship types - definitions and examples (6 marks)
2. Analysis vs design classes
3. Link vs association relationship
4. Object diagram to depict relationship between lines and their intersection points (6 marks)



5. Steps in creation of class diagram
6. Guidelines to find classes and relationships and objects
7. Class diagram with all possible contents

Unit 5

1. Dependencies between packages
2. Types of visibility in packages
3. What is design patterns - types - examples - code with class diagram (vv imp) (both sem paper)
4. Deployment diagram and component diagram (10 marks)
5. Processors vs devices, topology of system (ch 27 in uml book)