



SETHU INSTITUTE OF TECHNOLOGY, KARIAPATTI
(An Autonomous Institution Affiliated to Anna University, Chennai)

Regulation – 2015

Question Bank

B.E. COMPUTER SCIENCE AND ENGINEERING

15UCS502 – OBJECT ORIENTED ANALYSIS AND DESIGN

PART – A (8 x 1 = 8 Marks)

UNIT - I

1.	UP has been emerged as a _____. a) Design process b) Iterative process c) Programming process d) Technical process	(CO1)	(U)
2.	UML is used as programming language because _____. a) Modified by developers b) Code will be generated by the user c) Code will be automatically generated d) Code will be executed by UML	(CO1)	(U)
3.	Find out the artifact below a) Iteration b) Text documents c) Disciplines d) Environment	(CO1)	(AP)
4.	_____ diagram illustrate actor interactions and the operations initiated by them. a) Sequence diagram b) Use case diagram c) Class diagram d) Package diagram	(CO1)	(U)
5.	_____ diagram illustrate the logical architecture as part of the design. a) Component diagram b) State diagram c) Class diagram d) Package diagram	(CO1)	(U)
6.	_____ diagram to visualize workflows and business process. a) Use case diagram b) State diagram c) Class diagram d) Activity diagram	(CO1)	(U)
7.	One of the best practices in the Unified Process is _____. a) Tackle high risk and early iteration b) Beta test c) Decision making d) Scheduling of projects	(CO1)	(U)
8.	_____ actor is responsible for the use cases process sale and handle payment in Sales Project. a) System admin b) Cashier c) Customer d) Manager	(CO1)	(AP)

UNIT – II

1.	Attach additional responsibilities to an object dynamically. It provides a flexible alternative to subclassing for extending functionality a) Chain of responsibility b) Adapter c) Decorator d) Composite	(CO2)	(AP)
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2.	Which of the following pattern refers to creating duplicate object while keeping performance in mind? a) Builder Patternb) Bridge Patternc) Prototype Patternd) Filter Pattern	(CO2)	(U)
3.	Most user interface design patterns fall within one of ____ categories of patterns. a) 5 b) 10 c) 25 d) 100	(CO2)	(U)
4.	The use of design patterns for the development of object-oriented software has important implications for a) Component-based software engineering b) Reusability in general c) All of the mentionedd) None of the mentioned	(CO2)	(U)
5.	In factory method pattern, the framework must instantiate classes but it only knows about the abstract classes, which it cannot initiate. How would one solve this problem? a) encapsulating the knowledge of which document subclass to is to be created b) moving this knowledge out of the framework c) instantiating the application specific documents without knowing their class d) all of the mentioned	(CO2)	(AP)
6.	If the feature of a classifier is prefixed by the symbol "#", the feature is set to be _____ a) public b) protected c) private d) package	(CO2)	(U)
7.	You want to minimize development cost by reusing methods? Which design pattern would you choose? a) AdapterPatternb) SingletonPattern c) Delegation Patternd) Immutable Pattern	(CO2)	(U)
8.	Cohesion and coupling are represented by using a) structure partb) structure effect c) dependence matrixd) all of these	(CO2)	(U)
UNIT – III			
1.	What is the programming style of the object oriented conceptual model? a) Invariant relationshipsb) Algorithms c) Classes and objectsd) Goals, often expressed in a predicate calculus	(CO3)	(U)
2.	Abstraction is classified into _____ types a) 4b) 3c) 2d) 1	(CO3)	(U)
3.	Refinement is a process of a) inheritanceb) collaboration c) elaborationd) polymorphism	(CO3)	(U)
4.	To Model a Static structure of a System, You would use a)Static and Interactionb) data flow and Entity relationship c) Class and Object d) decision tables and Trees	(CO3)	(U)
5.	Given classes A and B, which of the following is not a common type of coupling in object-oriented software?	(CO3)	(AP)

	a) A invokes methods of B b) A method parameter or local variable in A references B. c) A has an instance variable that refers to B d) None of the given options		
6.	Which testing integrates the set of classes required to respond to one input or event for the system? a) cluster testingb)thread-based testing c)use-based testingd)none of the mentioned	(CO3)	(U)
7.	To distinguish between active and non-active object which property is applied? a) abstractionb) polymorphismc) concurrencyd) aggregation	(CO3)	(U)
8.	Graphically, a stereotype is represented as a name enclosed by _____ a) “ “b) []c) >><<d) « »	(CO3)	(AP)
PART – B (5 x 2 = 10 Marks)			
UNIT – I			
1.	Compare and contrast between sequence and Collaboration Diagram.	(CO1)	(U)
2.	Mention the four major phases of Unified Process.	(CO1)	(U)
3.	What is Package Diagram? When to use package Diagram?	(CO1)	(U)
4.	Identify who are all the actors for the student management System	(CO1)	(AP)
5.	Draw the class diagram for returning a book in library management system	(CO1)	(AP)
UNIT - II			
1.	Define patterns.	(CO2)	(U)
2.	Mention out some scenarios that illustrate varying degrees of functional cohesion.	(CO2)	(U)
3.	Relate the responsibilities Interface and Domain Layer.	(CO2)	(U)
4.	How to Apply the GRASP Patterns?	(CO2)	(U)
5.	Abstract for Factory (GOF) for Families of Related Objects.	(CO2)	(AP)
UNIT - III			
1.	How to create Domain model?	(CO3)	(U)
2.	Why call a Domain Model a Visual Dictionary?	(CO3)	(U)
3.	Why class diagram is called static object modeling? Identify.	(CO3)	(U)
4.	Construct design for Library Information system which comprises following notations 1. Aggregation 2. Composition 3. Associations	(CO3)	(AP)
5.	Define OO Testing	(CO3)	(U)
PART – C (5 x 8 = 40 Marks)			

	UNIT - I				
1.	(a)	Explain in detail about the Unified process	(CO1)	(U)	(8)
OR					
	(b)	Explain Different types of UML diagrams in detail.	(CO1)	(U)	(8)
2.	(a)	Write a problem statement for Library management system. Draw the UML Use Case, Activity diagram, Class diagram, Sequence diagram, State Chart diagram, Package diagram, Component and Deployment diagrams.	(CO1)	(AP)	(8)
OR					
	(b)	A University conducts examinations and the results are announced. Prepare a report for the following: <ul style="list-style-type: none"> • Print the marks in the register number order semester wise for each department • Print the Arrear list semester wise. • Prepare a Rank list for each department. • Prepare the final aggregate mark list for final year students. Identify the problem statement and Design the classes for each sequence. Draw a detailed flow chart using state chart diagrams. Design this system using Rational Rose. Draw Use case, Class, Sequence and collaboration for designing this system.	(CO1)	(AP)	(8)
3.	(a)	What is use case Diagram? Model a use case diagram for a Banking System. State the business rules you are considering.	(CO1)	(AP)	(8)
OR					
	(b)	Consider the following use Cases that play a role in the Banking System you have modeled: 1. Deposit 2. Withdraw. Model sequencediagrams for the above two use cases.	(CO1)	(AP)	(8)
4.	(a)	Draw component diagram for Inventory Management system	(CO1)	(AP)	(8)
OR					
	(b)	Draw deployment diagram for Book bank system.	(CO1)	(AP)	(8)
5.	(a)	Compare Activity and State chart Diagram with an example.	(CO1)	(U)	(8)
OR					
	(b)	With an example explain about the package diagram in detail	(CO1)	(U)	(8)
UNIT - II					

1.	(a)	Develop and Design principles in Object Modeling. Apply GRASP methods for designing objects and evaluate the POS system as an example.	(CO2)	(AP)	(8)
OR					
	(b)	Develop and Design principles in Object Modeling. Apply GRASP methods for designing objects and evaluate the Chess game as an example.	(CO2)	(AP)	(8)
2.	(a)	Demonstrate in detail about the various models of Design pattern.	(CO2)	(AP)	(8)
OR					
	(b)	Design the suitable Patterns that can be used to build the student management system which have an admin and he/she can add, delete and update the student details. It also contains a student who can view or search the particular student.	(CO2)	(AP)	(8)
3.	(a)	Design the Patterns that can be used for the following also identify which to provide an interface creating families of objects without specifying classes.	(CO2)	(AP)	(8)
OR					
	(b)	How to model Structural patterns? Discuss.	(CO2)	(AP)	(8)
4.	(a)	Develop Observer pattern by using your own application and explain the section of the design pattern.	(CO2)	(AP)	(8)
OR					
	(b)	Construct the Factory pattern by using your own application and identify the section of the design pattern.	(CO2)	(AP)	(8)
5.	(a)	Design and Develop mapping design to code concept using GoF design patterns.	(CO2)	(AP)	(8)
OR					
	(b)	Apply GoF Design Patterns in any Object Oriented Programming language.	(CO2)	(AP)	(8)
UNIT - III					
1.	(a)	Construct the guidelines to define a conceptual subclass with suitable example.	(CO3)	(AP)	(8)
OR					
	(b)	Construct the guidelines to define a conceptual super class with suitable example.	(CO3)	(AP)	(8)
2.	(a)	Explain in detail about Domain Model refinement with suitable example.	(CO3)	(U)	(8)
OR					
	(b)	Explain Logical architecture and UML package diagrams in detail.	(CO3)	(U)	(8)

3.	(a)	Design the Model and Creating Design Class Diagrams.	(CO3)	(AP)	(8)
OR					
	(b)	Design the Use-Case Realizations with GOF Design Patterns and How to determining the visibility of design model.	(CO3)	(AP)	(8)
4.	(a)	Explain in detail about Logical architecture Refinement with neat diagrams.	(CO3)	(U)	(8)
OR					
	(b)	Explain various types of testing strategies in detail.	(CO3)	(U)	(8)
5.	(a)	Design and Develop mapping design to code concept using GOF design patterns.	(CO3)	(AP)	(8)
OR					
	(b)	Design the Patterns that can be used for the following also identify which i) To provide an interface creating families of objects without specifying classes. ii) To ensure that a class has only one instance and provide global point to access to it.	(CO3)	(AP)	(8)

Questions	CO Mapping (Indicate the course outcome achieved by the Question)	Marks	Percentage
All	CO1: Prepare requirements for a given problem using Unified Modeling Language.(Apply) CO2: Apply Design patterns for Software Development. (Apply) CO3: Employ dynamic modeling concepts in software system design.(Apply)	100	100