NARAYANA ENGINEERING COLLEGE::GUDUR
AUTONOMOUS

DEPARTMENT OF MCA

Class	**: I MCA - II SEM**	**Academic Year**	**: 2023-24**
Course Title	**: Object Oriented Analysis and Design**		
Faculty	**: Mrs.VM.Bhargavi**	**Branch**	**: MCA**

MoModel Questions Bank

Module – I: Introduction to OOAD

S.NO	Question	CO	BTL	MARKS
1	a. Explain the Attributes of a complex system. b. Define Software complexity. Why Software is Inherently complex?	1	2	6 6
2	a. Distinguish between Organized complexity & disorganized complexity b. Explain the canonical form of a complex system. What are the limitations of the human capacity for dealing with complex software systems	1	2	4 8
3	a. Describe Algorithmic & object-oriented decomposition. b. Explain the Role of Abstraction & Hierarchy with in a complex software System	1	2	6 6
4	a. What are the Objectives of design. b. What are the elements of software design methodologies. Explain the importance of Model Building.	1	1	5 7
5	a. Write about the generations of programming Languages by Wegner. b. What is Topology? Write about the evolution of the object Model through Topology.	1	1	6 6
6	a. What are the foundations of the object Model? b. How OOA, OOD, OOP related to each other?	1	1	6 6
7	a. How Many types of programming styles exists? What are they? b. List the Major elements & Minor elements of object Model	1	1	5 7
8	a. Explain the concept and meaning of Abstraction with example b. Explain the meaning and concept of Encapsulation with example	1	2	6 6
9	Explain the elements of the object Model with examples.	1	2	12

10	a. Describe Modularity and Hierarchy with example. b. What are the benefits of the Object Model	1	1	8 4
11	a. Define Typing. Explain strongly typed and weakly typed programming Language. b. Define static typing and Dynamic Typing.	1	1	6 6
12	a. Describe concurrency and persistency. b. When will you call a Language "object oriented"? Distinguish between Object-Oriented and Object-based Languages	1	1	6 6

Module – II: Classes & Objects

S.NO	Question	CO	BTL	MARKS
1	a. Describe the Nature of an Object with examples. b. Define "State; "behaviour; "Identity" of an object with example.	2	1	6 6
2	a. What are the relationships among objects? b. Define "Link", "Visibility", Synchronization with examples.	2	1	2 10
3	a. Describe the Nature of a class with examples b. Define Interface and Implementation and explain	2	1	6 6
4	a. What are the relationships among classes? b. Define and explain 'Association', "Inheritance" and "Aggregation".	2	1	3 9
5	a. Define Inheritance with an example b. What are the types of Inheritance in object-orientation. Explain types of Inheritance with examples	2	1	2 10
6	a. Explain "Aggregation" b. Explain the concept of the Interplay of classes & objects. Distinguish between Links & aggregation	2	2	4 8
7	a. Describe the importance of proper classification. b. List out the difficulties of classification. Explain the incremental and iterative nature of classification	2	1	3 9
8	a. List the classical and modern approaches to classification. b. Briefly explain the classical & modern approaches to classification.	2	2	3 9

9	a. What is object-oriented Analysis? b. Briefly Explain classical approaches of OOA. Describe Behaviour Analysis & Domain Analysis	2	2	2 10
10	a. Describe use-case Analysis. b. Explain "CRC Cards". Explain Informal English Description and Structured Analysis	2	2	3 9
11	a. Explain key Abstractions. b. Describe Identifying Mechanisms.	2	2	6 6

Module – III: Introduction to UML

S.NO	Question	CO	BTL	MARKS
1	a. Why we model & describe the importance of modeling b. What are the four principles of Modeling.	3	1	6 6
2	a. What is UML? The UML is a Language Explain with suitables. b. How you model a system's Architecture?	3	1	7 5
3	Briefly Explain the conceptual model of the UML.	3	2	12
4	How to specify classes, Attributes, operations and responsibilities- with neat Labelled diagrams & explain?	3	1	12
5	a. What are the common Modeling Techniques? b. How to model the vocabulary of a system and distribution of responsibilities of a system?	3	1	2 10
6	a. How we model non-Software things? b. How to model primitive Types?	3	1	6 6
7	How to represent relationship, Dependency, Generalization, Association, Aggregation with diagrams and with examples.	3	1	12
8	Describe common modelling techniques of simple dependencies, single inheritance, structural relationships. Explain with examples & diagrams.	3	2	12
9	a. How to represent Notes, stereotypes, tagged values and constrains in UML? b. How to model comments?	3	1	8 4
10	a. How to model New Building Blocks? Explain with UML diagram. b. How to model New properties? Explain with UML diagram. How to model New Semantics? Explain with UML diagram.	3	1	4 8

11	a. Define forward engineering and Reverse engineering. Explain. b. How to model a Logical Database schema. Explain with a diagram.	3	1	6 6
12	a. What is an object diagram? Explain with a diagram. b. How to model object structure?	3	1	6 6

Module – IV: Structural Modeling

S.NO	Question	CO	BTL	MARKS
1	a. Describe what is a package diagram b. How to represent the package Notation, visibility of elements through UML. How to represent the dependency relationship is a package diagram by UML 2.0?	4	1	3 9
2	a. What is a composite structure diagrams? b. Explain the essentials of composite structure ports & Interfaces. Describe Advanced concepts of collaborations in composite structure diagrams	4	2	3 9
3	a. What is a component in object- orientation? b. How to represent the component Notation. Draw the component diagram for "Environmental control system"	4	1	3 9
4	a. How to represent component Interfaces? b. What are the essentials of component Realizations. Explain with example UML.	4	1	6 6
5	a. Describe the use of a deployment diagram. b. How to represent the Artifact Notation? How to represent the Node Notation in deployment diagram?	4	1	2 10
6	a .Define Deployment Diagram. b. Draw and Explain- "The Deployment Diagram for Environmental control system".	4	1	2 10
7	a. What is a profile Diagram? Explain. b. What are the essentials of profile diagram? Explain with UML 2.0 diagram.	4	1	4 8
8	a. What do we mean by UML Structure Diagrams? b. List out UML Structure diagrams. Briefly Explain the structure Diagrams	4	1	2 10

Module – V: Behavioural Modeling

S.NO	Question	CO	BTL	MARKS
1	a. Describe about use case diagrams. b. How to represent Actors, Use cases <<includes>> <<excludes>> in Use case diagrams by UML 2.0? Write Use case specification	5	1	2 10
2	a. What is an Activity diagram? Explain its purpose b. How you represent Actions, starting and stoping, Decision and merge Nodes, partitions, Object flows in Activity diagram by using UML 2.0	5	1	3 9
3	a. Describe about State Machine Diagrams b. How to represent the Advanced concepts in State Machine Diagrams by UML 2.0	5	1	4 8
4	a. What is the purpose of Sequence diagram? b. How to represent the essentials of Sequentials of Sequence diagrams by UML? How to represent the Advanced concepts in Sequence diagrams by UML?	5	1	2 10
5	a. What is communication diagram? b. Explain Objects, links, Messages Sequence expressions in communication diagrams by UML 2.0? What are the advanced concepts of communication diagram & how they are represented in UML?	5	1	2 10
6	a. Describe Timing diagram. b. Write about the essentials of Timing diagram by the UML 2.0 representation? What are the advanced concepts of Timing diagram? Explain.	5	1	2 10
7	a. Describe Interaction overview diagram b. Explain frames, flow of control elements, Interaction diagram elements by UML 2.0	5	2	3 9
8	a. What are Events? Explain signals, call Events, Time & change Events, Sending & Receiving Events. c. How to model a family of signals? How to model exceptions in signals?	5	1	5 7
9	a. How to model Interprocess communication? b. What are two standard stereotypes? Define them? Define communication & synchronization	5	1	6 6
10	a. Define Behavior diagrams. b. List the types of Behavior diagrams. Explain Briefly about any two Behavior diagrams by UML 2.0.	5	1	2 10

Name & Signature of the NECN Faculty	Name & Signature of the NECG Faculty	Name & Signature of the NECN HOD	Name & Signature of the NECG HOD

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