

STES's,
RMD Sinhgad School of Engineering, Warje, Pune
A.Y. 2020-21, Semester-I
Subject: Software Design and Modeling (MCQ)

Difficulty Level (Low-1,Medium-2,High -3)	No. of Options(2-6)	Item Text	Option Text 1	Option Text 2	Option Text 3	Option Text 4	Correct Option	Unit No.	Explanation
1	4	A link is an instance of _____	Generalization	Association	Dependency	Realization	b	1	
1	4	_____ are used to create new building blocks from existing blocks.	Stereotypes	Tagged Values	Constraints	Diagrams	a	1	
1	4	How many views of the software can be represented through the Unified Modeling Language (UML)?	Four	Five	Six	Nine	b	1	
1	4	_____ helps to communicate the overall system architecture unambiguously.	Flow charts	Designing	Templates	SRS	a	1	
2	4	Which of the following UML diagrams has a static view?	Activity	State chart	Collaboration	Use case	d	1	
2	4	Which of the following early OOD methods incorporates both a "micro development process" and a "macro development process." ?	Booch method	Rumbaugh method	Wirfs-Brock method	Coad and Yourdon method	a	1	
2	4	Extensibility mechanism is /are	Stereotype	Tagged Values	Constraints	All of the above	d	1	
2	4	Associations _____	May exist only between actors and use cases	Identify the flow of data between actors and use cases	Identify interactions between actors and use cases	Identify dependencies between actors and use cases	c	1	
3	4	Which of the following UML diagrams represent the structural View of the software?	Class diagram	Object diagram	Both a. and b	None of the above	c	1	
3	4	Which of the following statements is true? i) There are 5 views that are represented through the Unified Modelling Language (UML). ii) These 5 views in UML are represented through 9 UML diagrams.	Only i is true	Only ii is true	Both i and ii are true	None of them is true	c	1	
1	2	Use-case actor is always a person having a role that different people may play	TRUE	FALSE			b	2	
1	4	Which among the following can be heuristic for Use case diagram	The product can be made actor	Never name actors with noun phrases	Name Use cases with verb phrases	All of the mentioned	c	2	
1	2	Multiple inheritance allows a class to inherit features from more than one superclass.	TRUE	FALSE			a	2	
1	4	Composition is a stronger form of which of the following?	Encapsulation	Inheritance	Aggregation	All of the above	c	2	
2	4	The root super class in diagram of generalization and specialization is considered as	Three tier class	Two tier class	Base class	Top class	c	2	
2	4	An operation can be described as?	Object behavior	Class behavior	Functions	Object & Class behaviour	d	2	
2	4	Which of the following views represents the interaction of the user with the software but tells nothing about the internal working of the software?	Use case diagram	Activity diagram	Class diagram	Sequence diagram	a	2	
2	4	Aggregation is which of the following?	Expresses a part-of relationship and is a stronger form of an association relationship.	Expresses a part-of relationship and is a weaker form of an association relationship.	Expresses an is-a relationship and is a stronger form of an association relationship.	Expresses an is-a relationship and is a weaker form of an association relationship.	c	2	
3	4	Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling ?	All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling	The review leader reads the use-case deliberately	Only developers in the review (of the CRC model) are given a subset of the CRC model index cards	All of the mentioned	c	2	
3	4	_____ & _____ diagrams of UML represent Interaction modeling.	Use Case, Sequence	Class, Object	Activity, State Chart	All of the mentioned	a	2	

1	2	Elements include in state chart diagram are	Transitions	Condition markers	Iteration markers	Lifeline markers	a	3	
1	4	Which of the following is not the pros of state chart	Heirarchy	Synchronizatio n	Statemate	Backend	b	3	
1	4	_____ diagram is time-oriented?	Collaboration	Sequence	Activity	Deployment Diagram	b	3	
1	4	When a company hires an employee this would appear as a:	Guard condition on a state diagram	Action expression	State on a state diagram	Event on a state diagram	d	3	
2	4	which term are combined Interaction Diagram?	Sequence Diagram + Collaboration Diagram	Activity Diagram + State Chart Diagram	Deployment Diagram + Collaboration Diagram	Deployment Diagram + Sequence Diagram	a	3	
2	4	Which of the following is not a timing Constraint in program state machine	Exestuation Time Constraint	Processing Time Constraint	Date Rate Constraint	Inter-event Time Constraint	b	3	
2	4	which one of the following is achieved by developing a sequence during an object-oriented design process?	Identification of object state behaviour	Determination of attribute of a class	Determination of inheritance relationships among classes.	Responsibility assignment to classes	d	3	
2	4	Which of the following component is used to clarify which actor performs which activity in an activity diagram?	forks	joins	state	swimlanes	d	3	
3	4	Which one of the following characterizes a sequence diagram?	A call graph illustrating all possible sequences of calls method members	A time-line illustrating a typical sequence of calls between object methods	A time-line illustrating the changes in inheritance and instantiation between classes and objects over time	A time-line illustrating inheritance relationship between classes.	b	3	
3	4	Identify which of the statement(s) below is/are incorrect	State machine diagram are constructed in the design phase and refined during analysis	State machine diagram represent discrete behaviours of objects	A state of an object is a snapshot of the values of its properties	A protocol State machine diagram is a fine-grained refinement of the behavioural State machine with added annotations	a,d	3	
1	4	The rules and semantics of the UML can be expressed in a form known as	Object modeling language	Object constraint language	Object driven language.	Object control language	d	4	
1	2	A class that contains business-related information and implements the analysis classes is a(n):	interface class	system class	control class	entity class	d	4	
1	4	Single inheritance, Multiple inheritance, and Aggregation comes under	Modularity	Typing	Hierarchy	Interface	c	4	
1	4	Which among the following are not the valid notations for package and component diagram?	Note	Box	Extension Mechanisms	Packages	b	4	
2	4	Which of the following statement is false?	A note is a dog-eared box connected to any model element by a dashed line	The main way to extend UML is by constraints, properties, etc	A dependency relation holds between two entities D and I where change in I does not affect D	All of the mentioned	c	4	
2	4	Which of these are types of nodes used in the deployment diagram?	Device	Execution Environment	Artifact	Device & Execution Environment	d	4	
2	4	which diagrams are used to distribute files, libraries, and tables across topology of the hardware	deployment	use case	sequence	collaboration	a	4	
2	4	The architecture layer that provide the interface between the business logic and the underlying database is known as	view access layer	Model access layer	Data access layer	Domain access layer	b	4	

3	4	What are the ways in which artifacts can be deployed?	Artifact symbol can be placed within node symbol	The artifact symbol can appear outside the node but be attached to it by dependency arrow from the artifact	Artifact name can be listed inside the node symbol	All of the mentioned	d	4	
3	4	Which of the following is incorrect in the deployment diagram?	Communication connections between nodes are shown by communication paths	Communication paths are represented by dotted lines	Artifacts are deployed inside nodes where they reside and execute	None of the mentioned	b	4	
1	4	Which GRASP pattern helps to find out answer for "Who should be responsible for creating a new instance of some class?"?	Adapter	Protected Vairation	Creator	Fabircation	c	5	
1	4	Why are Patterns important?	They capture expert design knowledge	They make captured design accessible to both novices and other experts	All of the mentioned	None of the mentioned	c	5	
1	4	Which of the below is not a valid design pattern?	Singleton	Factory	Command	Java	d	5	
1	4	When would you use the GOF Decorator design pattern?	to translates an existing class interface into a compatible target interface	to assign more functionality to an object without subclassing it	to decouple an abstraction from its implementation so that the two can vary independently	to nest layers of decorators to add more functionality	b	5	
2	4	Which of the below author is not a part of GOF (Gang of Four)?	Erich Gamma	Gang Pattern	Richard Helm	Ralph Johnson	b	5	
2	4	The term "Delegation" is most closer to which of the following GRASP patterns	Expert	Creator	Low Cohesion	Controller	d	5	
2	4	Which design pattern you would you use to limit the class instantiation to one object?	Factory	Singleton	Observer	Adapter	b	5	
2	4	An instructor wants to schedule an exam for which he/she wants that a notification is sent to all the registered students automatically. Which design pattern is most suitable for him.	Composite	Observer	Decorator	Iterator	b	5	
3	4	Which design pattern suggests multiple classes through which request is passed and multiple but only relevant classes carry out operations on the request?	Singleton pattern	Chain of responsibility pattern	State pattern	Bridge pattern	b	5	
3	4	Which GRASP pattern asnwrs the question "What object should have the responsibility, when you do not want to violate High Cohesion and Low Coupling, or other goals, but solutions offered by Expert are not appropriate?"	Pure Fabrication	Indirection	Creator	Polymorphism	a	5	
1	4	Architecture description language represent architectural structures that can be divided into which of the following?	Static	Dynamic	All of the mentioned	None of the mentioned	c	6	
1	4	What are the benefits for component based product lines?	Being able to take faster advantage of new product and new technology	Increase in time to market	Higher employee productivity	None of the mentioned	b	6	
1	2	Software Design consists of ?	Software Product Design	Software Engineering Design	All of the mentioned	None of the mentioned	c	6	
1	4	Service Oriented Architecture (SOA) is	Strongly Coupled	Loosely Coupled	Strongly Cohesive	Loosely Cohesive	b	6	
2	4	Which of the following are incorrect needs for component based product lines?	Less reliable components	More changeable system	More extensible system	All of the mentioned	a	6	
2	4	In concurrent Development Model, early in the project when communication activity has completed its first iteration it exits in the	awaiting changes state	under development state	done state	none state	a	6	

2	4	Real time systems are _____.	Primarily used on mainframe computers	Used for monitoring events as they occur	Used for program development	Used for real time interactive users	b	6	
2	4	Which architecture describes the various elements that support the implementation of services.	The Application Architecture	The Service Architecture	The Component Architecture	None of the mentioned	c	6	
3	4	Point out the correct statement.	Service Oriented Architecture (SOA) describes a standard method for requesting services from distributed components and managing the results	SOA provides the translation and management layer in an architecture that removes the barrier for a client obtaining desired services	With SOA, clients and components can be written in different languages and can use multiple messaging protocols	All of the mentioned	d	6	
3	4	How is SOA different from OO Architecture ?	Strong coupling among objects	Communications are prescriptive rather than being descriptive	Data is separated from a service or behavior	Data and methods are integrated into a single object	c	6	