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**First Chapter**

**Question 1**

**What is software modeling?**

* In model-based software design, software modeling is used as an essential part of software development.
* Models are built and analyzed before system implementation

**Question 2**

**What is software model?**

* A model is simplification with purpose
* It uses precise notations to describe and simplify complex and interesting phenomenon, structures

**Question 3**

**What is a UML**

* UML means Unified Modelling Language
* The UML allows the builder to try several designs and find out which is best suited for the project
* It’s is known and accepted worldwide

**Question 4**

**Why use UML?**

* Permits you specify the structure or behavior of the system
* Helps visualize a system
* Helps understand complex systems part by part

**Question 5**

**UML tools are controlled by?**

* Object Management Group (OMG)

**Question 6**

**Types of UML tools**

* Star UML
* Visual Paradigm

**Question 7**

**Difference between UML and Star UML?**

* UML is a Modelling Language used to understand complex problems WHILE Star UML is a software that helps us draw UML diagrams

**Question 8**

**Characteristics of software? modeling**

* Simplification
* Varying perspective
* Common notation

**Question 9**

**What is software architecture?**

* It is the overall structure of software systems in terms of components and connections
* It captures the components and connections of the software

**Question 10**

**What is software design?**

* Activities involved in conceptualizing, framing, implementing, commissioning, and ultimately modifying complex systems
* Important concept of software design is a software requirements analysis (SRA)

**Question 11**

**Forms of Software Design**

* Process

Sequence of steps that enables the designer to describe all aspects of software for building

* Model

Blueprint of software to be constructed usually what is given to developers to write code

**Question 12**

**What is a software process?**

* It refers to the life cycle process Model
* What to create, designing, implementing, and testing

**Question 13**

**Impact of Software Fault**

* Model-based software engineering approaches provide a consistent, unified Model supporting analysis from the earliest stages of the software engineering life cycle

**Question 14**

**Principles of modeling**

* The right model is important
* No single model is sufficient
* Best models are connected to reality

**Question 15**

**What is Software design Method**

* A software design method is a structured approach to developing the architecture components, and interfaces of a software system thereby providing guidelines and best practices for designing the software

**Second Chapter**

**Question 1**

**What is UML?**

* A general purpose Visual modeling language

**Question 2**

**What is UML Usage**

* To specialize, visualize, construct and document the artifacts of a software system

**Question 3**

**UML Usage in a bigger picture**

* For usage with development methods, development lifecycle stages, application domain, and media.
* To unify past experience about modeling techniques and to incorporate current software best practices into a standard approach.

**Question 4**

**What are UML parts?**

* Static, dynamic , environmental and organizational parts

**Question 5**

**What are UML Specifications**

* Does not define a standard process but useful with iterative development process.
* Usefulness = UML + interactive development process supporting most OOD processes

**Question 6**

**UML tool capabilities**

* Code generation : UML to a variety of programming languages.
* Reverse engineering : Existing code to Model.

**Question 7**

**Development methods for Object Oriented Languages**

* First Object orientated development method Published by Shlaer/Mellor and Coad/Yourdon
*  Second Object oriented development method Published by Booch,Rumbaugh/Blaha/Premerlani/Eddy/Lorenseaand Wirfs-Brock/Wilkerson/Wiener
* - There were several papers publication and books there after.

**Question 8**

**What governs the UML**

* Object Management Group (OMG)

**Question 9**

**Development methods for Object orientated Languages**

* The static view,
* State machine models
* The sequence diagram notation
* The structured classifier
* The activity diagram notation of UML1

**Question 10**

**Goals of UML**

* Nonproprietary and based on common agreement by much of the computing community.
* Intended to supersede the models of OMT, Booch, and Objectory , as well as those of other participants of the proposal.
* Intended to be familiar as possible, whenever using several notation from the contributors

**Question 11**

**What UML is intended**

* To support all, or at least most, of the existing development process to build strong architecture to solve user case driven requirements.
* To be simple as possible while still capable of modeling a full range of practical systems.
* Be able to handle all the concepts that arise

**What UML was not interpreted**

* To be a complete development method it does not include step by step development process.

**Question 12**

**Complexity of UML**

* UML is a product of consensus of persons with varied goals and interests.
* It was originally the merger of leading modeling approaches and later has been the target for accommodating a number of existing notations.
* The official specification document have been written by teams of uneven ability.
* UML is not a precise specification in the manner of a formal language.
* The semantics sections sometimes contains vague statements without adequate explanation and examples
* There is far too much use of generalization at the expense of essential distinctions.
* 7. There is a tension between concepts for conceptual modeling and programming language representation, with no consistent guidelines

**Question 13**

**UML Assessment**

UML is messy, imprecise, complex, and sprawling. That is both a fall and a virtue.

* You don’t have to know or use every feature of UML any more than you need to know or use very feature of a large software application or programming language.
* UML is more than a visual notation. It models can be use to generate code and test cases.
* It is unnecessary to listen too much to UML language lawyers.
* There is no single right way to use it.

Question 14

UML concept areas

* Logical Analysis and design intended for implementation

Question 15