

Sample Questions

Information Technology

Subject Name: Software Architecture

ITDO6011

Semester: VI

Multiple Choice Questions

	Choose the correct option for following questions. All the Questions carry equal marks
Q1.	Which of the option is not problem of software Architectural Design
Option A:	A lack of awareness of the importance of architectural design to software development
Option B:	A lack of understanding of the role of the software architect
Option C:	A lack of understanding of the design process
Option D:	A lack of modularization
Q2.	Which statement of Software architecture is true
Option A:	Software architecture design is not entirely different from existing software design methodologies.
Option B:	Software architecture design is completely different from existing software design methodologies.
Option C:	Software architecture design is same as existing software design methodologies.
Option D:	Software architecture is not a natural extension of the software engineering discipline.
Q3.	Architecture styles can be sequential or _____
Option A:	Parallel
Option B:	Clustered
Option C:	Similar
Option D:	Modular
Q4.	Which features listed below are not the common architectural styles
Option A:	Data flow systems
Option B:	Call and return system
Option C:	Software maintenance
Option D:	Virtual machine

Q5.	Which one among the following does Arch/Slinky model contain
Option A:	Dialog control
Option B:	Call and return system
Option C:	Abstraction
Option D:	Data flow systems
Q6.	Which one among the following is not applicable to 4+1 view model
Option A:	Logical view
Option B:	Process view
Option C:	Abstraction
Option D:	Physical view
Q7.	Which one of the following statements describe best the term complexity in software design
Option A:	is an approximation of selected aspects of a system such as its structure, behaviour, operation or characteristic
Option B:	can be thought of being composed of private hidden information and some visible information
Option C:	requires a long description describing the relationship between the structures within the system
Option D:	Implementation, testing and maintenance post deployment
Q8.	Which one of the following statements describe best the term modularity in software design
Option A:	requires a long description describing the relationship between the structures within the system
Option B:	can be thought of being composed of private hidden information and some visible information
Option C:	is an approximation of selected aspects of a system such as its structure, behaviour, operation or characteristic
Option D:	Implementation, testing and maintenance post deployment
Q9.	Which one of the following statements describe best the term Model in software design

Option A:	requires a long description describing the relationship between the structures within the system
Option B:	can be thought of being composed of private hidden information and some visible information
Option C:	Implementation, testing and maintenance post deployment
Option D:	is an approximation of selected aspects of a system such as its structure, behaviour, operation or characteristic
Q10.	Which statement written below best represents a connector
Option A:	is an indication that there is a mechanism that relates one component to another usually through relationships such as data flow or control flow.
Option B:	defines the hardware and software building blocks that make up the overall information system of an organization
Option C:	strategy, governance, organization and key business process
Option D:	Is a low level language
Q11.	Which statement written below best represents an architectural description
Option A:	is an indication that there is a mechanism that relates one component to another usually through relationships such as data flow or control flow.
Option B:	defines the hardware and software building blocks that make up the overall information system of an organization
Option C:	Is a low level language
Option D:	strategy, governance, organization and key business process
Q12.	Which statement written below is best applicable to abstraction thinking in the General methodology of design
Option A:	requires systematic thinking
Option B:	reduces the complexity of the problem
Option C:	the decomposition of complex systems into elements and their interrelationships, identifying essential distinctions, and discarding accidental distinctions
Option D:	is the combining of individual modules to produce a new entity
Q13.	Which words written below are best applicable to inception phase in the management view of software architecture
Option A:	development planning

Option B:	Problem definition
Option C:	implementation and testing
Option D:	delivering, installation training, support and documentation
Q14.	Which words written below are best applicable to elaboration phase in the management view of software architecture
Option A:	Problem definition
Option B:	delivering, installation training, support and documentation
Option C:	implementation and testing
Option D:	development planning
Q15.	What is a Reference Model?
Option A:	It is a division of functionality together with data flow between the pieces
Option B:	It is a description of component types
Option C:	It is standard decomposition of a known problem into parts that cooperatively solve a problem
Option D:	It is a division of functionality together with data flow between the pieces, It is standard decomposition of a known problem into parts that cooperatively solve a problem
Q16.	In Creating an Architectural Description: Identify the architectural description consists of
Option A:	Users of the system
Option B:	Date of issue of status
Option C:	Acquirers of the system
Option D:	Developers of the system
Q17.	Reusable Assets is
Option A:	Code reuse
Option B:	Efficient storage
Option C:	Efficient query
Option D:	Efficient memory management
Q18.	A _____ of a software system is an abstract representation of knowledge about a system

Option A:	API
Option B:	Model
Option C:	GUI
Option D:	Frontend
Q19.	Example of metamodel language
Option A:	SQL
Option B:	Prolog
Option C:	Python
Option D:	UML
Q20.	Which of the following is NOT initial activities for creating an architectural description
Option A:	Identify the architectural description, including version and overview information.
Option B:	Identify stakeholders, their roles, and their architectural concerns.
Option C:	Specify viewpoints
Option D:	Select viewpoints.
Q21.	In 4+1 View model _____ is a viewpoint for representing the static organization of the software with respect to the software development environment
Option A:	Logical Viewpoint
Option B:	Development viewpoint
Option C:	Physical viewpoint
Option D:	Scenario
Q22.	An ADL is
Option A:	one view of the database of a software system
Option B:	one view of the GUI of a software system
Option C:	one view of the analysis of a software system
Option D:	one view of the architecture of a software system

Q23.	Which of the option is not solution in software Architectural Design
Option A:	Evangelizing(seek) the importance of software architecture
Option B:	Improving software architecture education
Option C:	Knowledge of the business process
Option D:	Using architecture methods and tools
Q24.	Six classes of properties that should characterize an ADL are
Option A:	Composition, Abstraction, Reusability, Configuration, Heterogeneity, Architectural analysis
Option B:	Composition, Abstraction, Reusability, Reconfiguration, Heterogeneity, Architectural analysis
Option C:	Composition, Procedure, Reusability, Configuration, Heterogeneity, Architectural analysis
Option D:	Composition, Procedure, Reusability, Configuration, Heterogeneity, Analysis
Q25.	Three-Layer Model of Knowledge Representation are _____ and _____
Option A:	Ontology, Analysis layer Technology layer
Option B:	Ontology, Domain Layer Technology layer
Option C:	Abstraction, Domain Layer Technology layer
Option D:	Ontology, Domain Layer Implementation layer
Q26.	Loose coupling refers to _____
Option A:	two modules that have relatively few interdependencies,
Option B:	two modules that have relatively more interdependencies,
Option C:	two modules that have highest interdependencies,
Option D:	two modules that have no interdependencies,
Q27.	Architectural Level of Design includes
Option A:	Applying Design Principles
Option B:	Applying Design Principles and Using system Thinking
Option C:	Using System thinking

Q28.	The content collaboration metamodel is also known as the_____
Option A:	WSN
Option B:	WSE
Option C:	SEW
Option D:	ESW
Q29.	Which of the following is FALSE while Applying the Architectural Description
Option A:	Creating an Architectural Description for an Existing System
Option B:	Performing an Architectural Assessment
Option C:	Specification Pragmatics
Option D:	Avoiding an Architectural Assessment

Descriptive Questions

Q2	5 marks each
1.	Explain with suitable examples elements of software architecture
2.	List with suitable examples the problems faced in software architectural design
3.	Write a short note on models with regards to software architecture
4.	Briefly explain about different software application domains.
5.	What is an incremental development software model? Explain.
6.	What are the various design principles required for a good software design? Explain any two.
7.	What are the benefits of reusability? Explain some methods for reusability.
8.	List different types of architectural styles
9.	Explain how faults are detected and prevented
10.	Explain blackboard architecture with an example
11.	Explain the benefits and liabilities of pipes and filter pattern
12.	Briefly explain the benefits of Master slave design pattern
13.	Explain Distributed and Network Architectures?
14.	Short note on Service oriented Architectures and Web Services.
15.	Short note on Software Architects Roles

Q3	10 marks each
1.	Explain in brief the goals of Software architecture
2.	Describe in detail common architecture styles in software architecture
3.	Write a short note on 4+1 view model of software architecture
4.	What are the different properties of software architecture to say as “GOOD”?

5.	Briefly explain the technical importance of Software Architecture. Further elaborate on the fact that architecture is the vehicle for stakeholder communication
6.	Explain the layered based architectural style with an example.
7.	Mention different six attributes w.r.t improving system quality.
8.	Explain with an example Layered/Layers architecture
9.	What do you mean by architectural patterns? How is it categorized? Explain the structure part of the solution for ISO layered architecture.
10.	Explain in brief the Model-View-Controller pattern with an example.
11.	Explain in brief Domain- Specific Architecture
12.	Explain in brief Scalability and Heterogeneity
13.	Briefly write down Decentralized Architectures?
14.	Explain Software Architecture and Mobility in detail?
15.	Briefly write down about Level of Automation