Fundamentals of Software Architecture 2nd edition Richards Test Bank

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Fundamentals of Software Architecture

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Total Questions: 150

Multiple Choice

Q1.

According to the chapter, software architecture is best understood as a product of what factor?

A) Its implementation language
B) Its historical and environmental context ✓ Correct
C) Its user interface framework
D) Its testing toolchain

Rationale: The chapter emphasizes that all architectures are products of their context and must be understood within their environment.

Q2.

Which term refers to the capabilities a system must support, often described as the system's "-ilities"?

A) Logical components
B) Architecture decisions
C) Architecture characteristics ✓ Correct
D) Implementation patterns

Rationale: Architecture characteristics define the system capabilities and success criteria, commonly expressed as "-ilities."

Q3.

In the chapter's definition, what primarily defines a system's behavior?

A) Logical components ✓ Correct
B) Architecture style
C) Deployment topology
D) Coding conventions

Rationale: Logical components define the behavior of the system, including domains, entities, and workflows.

Q4.

What is described as the starting point in the four-dimensional definition of software architecture?

A) Architecture decisions
B) Architecture style ✓ Correct
C) Business domain
D) Release environment

Rationale: The definition states that software architecture consists of an architecture style as the starting point.

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Q5.

Architecture decisions primarily define which aspect of a system?

A) The visual design standards
B) The business funding model
C) The rules and constraints for construction ✓ Correct
D) The end-user training process

Rationale: Architecture decisions define the rules for how a system should be constructed and constrain what is allowed.

Q6.

Which statement is identified as the First Law of Software Architecture?

A) Why is more important than how
B) Everything in software architecture is a trade-off ✓ Correct
C) Architectures should prefer standards over flexibility
D) Most architecture decisions should be binary

Rationale: The First Law states that everything in software architecture is a trade-off.

Q7.

Which statement is identified as the Second Law of Software Architecture?

A) Why is more important than how ✓ Correct
B) Everything in software architecture is a trade-off
C) Architecture vitality declines linearly over time
D) Compliance is optional when performance is affected

Rationale: The Second Law explicitly states that why is more important than how.

Q8.

Which statement is identified as the Third Law of Software Architecture?

A) Architectural styles should be standardized enterprise-wide
B) Most architecture decisions aren't binary but rather exist on a spectrum between extremes ✓ Correct
C) Only logical components determine architecture
D) Every architecture must maximize reuse

Rationale: The Third Law says most architecture decisions lie on a spectrum rather than being binary choices.

Q9.

How many core expectations for a software architect are listed in the chapter?

A) Six
B) Seven
C) Eight ✓ Correct
D) Ten

Rationale: The chapter identifies eight core expectations for software architects.

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Q10.

Which expectation involves verifying that teams follow documented architecture decisions and design principles?

A) Know the business domain

B) Ensure compliance with decisions ✓ Correct

C) Keep current with latest trends

D) Understand diverse technologies

Rationale: Ensuring compliance means continually verifying adherence to architecture decisions and design principles.

Q11.

What does the chapter call the assessment of how viable an architecture defined three or more years ago remains today?

A) Architecture vitality ✓ Correct

B) Structural cohesion

C) Domain resilience

D) Technical debt indexing

Rationale: Architecture vitality assesses whether an older architecture remains viable given business and technology changes.

Q12.

What term is used for deterioration caused when coding or design changes affect required architectural characteristics?

A) Platform drift

B) Structural decay ✓ Correct

C) Functional erosion

D) Deployment entropy

Rationale: Structural decay occurs when changes impact required characteristics such as performance or scalability.

Q13.

According to the chapter, architects should generally make technology choices in what way?

A) By specifying exact products whenever possible

B) By avoiding all technical guidance

C) By guiding choices rather than always specifying them ✓ Correct

D) By delegating all decisions to project managers

Rationale: The chapter emphasizes that architects should guide technology choices rather than always make specific product selections.

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Q14.

Which of the following is presented as a technical decision rather than an architectural decision?

A) Restricting database access to specific layers
B) Choosing React.js for frontend development ✓ Correct
C) Selecting a reactive-based framework category
D) Defining access constraints across services

Rationale: The text explicitly contrasts choosing React.js as a technical decision with broader architectural guidance.

Q15.

According to the chapter, architects should emphasize which kind of expertise across technologies?

A) Technical breadth over technical depth ✓ Correct
B) Technical depth over technical breadth
C) Equal mastery of every platform
D) Specialization in one vendor ecosystem

Rationale: The chapter states that architects should focus on technical breadth rather than only deep specialization.

Q16.

What is the collective term for the business problem, goals, and requirements the architecture is intended to solve?

A) Operational landscape
B) Business domain ✓ Correct
C) Technical topology
D) Delivery pipeline

Rationale: The chapter defines the business domain as the problem, goals, and requirements the architecture addresses.

Q17.

Which expectation explicitly includes teamwork, facilitation, and leadership?

A) Understand and navigate politics
B) Possess interpersonal skills ✓ Correct
C) Continually analyze the architecture
D) Make architecture decisions

Rationale: The interpersonal-skills expectation includes teamwork, facilitation, and leadership.

Q18.

According to the chapter, negotiation skills are especially important because architects must often do what?

A) Write production code daily
B) Avoid interaction with stakeholders
C) Justify and fight for decisions ✓ Correct
D) Replace project managers in budgeting

Rationale: Architectural decisions are often challenged, so architects must justify and negotiate for them.

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Q19.

Which part of the book focuses on architectural characteristics and logical components?

A) Part I: Foundations ✓ Correct
B) Part II: Architecture Styles
C) Part III: Techniques and Soft Skills
D) Appendices and references

Rationale: Part I: Foundations covers key components of software architecture, including characteristics and logical components.

Q20.

Which part of the book is described as covering critical soft skills for success in the architect role?

A) Part I: Foundations
B) Part II: Architecture Styles
C) Part III: Techniques and Soft Skills ✓ Correct
D) Part IV: Enterprise Operations

Rationale: Part III specifically addresses techniques and soft skills needed for the role.

Q21.

Why does the chapter say microservices would have been inconceivably expensive in 2002?

A) Developers did not yet understand APIs
B) Open-source tools did not exist at all
C) Licensing and dedicated infrastructure costs were too high ✓ Correct
D) Databases could not run on networked machines

Rationale: The example highlights the prohibitive cost of many operating system, application server, and database licenses plus isolated infrastructure.

Q22.

Which development movement is credited with helping make architectures like microservices practical today?

A) Waterfall modernization
B) DevOps revolution ✓ Correct
C) Object-oriented revival
D) Mainframe consolidation

Rationale: The chapter attributes current feasibility in part to updated engineering practices from the DevOps revolution.

Q23.

What is the relationship between architecture characteristics and logical components described in the chapter?

A) Both terms mean the same thing
B) Characteristics define behavior, while components define capabilities
C) Characteristics define capabilities, while components define behavior ✓ Correct
D) Components replace the need for characteristics

Rationale: The chapter distinguishes capabilities as architecture characteristics and behavior as logical components.

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Q24.
After analyzing architecture characteristics and logical components, what does an architect know enough to do?

A) Eliminate all trade-offs
B) Choose an appropriate architecture style ✓ Correct
C) Finalize implementation code
D) Avoid documenting decisions

Rationale: The chapter states that once characteristics and components are analyzed, the architect can choose an appropriate style.

Q25.
In the layered architecture example, which layers are allowed to access the database according to the architect's decision?

A) Presentation and Business only
B) Presentation and Services only
C) Business and Services only ✓ Correct
D) All layers equally

Rationale: The example decision restricts database access to the Business and Services layers.

Q26.
What is the main purpose of architecture decisions in the chapter's definition?

A) To define user stories
B) To document coding syntax
C) To establish system construction rules and constraints ✓ Correct
D) To replace architecture styles

Rationale: Architecture decisions define what is and is not allowed in constructing the system.

Q27.
Which corollary of the First Law states that apparent non-trade-offs usually reflect incomplete understanding?

A) Corollary 1 ✓ Correct
B) Corollary 2
C) Corollary 3
D) Corollary 4

Rationale: Corollary 1 says that if something seems not to be a trade-off, the trade-off likely has not yet been identified.

Q28.
Which corollary of the First Law warns against doing trade-off analysis only once?

A) Corollary 1
B) Corollary 2 ✓ Correct
C) Corollary 3
D) Corollary 4

Rationale: Corollary 2 states that trade-off analysis cannot be done once and then considered complete.

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Q29.

Why does the chapter argue against a single “One Big Trade-off Jamboree”?

A) Because architecture styles never change

B) Because every situation requires re-evaluating trade-offs ✓ Correct

C) Because standards are always harmful

D) Because only developers should make trade-offs

Rationale: The text explains that each situation requires fresh evaluation of trade-offs, so one-time analysis is insufficient.

Q30.

According to the chapter, understanding an unfamiliar architecture’s mechanics is often easier than understanding what?

A) Its deployment scripts

B) Its test coverage

C) Why prior architects made certain decisions ✓ Correct

D) How to rename its services

Rationale: The chapter notes that architects can often understand how a system works more easily than why decisions were made.

Q31.

What does the Third Law imply about architecture choices?

A) They usually have only two valid options

B) They should always favor the newest technology

C) They typically lie along a continuum between extremes ✓ Correct

D) They are determined only by budget

Rationale: The Third Law states that most architecture decisions exist on a spectrum between extremes.

Q32.

Which expectation is most directly supported by learning about cloud-based storage, deployment, and generative AI trends?

A) Keep current with latest trends ✓ Correct

B) Ensure compliance with decisions

C) Know the business domain

D) Possess interpersonal skills

Rationale: These examples are given to illustrate the need for architects to keep current with evolving technical and industry trends.

Q33.

The chapter notes that agility is undermined when code changes are fast but what remains slow?

A) Requirements gathering and wireframing

B) Testing and release processes ✓ Correct

C) Database normalization and indexing

D) User acceptance surveys

Rationale: The chapter specifically points out that slow testing and release can prevent the architecture from achieving agility.

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Q34.
Why might an architect occasionally need to make a specific technology decision rather than only provide broad guidance?

A) To avoid consulting developers
B) To preserve an architectural characteristic such as scalability or availability ✓ Correct
C) To simplify procurement paperwork
D) To reduce the need for documentation

Rationale: The chapter allows specific technology choices when necessary to preserve key architectural characteristics.

Q35.
Which example best reflects the chapter's recommendation for architectural guidance?

A) Mandating React.js as the only acceptable frontend library
B) Requiring a reactive-based frontend framework while allowing team choice ✓ Correct
C) Allowing each developer to choose any database independently
D) Forbidding all framework use in web applications

Rationale: The chapter uses this exact distinction to show that architects should guide teams instead of always specifying exact tools.

Q36.
Why is familiarity with many caching products considered more valuable for an architect than deep expertise in only one?

A) Architects are expected to perform all vendor support tasks
B) Architects benefit more from technical breadth across trade-offs ✓ Correct
C) Caching is the only important infrastructure concern
D) One product can never be used in production

Rationale: The chapter argues that architects should prioritize breadth so they can compare options and trade-offs across many technologies.

Q37.
What is the likely consequence if an architect does not ensure compliance with architecture decisions?

A) The system may fail to provide required characteristics ✓ Correct
B) The team will automatically improve performance
C) The need for stakeholder communication disappears
D) The architecture becomes easier to change

Rationale: The chapter warns that noncompliance can cause the architecture to miss required characteristics and fail to work as expected.

Q38.
In the layered-architecture compliance example, why did the architect restrict direct Presentation-layer database access?

A) To reduce UI developer workload
B) To ensure database changes would not affect the Presentation layer ✓ Correct
C) To eliminate the Services layer
D) To move business logic into the database

Rationale: The stated reason was to isolate the Presentation layer from database changes.

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Q39.

Why is business-domain knowledge important for software architects according to the chapter?

A) It replaces the need for technical knowledge

B) It helps architects communicate credibly with stakeholders and design effective solutions ✓ Correct

C) It is only needed in financial industries

D) It mainly supports UI styling decisions

Rationale: The chapter stresses that domain knowledge enables credible communication and more effective architecture decisions.

Q40.

Which statement best summarizes the chapter's view of leadership in architecture?

A) Leadership is optional if technical skills are strong

B) Leadership matters only for enterprise architects

C) Leadership and interpersonal skills are a major part of architectural effectiveness ✓ Correct

D) Leadership is less important than memorizing frameworks

Rationale: The chapter says leadership skills are at least half of what it takes to become an effective architect.

Q41.

Why are office politics and negotiation included in a software architecture chapter?

A) Because architects rarely interact with other teams

B) Because architectural decisions often affect many stakeholders and face challenge ✓ Correct

C) Because politics determines programming language syntax

D) Because project managers own all architecture decisions

Rationale: The chapter explains that broad architectural decisions impact many groups, so negotiation and political awareness are essential.

Q42.

Which scenario from the chapter best illustrates an architectural decision rather than a programming decision?

A) A developer choosing a design pattern to simplify local code complexity

B) A team renaming classes for readability

C) An architect creating application silos to control database access across systems ✓ Correct

D) A programmer selecting variable names for a module

Rationale: Creating application silos changes cross-system access rules and organizational impact, making it an architectural decision.

Q43.

What is the primary purpose of application silos in the CRM example?

A) To increase direct cross-database access

B) To give better control over customer data, security, and schema changes ✓ Correct

C) To eliminate remote access calls

D) To move all logic into reporting tools

Rationale: The chapter states that application silos improve control of customer data, security, and database changes.

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Q44.
Which part of the book provides a catalog of named architectural topologies and compares their structural and communication differences?

A) Part I: Foundations
B) Part II: Architecture Styles ✓ Correct
C) Part III: Techniques and Soft Skills
D) Part I and Part III combined

Rationale: Part II is described as the catalog of architecture styles and their comparisons.

Q45.
Which foundational concepts are specifically named at the end of the chapter as important for understanding trade-offs?

A) Components, modularity, coupling, and connascence ✓ Correct
B) Budgeting, procurement, staffing, and auditing
C) Encryption, compression, indexing, and caching
D) Scripting, compiling, packaging, and signing

Rationale: The chapter closes by naming components, modularity, coupling, and connascence as basic concepts for trade-off understanding.

Q46.
A software architect reviews a system designed four years ago to determine whether business and technology changes have made it less suitable. Which concept best describes this activity?

A) Architecture vitality assessment ✓ Correct
B) Binary decision analysis
C) Reactive framework selection
D) Presentation-layer optimization

Rationale: Evaluating the ongoing viability of an older architecture is described as assessing architecture vitality.

Q47.
A team wants to standardize permanently on one workflow approach because it worked well in one project. Which principle from the chapter most directly cautions against this?

A) Architecture characteristics define capabilities
B) Everything in software architecture is a trade-off ✓ Correct
C) Logical components determine style
D) Business domain knowledge is optional

Rationale: The First Law warns that architecture choices involve trade-offs that must be reconsidered in each context.

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Q48.

An architect can explain how a system works but cannot determine why a predecessor selected certain constraints. Which law best highlights the importance of that missing information?

A) First Law

B) Second Law ✓ Correct

C) Third Law

D) Corollary 2

Rationale: The Second Law emphasizes that understanding why is more important than merely understanding how.

Q49.

A company asks an architect to approve only one database product because the architect is a deep expert in it, despite limited knowledge of alternatives. Which chapter principle suggests this is not ideal?

A) Architects should focus on technical breadth ✓ Correct

B) Architects should avoid heterogeneous environments

C) Architects should minimize stakeholder communication

D) Architects should treat all decisions as binary

Rationale: The chapter recommends technical breadth so architects can compare multiple technologies and their trade-offs.

Q50.

A UI developer bypasses the layered architecture and connects directly to the database for speed. According to the chapter, what architect responsibility is most directly being neglected if this goes unchecked?

A) Keeping current with latest trends

B) Knowing the business domain

C) Ensuring compliance with decisions ✓ Correct

D) Choosing an architecture style

Rationale: Allowing such a violation to persist reflects failure to ensure compliance with architecture decisions.

Q51.

A software architect on a hospital scheduling platform is asked to mandate React.js for all future user interfaces. Based on the chapter, what is the most appropriate response?

A) Require React.js because architects should make all technology selections directly

B) Guide teams toward a reactive-based frontend approach while allowing framework choice unless a specific characteristic requires standardization ✓ Correct

C) Avoid any frontend guidance because UI technologies are outside architecture

D) Defer the decision permanently because architecture should never influence tooling

Rationale: Architects are expected to guide technology choices at the principle level unless a specific architectural characteristic demands a concrete product decision.

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Q52.

A claims-processing system can be coded quickly, but each release takes six weeks of testing and two months of deployment approvals. Which architectural concern is being highlighted?

A) The architecture should be evaluated holistically because agility depends on testing and release environments as well as coding speed ✓ Correct

B) The issue is unrelated to architecture because only source code structure matters

C) The main problem is insufficient business-domain knowledge

D) The architecture is healthy as long as developers can modify code rapidly

Rationale: The chapter emphasizes that agility is not achieved if testing and release processes remain slow, so architects must analyze the full delivery environment.

Q53.

An architect reviews a five-year-old telehealth platform to determine whether earlier design choices still fit current cloud capabilities and business needs. This activity best represents:

A) technical debt estimation

B) architecture vitality assessment ✓ Correct

C) binary decision enforcement

D) component decomposition

Rationale: Architecture vitality examines whether an older architecture remains viable given changes in technology and business context.

Q54.

In a layered patient portal, a UI developer adds direct database calls from the presentation layer to improve screen response time. What architect responsibility is most directly being neglected if this change goes unchecked?

A) Keeping current with trends

B) Ensuring compliance with decisions ✓ Correct

C) Selecting logical components

D) Documenting roadmap chapters

Rationale: Allowing teams to violate established architectural rules indicates failure to ensure compliance with architecture decisions.

Q55.

A healthcare startup wants to adopt a microservices architecture with many isolated services and databases. Which contextual factor from the chapter most explains why this is more feasible today than in 2002?

A) Modern systems no longer require trade-off analysis

B) Open source and DevOps practices reduced the infrastructure and operational barriers ✓ Correct

C) Architects today avoid database licenses entirely

D) Microservices eliminate the need for operating systems and servers

Rationale: The chapter notes that open source and DevOps made architectures like microservices economically and operationally practical compared with 2002.

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Q56.
When defining a new electronic prescribing system, the architect first identifies required scalability, availability, and security targets before selecting an architectural style. These targets are examples of:

A) logical components
B) architecture characteristics ✓ Correct
C) code patterns
D) organizational politics

Rationale: Architecture characteristics are the system capabilities or '-ilities' that define success criteria.

Q57.
An architect maps domains, entities, and workflows for a laboratory information system to describe how the application behaves. In the chapter's definition, these are:

A) architecture decisions
B) physical deployment units
C) logical components ✓ Correct
D) industry trends

Rationale: Logical components structure system behavior through domains, entities, and workflows.

Q58.
After analyzing architecture characteristics and logical components for a revenue-cycle platform, what should the architect generally do next?

A) Choose an architectural style as a starting point for implementation ✓ Correct
B) Freeze all technology decisions for the next decade
C) Skip trade-off analysis and begin coding
D) Delegate all architecture decisions to project managers

Rationale: The chapter states that once characteristics and logical components are understood, the architect can choose an appropriate architectural style.

Q59.
A team proposes creating a single enterprise standard that all distributed workflows must use choreography only, without revisiting the choice per project. Which principle from the chapter most directly challenges this plan?

A) Architecture decisions should always be binary
B) Trade-off analysis can be completed once for all systems
C) Every architecture decision is context-free
D) Trade-offs must be reevaluated because situations differ ✓ Correct

Rationale: Corollary 2 of the First Law says architects cannot do trade-off analysis once and be done because each context differs.

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Q60.

A new architect can understand how an inherited medication-management architecture works but cannot determine why the prior team chose several constraints. According to the chapter, what is missing?

A) The business domain itself

B) The architectural style name

C) The decision context and trade-offs behind the choices ✓ Correct

D) The existence of logical components

Rationale: The Second Law emphasizes that understanding why decisions were made requires knowing the context and trade-offs considered.

Q61.

A software architect evaluating two integration patterns concludes that the better choice lies between the extremes rather than in an either-or answer. This reflects which law?

A) First Law of Software Architecture

B) Second Law of Software Architecture

C) Third Law of Software Architecture ✓ Correct

D) Law of technical depth

Rationale: The Third Law states that most architecture decisions are not binary but exist on a spectrum between extremes.

Q62.

A hospital IT leader wants an architect who can discuss reimbursement workflows with executives and also understand technical implementation options. Which expectation is being emphasized?

A) Know the business domain ✓ Correct

B) Prefer technical depth over breadth

C) Avoid interpersonal leadership

D) Eliminate negotiation from architecture work

Rationale: Effective architects need business-domain expertise so they can align architecture with business goals and communicate credibly with stakeholders.

Q63.

An architect spends time learning the strengths and weaknesses of many caching products rather than mastering only one in depth. The chapter describes this as focusing on:

A) technical debt reduction

B) technical breadth ✓ Correct

C) architecture vitality

D) political compliance

Rationale: Architects are encouraged to develop technical breadth across multiple technologies rather than expertise in only one tool.

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Q64.

A developer freely refactors a complex code module using a design pattern without seeking broad organizational approval, while an architect's cross-system database access rule requires extensive negotiation. What distinction does this illustrate?

A) Architectural decisions often affect many stakeholders and therefore trigger political negotiation ✓ Correct

B) Developers should never make design decisions independently

C) Architecture decisions are less consequential than coding decisions

D) Only project managers may approve database changes

Rationale: The chapter contrasts local programming decisions with architectural decisions that have enterprise-wide impact and therefore political consequences.

Q65.

In a healthcare CRM ecosystem, multiple applications directly query the CRM database, creating security and schema-change problems. Which architectural response from the chapter most closely addresses this scenario?

A) Allow every application unrestricted direct database access

B) Create application silos so each application owns and controls its database access ✓ Correct

C) Move all logic into the presentation layer

D) Standardize on one UI framework for all applications

Rationale: The chapter uses application silos as an example of controlling security, ownership, and schema changes by limiting direct database access.

Q66.

A chief architect says, 'This architecture is objectively best because it has no downside.' Based on the chapter, the best critique is:

A) Correct, because architecture quality is independent of context

B) Correct, because trade-offs disappear with experience

C) Incorrect, because every architecture decision involves trade-offs even if they are not yet visible ✓ Correct

D) Incorrect, because only developers make trade-offs

Rationale: The First Law and its corollary state that everything in software architecture is a trade-off, even when not immediately apparent.

Q67.

Which scenario best demonstrates structural decay as described in the chapter?

A) A team renames classes to match coding standards

B) Developers make changes that degrade required performance and scalability characteristics over time ✓ Correct

C) An architect studies new cloud trends

D) A business analyst updates reimbursement terminology

Rationale: Structural decay occurs when coding or design changes erode required architectural characteristics such as performance, availability, or scalability.

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Q68.

A new architect inherits a system and begins by documenting security, scalability, and maintainability goals before discussing modules or workflows. Why is this sequence appropriate?

A) Architecture characteristics define success criteria and are analyzed before selecting style ✓ Correct

B) Logical components must always be ignored initially

C) Architecture decisions can be made without requirements

D) Business domain knowledge is unnecessary once qualities are listed

Rationale: The chapter presents architecture characteristics as fundamental capabilities that inform later structural and style decisions.

Q69.

A software architect must choose between strict standardization and team autonomy for frontend tools. Which chapter concept best supports choosing a principle that guides teams rather than prescribing every product?

A) Architecture should maximize technical depth in one tool

B) Architects should guide technology choices at the right level of abstraction ✓ Correct

C) Architecture decisions should avoid all constraints

D) Compliance means each team invents its own standards independently

Rationale: The chapter states that architects should guide technology decisions rather than make every technical selection themselves.

Q70.

A large payer organization asks why a proposed architecture includes isolated service databases and remote access instead of shared tables. Which response best aligns with the chapter's view of architecture communication?

A) Because the architect prefers it and detailed reasons are unnecessary

B) Because architecture is mainly about how diagrams look

C) Because the reasoning and trade-offs behind the decision are more important than the mechanics alone ✓ Correct

D) Because all architecture decisions are fixed industry standards

Rationale: The Second Law emphasizes that understanding why a decision was made, including its trade-offs, is more important than only knowing how it works.

Q71.

An architect for a pharmacy benefits platform studies generative AI, cloud deployment, and emerging security practices because current decisions may be difficult to reverse later. Which expectation is this fulfilling?

A) Continually analyze the architecture

B) Keep current with latest trends ✓ Correct

C) Ensure compliance with decisions

D) Define logical components

Rationale: Architects must stay current with technology and industry trends because their decisions are long-lasting and hard to change.

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Q72.

A team asks whether software architecture is only the named style, such as layered or microservices. According to the chapter, the best answer is that architecture also includes:

A) only programming language choice

B) only deployment hardware

C) characteristics, logical components, and architecture decisions ✓ Correct

D) only user-interface standards

Rationale: The chapter defines software architecture as style plus architecture characteristics, logical components, and architecture decisions.

Q73.

A health app architect is evaluating whether to standardize on a single messaging pattern across all future systems. Which action best reflects sound architectural practice from the chapter?

A) Adopt one pattern permanently to eliminate future analysis

B) Reevaluate the pattern for each context because trade-offs vary by situation ✓ Correct

C) Let only operations staff decide messaging approaches

D) Choose the newest trend regardless of business needs

Rationale: The chapter warns that teams cannot settle trade-offs once for all contexts because each situation requires reevaluation.

Q74.

Which statement best applies the chapter's discussion of context to architectural choice?

A) An architecture successful in one era or environment will be equally suitable in all others

B) Architectural decisions should ignore infrastructure economics

C) Architectures are products of their environment and must be judged within that context ✓ Correct

D) Context matters only for user-interface design

Rationale: The chapter repeatedly stresses that architecture can only be understood in context because decisions depend on environmental realities.

Q75.

An architect on a clinical documentation product notices that teams follow coding standards but routinely bypass documented service boundaries. What is the most likely consequence identified in the chapter?

A) The system may fail to deliver required architectural characteristics ✓ Correct

B) The business domain becomes irrelevant

C) Logical components automatically self-correct

D) Trend awareness improves release speed

Rationale: Violating architecture decisions can cause the system to miss required characteristics and behave unexpectedly.

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Q76.

A senior developer wants to become an architect primarily because the role involves evaluating complex trade-offs in changing contexts. Which chapter idea does this motivation most closely match?

A) Architecture is easier to automate than programming

B) Architecture focuses on decisions that AI and rigid rules struggle to replace ✓ Correct

C) Architects avoid incomplete information

D) Architects no longer need technical knowledge

Rationale: The chapter notes that architects make context-sensitive trade-off decisions that are difficult to replace with AI or simple rules.

Q77.

A software architect is excellent technically but repeatedly fails to gain team buy-in for a new architecture. Which expectation is most deficient?

A) Possess interpersonal skills ✓ Correct

B) Understand logical components

C) Know open-source licensing

D) Prefer binary decisions

Rationale: The chapter emphasizes that teamwork, facilitation, leadership, and communication are critical to successful architecture practice.

Q78.

A medical billing platform architect insists on a single exact solution for every design question. Which law from the chapter most directly argues against this habit?

A) First Law, because every decision is a trade-off

B) Second Law, because why matters more than how

C) Third Law, because most decisions exist on a spectrum rather than as binaries ✓ Correct

D) No law applies because architecture should be deterministic

Rationale: The Third Law specifically rejects the notion that most architecture decisions are simple either-or choices.

Q79.

Which activity is the clearest example of an architecture decision rather than a logical component or characteristic?

A) Defining availability targets for a patient portal

B) Modeling claims adjudication workflows

C) Restricting database access to service-related layers only ✓ Correct

D) Selecting business terms used by finance stakeholders

Rationale: Architecture decisions are rules or constraints governing how the system is constructed, such as limiting database access by layer.

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Q80.

An architect must recommend improvements to an aging imaging platform after cloud pricing, deployment tooling, and business workflows have changed. Which expectation is most directly involved?

A) Continually analyze the architecture ✓ Correct

B) Avoid understanding business needs

C) Limit exposure to one technology stack

D) Delegate all decisions to developers

Rationale: Continual architectural analysis requires assessing evolving technology and business conditions and recommending improvements.

Q81.

A healthcare enterprise wants architects who can integrate systems built in multiple languages and platforms. Why is this expectation emphasized in the chapter?

A) Because modern environments are heterogeneous and architects need broad familiarity to connect diverse systems ✓ Correct

B) Because architects must become experts in every programming language

C) Because architecture excludes infrastructure and interfaces

D) Because political negotiation replaces technical understanding

Rationale: The chapter notes that heterogeneous environments are common, so architects need broad exposure to diverse technologies and integration approaches.

Q82.

During a design review, an architect explains that direct database calls from the presentation layer were prohibited to shield the UI from schema changes. This explanation primarily communicates:

A) the named architecture style only

B) the why behind an architecture decision ✓ Correct

C) a business-domain glossary

D) a release management policy unrelated to architecture

Rationale: Explaining the trade-off and rationale behind the rule addresses the 'why' of the architecture decision.

Q83.

Which scenario best reflects the chapter's distinction between architecture characteristics and logical components?

A) Security and scalability targets describe what the system must support, while workflows and entities describe how behavior is structured ✓ Correct

B) Workflows and entities define success criteria, while security and scalability are implementation details

C) Both terms refer only to hardware deployment choices

D) Both terms are interchangeable labels for coding standards

Rationale: Architecture characteristics define required capabilities, whereas logical components define the system's behavioral structure.

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Q84.

A newly appointed architect is trying to remain relevant in a rapidly changing technology market. According to the chapter, why is trend awareness especially important for architects?

A) Architects make many short-lived decisions that are easy to reverse

B) Architectural decisions often persist and are costly to change later ✓ Correct

C) Trend awareness replaces the need for domain knowledge

D) Architects are responsible only for vendor marketing alignment

Rationale: The chapter stresses that architects' decisions are long-lasting and difficult to change, making trend awareness essential.

Q85.

A software architect for a health insurer can discuss actuarial concepts with executives and technical constraints with engineers. What benefit from the chapter does this most directly provide?

A) It reduces the need for trade-off analysis

B) It builds credibility and improves alignment between architecture and business requirements ✓ Correct

C) It guarantees one correct architecture style

D) It eliminates organizational politics

Rationale: Strong business-domain knowledge helps architects communicate credibly with stakeholders and design architectures that fit business needs.

Q86.

A team wants to treat architecture as purely technical and avoid discussions of office politics. Based on the chapter, what is the best counterargument?

A) Politics are irrelevant if the architecture diagram is clear

B) Architectural decisions often affect many groups, so negotiation and political navigation are necessary to gain approval ✓ Correct

C) Only developers need negotiation skills

D) Political considerations replace architecture characteristics

Rationale: The chapter explicitly states that architects must understand and navigate organizational politics because their decisions are frequently challenged.

Q87.

Which statement best summarizes the architect's role in technology selection for a new patient engagement platform?

A) The architect should choose every library and framework to prevent developer autonomy

B) The architect should avoid all technical influence and let each team decide independently

C) The architect should set guiding constraints and principles, choosing specific technologies only when needed to preserve key characteristics ✓ Correct

D) The architect should defer all choices to procurement

Rationale: The chapter frames architecture as guidance through decisions and principles, with specific product mandates used selectively when characteristics require them.

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Q88.

A hospital system's architecture worked well three years ago but now struggles because developers' changes have eroded scalability and availability. According to the chapter, this condition is called:

A) technical breadth
B) structural decay ✓ Correct
C) business drift
D) style inversion

Rationale: Structural decay refers to changes that undermine required architectural characteristics over time.

Q89.

An architect is asked to justify why a remote access approach is replacing direct cross-application database queries. Which chapter principle most supports documenting the rationale rather than only the mechanism?

A) Why is more important than how ✓ Correct
B) Everything in architecture is free of trade-offs
C) Only binary decisions can be documented
D) Styles matter more than decisions

Rationale: The Second Law emphasizes that the rationale and context behind decisions are more important than merely describing implementation mechanics.

Q90.

A payer platform architect is choosing among several acceptable deployment approaches, each with different cost, resilience, and operational impacts. Which chapter idea best fits this situation?

A) Most architecture decisions are simple yes-or-no judgments
B) Architecture decisions usually occupy a spectrum between extremes ✓ Correct
C) Deployment choices are not architectural
D) Trade-offs can be ignored once style is selected

Rationale: The Third Law describes architecture decisions as spectrum-based choices among competing trade-offs rather than binary selections.

Q91.

Which of the following best illustrates the chapter's concept of compliance in architecture?

A) Developers independently rewriting requirements after sprint planning
B) Teams consistently implementing documented architectural rules and constraints ✓ Correct
C) Executives approving annual budgets
D) Operations staff selecting office productivity software

Rationale: Compliance means verifying that development teams follow the architect's documented decisions and design principles.

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Q92.

A healthcare software architect studies several cloud deployment models but keeps deep expertise in only a few areas. This aligns with which expectation?

A) Architects should prioritize breadth across diverse technologies ✓ Correct

B) Architects should avoid technologies outside their current stack

C) Architects should know only business terminology

D) Architects should always standardize before analysis

Rationale: The chapter recommends technical breadth, combining broad familiarity with selected areas of deeper knowledge.

Q93.

In the chapter's roadmap, which part of the book focuses primarily on techniques and soft skills rather than architecture structures or styles?

A) Part I

B) Part II

C) Part III ✓ Correct

D) Appendix A

Rationale: Part III is described as covering techniques and soft skills needed for success in the architect role.

Q94.

A team member says architecture is just about drawing boxes and lines. Which response best reflects the chapter's definition?

A) Correct, because structure alone defines architecture

B) Incorrect, because architecture also includes characteristics, components, style, and decisions ✓ Correct

C) Correct, provided the boxes represent technologies

D) Incorrect, because architecture excludes system structure entirely

Rationale: The chapter defines architecture as multidimensional, including structure plus characteristics, logical components, style, and decisions.

Q95.

A software architect proposes a rule that all business-critical systems must preserve high availability, but lets teams choose among several implementation technologies. This is primarily an example of:

A) guiding through architecture characteristics and decisions rather than prescribing every technical choice ✓ Correct

B) avoiding architectural responsibility

C) treating all decisions as binary

D) focusing on code-level refactoring only

Rationale: The architect is setting required qualities and constraints while allowing teams latitude in technical implementation.

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Q96.

An architect reviewing a distributed care-management system says, 'I need to understand not just the topology but the trade-offs that led to it.' Which law is being applied most directly?

A) First Law

B) Second Law ✓ Correct

C) Third Law

D) No specific law

Rationale: The Second Law states that understanding why decisions were made is more important than only understanding how the architecture works.

Q97.

A team evaluating an architecture from another organization attempts to copy it exactly without considering its own staffing, cost, and operational constraints. Based on the chapter, what is the strongest concern?

A) The copied architecture may fail because architectures are products of their context ✓ Correct

B) The copied architecture will always perform better because it is proven elsewhere

C) Context matters only after coding begins

D) Architecture styles are universally interchangeable

Rationale: The chapter stresses that architecture must be understood in context, so copying designs without considering local realities is risky.

Q98.

An architect is deciding whether to standardize a specific database product across several healthcare applications. According to the chapter, when is such specificity most justified?

A) When the architect wants to reduce team debate

B) When a concrete technology choice is necessary to preserve an architectural characteristic such as performance or availability ✓ Correct

C) Whenever developers request more freedom

D) Only when business stakeholders are unavailable

Rationale: The chapter allows specific technology mandates when needed to protect critical architectural characteristics.

Q99.

Which action best demonstrates the expectation that architects lead teams rather than only design structures?

A) Quietly producing diagrams without discussion

B) Coaching developers, facilitating decisions, and communicating principles during implementation ✓ Correct

C) Delegating all communication to project managers

D) Restricting involvement to code reviews only

Rationale: The chapter highlights leadership, mentoring, facilitation, and communication as essential parts of the architect role.

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Q100.

A graduate student asks why software architecture is presented as multifaceted rather than as a single job description. Which answer best matches the chapter?

A) Because the role can range from expert programmer to enterprise technical strategist, but core expectations still apply across contexts ✓ Correct

B) Because architects have no shared responsibilities

C) Because architecture is limited to infrastructure purchasing

D) Because only soft skills define the role

Rationale: The chapter says architect roles vary widely, yet common expectations such as decision-making, analysis, compliance, breadth, and leadership remain consistent.

Q101.

A software architect is selecting an architecture for a new platform before the business has finalized several requirements. Which action best reflects the architect's role as described in the chapter?

A) Delay all architectural work until every requirement is complete and approved

B) Make provisional trade-off decisions using current context and revisit them as information changes ✓ Correct

C) Choose the most modern architecture style because it is least likely to become obsolete

D) Delegate all architecture decisions to developers because implementation details determine structure

Rationale: Architects must make important trade-off decisions even with incomplete information and continually reevaluate them as context evolves.

Q102.

An organization wants a single enterprise standard that mandates one distributed workflow approach for every system. Which principle from the chapter most directly challenges this plan?

A) Architecture characteristics determine business workflows

B) Most architecture decisions should be delegated to project managers

C) Trade-off analysis cannot be done once for all contexts ✓ Correct

D) Logical components should be defined after implementation begins

Rationale: The chapter states that architects cannot do one universal trade-off analysis because each situation requires reevaluation.

Q103.

A team admires a microservices implementation from a current cloud-native company and wants to replicate it in a historical 2002 on-premises environment. Which evaluation is most consistent with the chapter?

A) The architecture is equally feasible because good styles are timeless

B) The architecture would likely be impractical because architecture is constrained by environmental context ✓ Correct

C) The architecture should be chosen if developers prefer independent deployments

D) The architecture would succeed if database licenses were centralized

Rationale: The chapter emphasizes that all architectures are products of their context, including infrastructure and cost realities.

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Q104.

Which scenario best illustrates the Second Law of Software Architecture?

A) An architect can diagram service interactions but cannot explain the business and trade-off rationale behind them ✓ Correct

B) A team uses a layered architecture with strict package naming conventions

C) A developer applies a design pattern to simplify a complex class

D) A release pipeline reduces deployment time from months to hours

Rationale: The Second Law states that understanding why decisions were made is more important than merely knowing how the architecture works.

Q105.

A chief architect insists every architecture decision has only two valid options: adopt or reject. Which law is this view most likely to violate?

A) First Law, because all architecture decisions are cost-free

B) Second Law, because documentation is unnecessary

C) Third Law, because most architecture decisions exist on a spectrum between extremes ✓ Correct

D) Third Law, because logical components are always binary

Rationale: The Third Law says most architecture decisions are not binary but lie along a spectrum between extremes.

Q106.

A software architect defines that the frontend must use a reactive-based framework but allows teams to choose among React, Vue, Angular, or Elm. What expectation is being exercised most appropriately?

A) Specifying implementation details to maximize control

B) Guiding technology choices rather than making every technical decision ✓ Correct

C) Delegating all architecture decisions to user interface developers

D) Avoiding architecture decisions to preserve team autonomy

Rationale: The chapter distinguishes architectural guidance from prescribing every specific technical choice.

Q107.

A legacy system allows rapid code changes, but testing takes weeks and releases take months. Which conclusion best aligns with the chapter's view of architecture analysis?

A) The architecture is agile because coding changes are easy

B) The architecture is sound because testing and release are operational issues only

C) The architecture may lack true agility because testing and release environments are part of holistic analysis ✓ Correct

D) The architecture should be judged only by runtime performance

Rationale: The chapter notes that agility depends not just on coding speed but also on testing and release capabilities.

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Q108.

A team's architecture defined three years ago still runs, but business needs and technology options have changed significantly. Which concept best guides evaluation of whether the architecture remains appropriate?

A) Architecture vitality ✓ Correct

B) Data normalization

C) Technical debt retirement

D) Source code modularity

Rationale: Architecture vitality assesses how viable an older architecture remains given business and technology changes.

Q109.

A presentation-layer developer bypasses service and business layers to query the database directly for speed. Why is this especially concerning from an architectural perspective?

A) It violates a likely architecture decision intended to preserve system characteristics and change isolation ✓ Correct

B) It proves the architect selected the wrong architecture style

C) It eliminates the need for logical components

D) It shows that performance should always override architectural rules

Rationale: The chapter uses this exact type of violation to show how noncompliance can undermine intended architectural characteristics.

Q110.

Which response best reflects the chapter's recommendation for an architect developing technical capability?

A) Become an expert in one platform and avoid unrelated technologies

B) Prioritize technical breadth across multiple technologies while retaining depth in some areas ✓ Correct

C) Focus only on business knowledge because technology choices are delegated

D) Specialize exclusively in the team's current framework stack

Rationale: The chapter emphasizes that architects should cultivate technical breadth rather than only narrow depth.

Q111.

An architect can explain caching products in broad terms across many platforms but is not the deepest expert in any one of them. According to the chapter, this is primarily valuable because it supports the architect's ability to:

A) Replace all technical specialists on the team

B) Evaluate diverse options across heterogeneous environments ✓ Correct

C) Avoid making architecture decisions

D) Eliminate the need for business-domain knowledge

Rationale: Breadth helps architects compare options and work effectively in heterogeneous technical environments.

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Q112.

A newly appointed architect at a large bank struggles to understand common financial terminology and cannot follow stakeholder discussions. What is the most likely consequence described in the chapter?

A) Improved neutrality in architecture decisions

B) Loss of credibility with stakeholders and difficulty designing an effective architecture ✓ Correct

C) Greater focus on logical components over business constraints

D) Reduced need to negotiate architecture choices

Rationale: The chapter states that inadequate business-domain knowledge undermines communication and stakeholder confidence.

Q113.

Which situation most clearly demonstrates that software architecture is broader than structural diagrams alone?

A) A team documents component names and package locations only

B) An architect includes trade-offs, principles, characteristics, and decision rationale alongside structure ✓ Correct

C) A developer refactors duplicated code into a shared utility

D) An operations manager inventories server licenses

Rationale: The chapter defines architecture as including style, characteristics, logical components, and decisions, not just structure.

Q114.

A company wants to assess whether its architects are fulfilling a core expectation beyond technical design. Which metric would best align with the chapter's emphasis on compliance?

A) Number of programming languages known by each architect

B) Frequency of direct database access violations against documented architectural rules ✓ Correct

C) Average number of UML diagrams created per sprint

D) Count of architecture meetings attended by project managers

Rationale: Ensuring compliance means verifying that teams follow documented architecture decisions and principles.

Q115.

An architect proposes isolating each application's database so only the owning application can access it directly. Why is this decision likely to require political skill?

A) It is merely a coding-style preference with no organizational impact

B) It will likely affect costs, integration patterns, and stakeholder workflows across multiple teams ✓ Correct

C) It guarantees unanimous support because it improves security

D) It removes the need for negotiation by making the architecture self-evident

Rationale: The chapter explains that broad architectural decisions often trigger objections from many stakeholders and require negotiation.

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Q116.

Which example best represents an architecture decision rather than a purely technical decision?

A) Using a specific version of React for the web client

B) Restricting database access to designated layers in a layered architecture ✓ Correct

C) Choosing a variable naming convention for Java classes

D) Selecting a specific IDE for backend developers

Rationale: Architecture decisions define construction rules and constraints for the system, such as layer access restrictions.

Q117.

A team is tempted to choose an architecture style first because it is popular, then fit requirements into it later. According to the chapter's sequence of analysis, what should happen first?

A) Select the style and infer the needed characteristics

B) Analyze architecture characteristics and logical components before choosing a style ✓ Correct

C) Document technology versions before identifying domains

D) Build the database schema before considering workflows

Rationale: The chapter states that architects analyze characteristics and logical components before selecting an architecture style.

Q118.

A program director asks what architecture characteristics primarily define. Which answer is most accurate based on the chapter?

A) The domains, entities, and workflows of the application

B) The capabilities of the system and criteria for its success ✓ Correct

C) The specific frameworks approved for implementation

D) The sequence of code commits in the release pipeline

Rationale: Architecture characteristics describe the system's capabilities, commonly the "-ilities," and success criteria.

Q119.

A solution architect is mapping domains, entities, and workflows to describe how the application behaves. Which architectural dimension is being developed?

A) Architecture characteristics

B) Logical components ✓ Correct

C) Architecture vitality

D) Political constraints

Rationale: The chapter identifies domains, entities, and workflows as part of logical components that define behavior.

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Q120.
Which statement best captures the relationship between architectural characteristics and logical components?

A) Characteristics define behavior, while logical components define success criteria
B) Characteristics and logical components are interchangeable terms
C) Characteristics define capabilities, while logical components define behavior ✓ Correct
D) Logical components determine trade-offs, while characteristics determine coding standards

Rationale: The chapter explicitly distinguishes characteristics as capabilities and logical components as behavior.

Q121.
An architect is reviewing a system not only for runtime structure but also for whether its decisions still support performance, availability, and scalability after years of changes. This review is most directly aimed at preventing:

A) Requirements elicitation
B) Structural decay ✓ Correct
C) Horizontal scaling
D) Version control conflicts

Rationale: Structural decay occurs when ongoing changes erode required architectural characteristics.

Q122.
A team argues that because a certain architecture pattern worked well in one product, it should become the default for all future products. Which response best reflects the First Law and its corollaries?

A) That is valid because successful patterns eliminate future trade-offs
B) That is risky because each new context requires renewed trade-off analysis ✓ Correct
C) That is appropriate only when the architecture is diagrammed in detail
D) That is unnecessary because style choice should always be random to avoid bias

Rationale: The First Law and its corollaries emphasize that architecture is always about trade-offs and must be reevaluated per context.

Q123.
A senior developer says, “Architecture is basically the same as code structure.” Which critique from the chapter is strongest?

A) Architecture excludes code and focuses only on business strategy
B) Architecture includes structure but also characteristics, style, decisions, and rationale ✓ Correct
C) Architecture is only about selecting frameworks and deployment tools
D) Architecture should be defined solely by organizational hierarchy

Rationale: The chapter’s multidimensional definition extends architecture beyond structural elements alone.

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Q124.

An architect must choose between stronger database isolation and easier cross-application data access. Which framing best matches the chapter's view of architectural work?

A) One option is objectively correct if enough experts vote on it

B) The decision should be treated as a trade-off shaped by context and desired characteristics ✓ Correct

C) The developer with the strongest opinion should decide

D) The architect should avoid deciding until a universal standard emerges

Rationale: The chapter presents architecture decisions as contextual trade-offs rather than universally correct choices.

Q125.

A healthcare software company wants architects to remain relevant as technology trends shift rapidly. Which reason from the chapter best justifies continuous trend monitoring?

A) Architectural decisions are short-lived and easy to reverse

B) Architectural decisions persist for a long time and can be difficult to change later ✓ Correct

C) Trend awareness replaces the need for business-domain expertise

D) Only developers, not architects, are affected by ecosystem changes

Rationale: The chapter notes that architects' decisions are long-lasting and hard to change, making trend awareness critical.

Q126.

A team can easily describe how its architecture routes requests, but no one knows why certain boundaries and constraints were chosen. What major risk does the chapter imply?

A) The team will automatically violate coding conventions

B) Future architects and developers will struggle to evaluate or adapt decisions appropriately ✓ Correct

C) The logical components will become architecture characteristics

D) The architecture style will no longer have any structure

Rationale: Without the why behind decisions, later teams lack the context needed to understand trade-offs and make sound changes.

Q127.

An architect is deciding whether to mandate a specific technology or define a broader principle. According to the chapter, what should primarily determine that choice?

A) Whether the architect personally prefers the tool

B) Whether specifying the technology is necessary to preserve key architectural characteristics ✓ Correct

C) Whether the project manager requests a vendor-standard solution

D) Whether the team is inexperienced with alternatives

Rationale: The chapter says architects usually guide choices broadly, except when a specific technology is needed to protect required characteristics.

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Q128.

Which candidate for a software architect role best fits the chapter's description of a strong architect?

A) A deep expert in one framework who avoids stakeholder interaction

B) A broad technologist with strong domain understanding and the ability to communicate with executives and users ✓ Correct

C) A programmer who never documents decisions but codes quickly

D) A manager who understands budgets but not technical trade-offs

Rationale: The chapter highlights technical breadth, business-domain expertise, and communication skill as key strengths of effective architects.

Q129.

A development organization evaluates architect performance only by the sophistication of technical diagrams produced. Which important expectation would this approach most likely underemphasize?

A) Understanding and navigating organizational politics ✓ Correct

B) Remembering syntax for multiple programming languages

C) Writing every line of production code personally

D) Avoiding all exposure to business stakeholders

Rationale: The chapter stresses that architects must negotiate and navigate politics, not merely produce technical artifacts.

Q130.

A system's architecture still meets functional requirements, but repeated shortcuts have weakened availability and scalability. What is the best interpretation from the chapter?

A) The system is healthy because functionality is intact

B) The architecture is experiencing structural decay affecting required characteristics ✓ Correct

C) The issue is unrelated to architecture because only code changed

D) The problem is solely due to insufficient domain knowledge

Rationale: Structural decay refers to changes that degrade required architectural characteristics such as availability and scalability.

Q131.

Which statement best distinguishes a developer's local design choice from an architect's enterprise-impacting decision in the chapter's examples?

A) Developer decisions usually require broad organizational approval, while architect decisions do not

B) Architect decisions often affect many teams and stakeholders, creating the need for negotiation ✓ Correct

C) Developer decisions determine business strategy, while architect decisions determine code formatting

D) Architect decisions are always lower risk than developer decisions

Rationale: The chapter contrasts local programming choices with architectural decisions that have wide organizational consequences.

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Q132.

A faculty member asks students to identify the most effective starting point when defining software architecture. Based on the chapter, what is the best answer?

A) Begin with the architecture style because it determines all requirements

B) Begin with architecture characteristics and logical components to inform style selection ✓ Correct

C) Begin with a preferred cloud vendor and derive the architecture from it

D) Begin with a coding standard and infer architectural constraints

Rationale: The chapter presents style selection as following analysis of characteristics and logical components.

Q133.

An architect is reviewing whether a current design still aligns with today's business needs and technology ecosystem. Which expectation is being exercised most directly?

A) Possessing interpersonal skills

B) Continually analyzing the architecture ✓ Correct

C) Knowing one programming language deeply

D) Avoiding architecture decisions until release time

Rationale: Continual analysis involves assessing the architecture and environment for ongoing improvement and viability.

Q134.

A manager asks why architects need soft skills if their role is mainly technical. Which answer best reflects the chapter?

A) Soft skills matter little once architecture diagrams are complete

B) Architects must lead teams, communicate decisions, and negotiate challenges, making interpersonal skill essential ✓ Correct

C) Soft skills are useful only for project managers, not architects

D) Soft skills mainly replace the need for technical breadth

Rationale: The chapter emphasizes leadership, facilitation, communication, and negotiation as vital parts of the architect role.

Q135.

A company wants to improve architectural compliance. Which approach is most aligned with the chapter's guidance?

A) Rely solely on informal trust that developers remember all rules

B) Continually verify adherence to documented decisions, potentially with automated fitness functions ✓ Correct

C) Remove all architectural constraints to eliminate violations

D) Ask business stakeholders to review source code for compliance

Rationale: The chapter links compliance with continuous verification and references automated fitness functions as a measurement tool.

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Q136.

An architect argues that because a system's structure is elegant, its architecture must be correct. Which rebuttal is best supported by the chapter?

A) Correctness depends only on whether the code compiles

B) Architecture must also satisfy required characteristics and be justified by decisions within context ✓ Correct

C) Aesthetics are the sole basis for architecture evaluation

D) Only business users can judge architecture quality

Rationale: The chapter defines architecture through structure plus characteristics, style, and decisions shaped by context.

Q137.

Which of the following best exemplifies the chapter's idea that architects should guide rather than overly prescribe?

A) Mandating a single frontend library for all teams regardless of context

B) Defining a principle that the UI use a reactive paradigm while allowing team-level framework selection ✓ Correct

C) Allowing each developer to choose whether to bypass service layers

D) Refusing to document any decisions so teams remain flexible

Rationale: Guidance sets architectural direction without unnecessarily dictating every technical implementation choice.

Q138.

A system architect is praised for deep expertise in one database product but struggles to compare alternatives for different workloads. Which developmental recommendation from the chapter is most appropriate?

A) Reduce exposure to unfamiliar technologies to preserve specialization

B) Expand technical breadth to understand pros and cons across multiple products ✓ Correct

C) Focus entirely on political negotiation rather than technology

D) Delegate all technology evaluation to vendors

Rationale: The chapter values breadth, such as understanding many caching or database products, over single-product specialization alone.

Q139.

Why would an architect's decision to isolate application databases likely be controversial even if technically sound?

A) Because architectural decisions rarely affect anyone outside the development team

B) Because other systems may incur additional effort and cost through remote access instead of direct database use ✓ Correct

C) Because direct database sharing is always more secure

D) Because architects are not allowed to change integration patterns

Rationale: The chapter explains that such decisions often provoke objections due to increased integration cost and effort for others.

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Q140.

A student claims that architecture characteristics are just another name for logical components. Which correction is most accurate?

A) Characteristics define capabilities and success criteria, whereas logical components define application behavior ✓ Correct

B) Characteristics are deployment servers, whereas logical components are coding standards

C) Characteristics are business stakeholders, whereas logical components are project managers

D) Characteristics and logical components are both subsets of office politics

Rationale: The chapter clearly differentiates characteristics as capabilities and logical components as behavior-defining structures.

Q141.

A team wants to document only final architecture choices, not rejected alternatives or rationale. Which law suggests this would be insufficient?

A) First Law, because all choices are free of trade-offs

B) Second Law, because understanding why decisions were made is more important than only knowing how ✓ Correct

C) Third Law, because all decisions must be reduced to yes-or-no answers

D) First Law, because architecture contains no context

Rationale: The Second Law emphasizes preserving the rationale behind decisions, not just the resulting design.

Q142.

Which scenario best illustrates architecture vitality rather than initial architecture design?

A) Defining domains and workflows for a brand-new application

B) Evaluating whether a three-year-old architecture still fits current business and technology conditions ✓ Correct

C) Selecting a coding style guide for a new team

D) Creating a project budget for cloud migration

Rationale: Architecture vitality concerns the continuing viability of an existing architecture over time.

Q143.

An architect is deciding between two options and asks, “Which one is easiest to implement given these requirements?” In the chapter’s definition, this question is most associated with choosing:

A) A business domain glossary

B) An architecture style as a starting point ✓ Correct

C) A release calendar

D) An interpersonal leadership model

Rationale: The chapter describes style selection as finding the easiest implementation path for the analyzed requirements.

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Q144.

A software architect who was previously a developer is frustrated that major decisions now require broad justification. Which explanation from the chapter best addresses this frustration?

A) Architects should avoid making broad decisions to reduce conflict

B) Architectural decisions have wider organizational impact, so they are often challenged and require negotiation ✓ Correct

C) The architect has moved too far from coding and should return to implementation

D) Only executives, not architects, are expected to justify decisions

Rationale: The chapter explains that architects must fight for many decisions because they affect many stakeholders.

Q145.

Which statement best reflects the chapter's treatment of generative AI in relation to software architecture?

A) AI has already replaced most software architects

B) Architecture is presented as harder to replace because it involves contextual trade-off decisions AI cannot readily make ✓ Correct

C) AI eliminates the need for business-domain expertise

D) Architects should ignore AI because it has no effect on development ecosystems

Rationale: The chapter notes that architects make contextual trade-off decisions that are much harder for AI to replace.

Q146.

A curriculum designer wants to emphasize the chapter's view that architecture can only be understood in context. Which exam prompt would best assess that idea?

A) List four popular frontend frameworks from memory

B) Evaluate whether a microservices architecture would have been practical in a 2002 licensing environment and justify your reasoning ✓ Correct

C) Define a class and object in object-oriented programming

D) Identify the syntax for a database query

Rationale: The chapter's context argument is exemplified by explaining why microservices would have been impractical in earlier infrastructure conditions.

Q147.

A team is deciding whether an architect should focus more on depth in one tool or breadth across many technologies. Which choice best reflects the chapter's recommendation for architects?

A) Depth only, because heterogeneous environments are rare

B) Breadth primarily, because architects must compare and integrate diverse technologies ✓ Correct

C) Neither, because architects should avoid technical involvement

D) Depth only, because business-domain knowledge replaces technology awareness

Rationale: The chapter recommends technical breadth so architects can operate across varied platforms, tools, and environments.

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Q148.

An organization asks its architects to help maintain long-term relevance of technical decisions. Which pair of expectations from the chapter most directly supports that goal?

A) Keeping current with trends and continually analyzing the architecture ✓ Correct

B) Writing all production code and approving payroll

C) Avoiding stakeholder communication and minimizing documentation

D) Specializing in one framework and one business process only

Rationale: Trend awareness and continual architectural analysis together help ensure decisions remain viable over time.

Q149.

Which interpretation best captures the chapter's rationale for including soft skills in a software architecture book?

A) Soft skills are easier than technical skills and therefore need little attention

B) Soft skills are often the hardest for emerging architects to acquire but are vital to success in the role ✓ Correct

C) Soft skills matter only in startup companies

D) Soft skills are optional if architecture documentation is detailed enough

Rationale: The roadmap notes that soft skills are difficult for many architects to acquire yet are critically important in practice.

Q150.

A software architecture review board wants to evaluate a proposal using the chapter's full definition of architecture. Which review question is most comprehensive?

A) Does the proposal use the company's preferred programming language?

B) What style is proposed, which characteristics must it support, what logical components implement behavior, and what decisions justify the constraints? ✓ Correct

C) How many diagrams are included in the proposal package?

D) Which developer wrote the initial prototype?

Rationale: The chapter defines architecture through style, characteristics, logical components, and decisions that justify the system's structure and constraints.

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