ECE 811 – SOFTWARE ENGINEERING

TEST YOUR KNOWLEDGE ON SOFTWARE ARCHITECTURE VIEWS

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1. Which view in the 4+1 model describes the system's runtime behaviour and interactions between components?

a) Logical View

b) Development View

c) Process View

d) Physical View

Answer: c) Process View
Explanation: The **Process View** focuses on concurrency, synchronization, and runtime interactions between system components.

2. What is the primary purpose of the Logical View?

a) Show hardware and network topology

b) Organize code into modules and packages

c) Represent functional requirements and abstractions

d) Describe deployment configurations

Answer: c) Represent functional requirements and abstractions

Explanation: The **Logical View** captures the system's functional structure (e.g., classes, components, and their relationships).

3. Which view is most relevant for a system administrator?

a) Logical View

b) Development View

c) Physical View

d) Scenario View

Answer: c) Physical View

Explanation: The **Physical View** (Deployment View) maps software to hardware (servers, networks, etc.), which is critical for deployment and scaling.

4. What role does the Development View (Implementation View) play?

a) Shows how the system executes at runtime

b) Organizes code into modules and libraries

c) Defines security and access control

d) Illustrates end-user workflows

Answer: b) Organizes code into modules and libraries

Explanation: The **Development View** focuses on software modularity, build systems, and dependency management.

5. Which of the following is part of the "4+1" View Model's "+1" view?

a) Logical View

b) Process View

c) Use Case View

d) Physical View

Answer: c) Use Case View

Explanation: The **"+1" view** (Scenario View) uses **use cases** to validate and unify the other four views.

6. Which view would a software developer consult to understand package dependencies?

a) Logical View

b) Development View

c) Process View

d) Physical View

Answer: b) Development View

Explanation: The **Development View** structures the codebase (e.g., com.example.app packages) and their dependencies.

7. In which view would you model a system's thread synchronization mechanisms?

a) Logical View

b) Process View

c) Physical View

d) Scenario View

Answer: b) Process View

Explanation: The **Process View** deals with concurrency, threads, and inter-process communication.

8. What does the Physical View help identify?

a) Class hierarchies

b) Server locations and network latency

c) User interaction flows

d) Unit test coverage

Answer: b) Server locations and network latency

Explanation: The **Physical View** addresses deployment topology (e.g., cloud vs. on-premise, load balancers).

9. Which view is most closely tied to UML class diagrams?

a) Logical View

b) Process View

c) Development View

d) Physical View

Answer: a) Logical View

Explanation: The **Logical View** uses UML class diagrams to model domain entities and relationships.

10. Why is the Scenario View (+1) important?

a) It validates all other views against real-world usage.

b) It defines the CI/CD pipeline.

c) It optimizes database queries.

d) It lists third-party APIs.

Answer: a) It validates all other views against real-world usage.

Explanation: The **Scenario View** ensures consistency across views by testing them against key use cases.