

Quiz-3 Prescriptive & Specialized Process Models

Prescriptive Process Models

Process Model	Approach	Flexibility		Risk Handling	User Involvement	Documentation	Testing Approach	Time Efficiency	Cost	Best Use Case
Waterfall Model	Sequential	Low	No		Low	High	Late	Slow	Medium	Well-defined, stable requirements
Incremental Model	Iterative	Medium	Yes		Medium	Medium	Early	Moderate	Medium	Large projects with phased delivery
Evolutionary Model	Iterative	High	Yes		High	Low	Continuous	Fast	High	Continuous updates & feedback
Spiral Model	Iterative + Risk-driven	High	Yes		High	High	Early	Moderate	High	High-risk projects
Concurrent Model	Parallel	High	Yes		High	Medium	Continuous	Fast	High	Complex systems with parallel activities
V-Model	Sequential (with validation)	Low	Yes		Medium	High	Early	Slow	High	Safety-critical systems (e.g., medical software)

Specialized Process Models

Process Model	Key Concept	Main Focus	Flexibility	Risk Handling	User Involvement	Best Use Case
Component-Based Development (CBD)	Reusable software components	Modularity & reusability	High	Yes	Medium	Large systems requiring reusable components
Formal Methods Model	Mathematical verification	High reliability & correctness	Low	Yes	Low	Safety-critical systems (e.g., aerospace, medical)
Aspect-Oriented Software Development (AOSD)	Separation of cross-cutting concerns	Modularity & maintainability	Medium	Yes	Medium	Systems with complex concerns (logging, security)
Unified Process (UP)	Phased iterative approach	Risk management & adaptability	High	Yes	High	Large-scale enterprise applications
Personal Software Process (PSP)	Individual-based process improvement	Productivity & defect reduction	Medium	Yes	Low	Software engineers improving personal efficiency
Team Software Process (TSP)	Team-based structured process	Collaboration & quality improvement	Medium	Yes	High	Large teams developing complex projects