

MSS - Important Topics to refer

Module 1:

Important Topics to refer	Things to focus on each topic
Software process models - The waterfall model, Incremental development	<u>(Idea of individual models, pros and cons of each model and difference between both)</u>
Software specification	<u>(purpose and need)</u>
Software validation	<u>(important of validation has to refer)</u>
Alpha testing and beta testing	<u>(difference)</u>
Software evolution	<u>(idea with the figure)</u>
Coping with change	<u>(idea of change avoidance and change tolerance, methods to coping with changes like software prototyping and Incremental development and delivery)</u>
Boehm's Spiral Model	<u>(figure with details)</u>
Agile software development - Agile methods, agile manifesto - values and principles	<u>(mainly purpose of agile, its manifesto, its principles, its figure and XP programming)</u>

Module 2:

Important Topics to refer	Things to focus on each topic
Functional and non-functional requirements	<u>(differences, classifications, idea of RE process)</u>
Requirements elicitation, Requirements validation, Requirements change	<u>(steps with figure, Techniques for elicitation. Need of requirement validation, change management with figure- traceability matrix)</u>
Software Requirements Specification Template	<u>(contents in SRS and refer sample SRS)</u>
Personas, Scenarios, User stories, Feature identification	<u>(Ideas enough)</u>
Architectural Design - Software Architecture, Architectural Styles	<u>Design model figure and details. Reasons for arch important, and 5 different styles with figure</u>
Architectural Design process	<u>Details of four steps with figure</u>
Designing Class-Based Components	<u>Idea and importance</u>
Conducting Component level design	<u>Four principles with figures</u>

Module 3:

Important Topics to refer	Things to focus on each topic
Design patterns	<u>Idea and four essential elements with figure</u>
Open-source development - GPL, LGPL, BSD	<u>Differences and details</u>
Review Techniques - Informal Review, Formal Technical Reviews, Post-mortem evaluations	<u>Importance and types</u>
Software testing strategies - Unit Testing, Integration Testing, Validation testing, System testing	<u>Main purpose of each testing. Things considered for testing</u>
White box testing, Black box testing	<u>differences</u>
Test-driven development	<u>Main usage and importance</u>
Overview of DevOps and Code Management	<u>purpose</u>
Continuous Integration, Delivery, and Deployment (CI/CD/CD)	<u>Logic with figures</u>
Software Evolution	<u>Need and how to handle</u>

Module 4:

Important Topics to refer	Things to focus on each topic
Software Project Management	<u>Risk management, managing people and team work</u>
Project Planning	<u>(purpose and various activities)</u>
Project scheduling, Agile planning	<u>(important has to refer)</u>
COCOMO cost modeling	<u>Four important sub modules with figure</u>
Configuration management	<u>(idea with the figure)</u>
Version management	<u>CM activities and figures</u> - importance of DELTA in storage management
Agile software management - SCRUM framework. Kanban methodology and lean approaches.	<u>(figure with details)</u>

Module 5:

Important Topics to refer	Things to focus on each topic
Software Quality Dilemma	<u>Figure of McCall's quality factor, Idea of good enough software</u>
Elements of Software Quality Assurance	<u>Various elements and descriptions</u>
SQA Tasks	<u>Need and goals of SQA</u>
Software Process Improvement(SPI), SPI Process	<u>Approaches, figure, six support constitutes</u>
Cloud-based Software	<u>benefits</u>
Everything as a service(IaaS, PaaS)	<u>(figure with details)</u>
Software as a service	<u>(figure with details)</u>
Virtualisation and containers	<u>(figure with details)</u>
Microservices architecture	<u>(figure with details)</u>