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

Module 2:

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

Module 3:

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

Module 4:

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

Module 5:

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