# C-IX: Software Engineering (CBCS – IV Sem)

## (Guidelines)

Topics	Contents	References
Introduction	Ch-1: Software and Software Engineering	[1]
	Upto 1.1.2(pg 1-9), 1.3, 1.4(pg: 12-17)	
	Ch-2: Process Models	
	up to 2.1.2 (pg: 30-34), 2.3 – up to 2.3.3 (pg: 38-47)	
	Ch-30: Software Process Improvement	
	30.3 (pg: 797-801)	
Requirement	Ch-3: Software Requirements Analysis and Specification	[2]
Analysis	up to 3.2.2 (pg: 67-87), 3.3 up to 3.3.2 (pg: 99-105)	
Software Project	Ch-26: Estimation for Software Project	[1]
Management	26.5, 26.6 up to 26.6.6 (pg: 697-705),	
	26.7.2, 26.7.3 (pg: 709-712)	
	Ch-27: Project Scheduling	
	27.5 up to 27.5.1 (pg: 732-733)	
Risk Mgt	Ch-28: Risk Management	[1]
	Complete Chapter(pg: 744-759)	
Quality& Software	Ch-14: Quality Concepts	[1]
Metrics	14.4 (pg: 412, 413)	
	Ch-15: Review Techniques	
	up to 15.2 (pg: 416-420)	
	Ch-16: Software Quality Assurance	
	up to 16.2 (pg: 432-435)	
	Ch-23: Product Metrics	
	up to 23.1.1 (pg:613-615), 23.2 up to 23.2.1 (pg:619-623)	
	Ch-25: Process and Project Metrics	
	up to 25.2.3, (pg: 666-675), 25.3 (pg: 679-682)	
Design Engineering	Ch 6: Function Oriented Design	[2]
	upto 6.2 (pg: 215-226)	
	Ch 9: Architectural Design	[1]
	9.1.1 (pg: 243,244), 9.6 upto 9.6.1 (pg: 265-271)	
Software Testing	Ch-17: Software Testing Strategies	[1]
	up to 17.1.3 (pg: 449-454), 17.3 (pg:456-465), 17.6, 17.7	
	(pg:467-472)	
	Ch-18: Testing Conventional Applications	
	Upto18.4 (pg: 482-492), 18.6 up to 18.6.3 (exclude	
	18.6.1)(pg:495-498)	

#### **Text Books**

- 1. R.S. Pressman, Software Engineering: A Practitioner's Approach, McGraw-Hill, Ed 7, 2010.
- 2. P. Jalote, An Integrated Approach to Software Engineering, Narosa Publishing House, Ed. 3, 2011.

#### **Reference Books**

- 3. R. Mall, Fundamentals of Software Engineering, Prentice-Hall of India, 3<sup>rd</sup> Ed. 2009
- 4. I. Sommerville, Software Engineering (8th edition), Addison Wesley, 2010.

### **Software Project**

Software Project should address the following concepts of SE

1. Problem Statement, Process Model

2. Requirement Analysis: Creating a Data Flow, Data Dictionary

3. Project management: Computing FP, Effort, Schedule, Risk Table,

Timeline Charts

4. Design Engineering: Architectural Design, Data Design, Component level design (pseudocode)

5. Testing: Compute Basis path set for at least a single module from the project