

CS8494 SOFTWARE ENGINEERING

L T P C 3 0 0 3

UNIT I SOFTWARE PROCESS AND AGILE DEVELOPMENT 9

Introduction to Software Engineering, Software Process, Perspective and Specialized Process Models –Introduction to Agility-Agile process - Extreme programming-XP Process.

UNIT II REQUIREMENTS ANALYSIS AND SPECIFICATION 9

Software Requirements: Functional and Non-Functional, User requirements, System requirements, Software Requirements Document – Requirement Engineering Process: Feasibility Studies, Requirements elicitation and analysis, requirements validation, requirements management Classical analysis: Structured system Analysis, Petri Nets- Data Dictionary.

UNIT III SOFTWARE DESIGN 9

Design process – Design Concepts-Design Model– Design Heuristic – Architectural Design - Architectural styles, Architectural Design, Architectural Mapping using Data Flow- User Interface Design: Interface analysis, Interface Design –Component level Design: Designing Class based components, traditional Components.

UNIT IV TESTING AND MAINTENANCE 9

Software testing fundamentals-Internal and external views of Testing-white box testing – basis path testing-control structure testing-black box testing- Regression Testing – Unit Testing – Integration Testing – Validation Testing – System Testing and Debugging –Software Implementation Techniques: Coding practices -Refactoring-Maintenance and Reengineering-BPR model-Reengineering process model-Reverse and Forward Engineering.

UNIT V PROJECT MANAGEMENT9

Software Project Management: Estimation – LOC, FP Based Estimation, Make/Buy Decision COCOMO I & II Model – Project Scheduling – Scheduling, Earned Value Analysis Planning – Project Plan, Planning Process, RFP Risk Management – Identification, Projection – Risk Management-Risk Identification-RMMM Plan-CASE

TEXT BOOKS:

1. Roger S. Pressman, —Software Engineering – A Practitioner" s Approachll, Seventh Edition, Mc Graw-Hill International Edition, 2010.
2. Ian Sommerville, —Software Engineeringll, 9th Edition, Pearson Education Asia, 2011.

REFERENCES:

1. Rajib Mall, —Fundamentals of Software Engineeringll, Third Edition, PHI Learning Private Limited, 2009.
2. Pankaj Jalote, —Software Engineering, A Precise Approachll, Wiley India, 2010.

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For Questions, Notes, Syllabus & Results

3. Kelkar S.A., —Software EngineeringII, Prentice Hall of India Pvt Ltd, 2007.
4. Stephen R. Schach, —Software EngineeringII, Tata McGraw-Hill Publishing Company Limited, 2007.
5. <http://nptel.ac.in/>.