**CS2301 SOFTWARE ENGINEERING L T P C 3 0 0 3**

**UNIT I SOFTWARE PRODUCT AND PROCESS 9**

Introduction – S/W Engineering Paradigm – Verification – Validation – Life Cycle Models

– System Engineering – Computer Based System – Business Process Engineering

Overview – Product Engineering Overview.

**UNIT II SOFTWARE REQUIREMENTS 9**

Functional and Non-Functional – Software Document – Requirement Engineering

Process – Feasibility Studies – Software Prototyping – Prototyping in the Software

Process – Data – Functional and Behavioral Models – Structured Analysis and Data

Dictionary.

**UNIT III ANALYSIS, DESIGN CONCEPTS AND PRINCIPLES 9**

Systems Engineering - Analysis Concepts - Design Process And Concepts – Modular

Design – Design Heuristic – Architectural Design – Data Design – User Interface

Design – Real Time Software Design – System Design – Real Time Executives – Data

Acquisition System – Monitoring And Control System.

**UNIT IV TESTING 9**

Taxonomy Of Software Testing – Types Of S/W Test – Black Box Testing – Testing

Boundary Conditions – Structural Testing – Test Coverage Criteria Based On Data Flow

Mechanisms – Regression Testing – Unit Testing – Integration Testing – Validation

Testing – System Testing And Debugging – Software Implementation Techniques

**UNIT V SOFTWARE PROJECT MANAGEMENT 9**

Measures And Measurements – ZIPF’s Law – Software Cost Estimation – Function

Point Models – COCOMO Model – Delphi Method – Scheduling – Earned Value

Analysis – Error Tracking – Software Configuration Management – Program Evolution

Dynamics – Software Maintenance – Project Planning – Project Scheduling– Risk

Management – CASE Tools

**TOTAL= 45 PERIODS**

**TEXT BOOKS:**

1. Ian Sommerville, “Software engineering”, Seventh Edition, Pearson Education Asia,

2007.

2. Roger S. Pressman, “Software Engineering – A practitioner’s Approach”, Sixth

Edition, McGraw-Hill International Edition, 2005.

**REFERENCES:**

1. Watts S.Humphrey,”A Discipline for Software Engineering”, Pearson Education,

2007.

2. James F.Peters and Witold Pedrycz,”Software Engineering, An Engineering

Approach”, Wiley-India, 2007.

3. Stephen R.Schach, “ Software Engineering”, Tata McGraw-Hill Publishing Company

Limited, 2007.

4. S.A.Kelkar,”Software Engineering”, Prentice Hall of India Pvt, 2007.