

CORE COURSE – VII - INTRODUCTION TO SOFTWARE ENGINEERING

UNIT-I

Introduction to Software Engineering: Definitions – Size Factors – Quality and Productivity Factors. Planning a Software Project: Planning the Development Process – Planning an Organizational Structure.

UNIT-II:

Software Cost Estimation: Software cost Factors – Software Cost Estimation Techniques – Staffing-Level Estimation – Estimating Software Estimation Costs.

UNIT-III

Software Requirements Definition: The Software Requirements specification – Formal Specification Techniques. Software Design: Fundamental Design Concepts – Modules and Modularization Criteria.

UNIT-IV

Design Notations – Design Techniques. Implementation Issues: Structured Coding Techniques – Coding Style – Standards and Guidelines – Documentation Guidelines.

UNIT-V

Verification and Validation Techniques: Quality Assurance – Walkthroughs and Inspections – Unit Testing and Debugging – System Testing. Software Maintenance: Enhancing Maintainability during Development – Managerial Aspects of Software Maintenance – Configuration Management.

TEXTBOOK:

1. SOFTWARE ENGINEERING CONCEPTS – Richard Fairley, 1997, TMH.
(**UNIT-I:** 1.1-1.3,2.3-2.4 **UNIT-II:** 3.1-3.4 **UNIT III:** 4.1- 4.2,5.1-5.2 **UNIT-IV:** 5.3-5.4,6.1-6.4 **RCCSSD4:** 8.1-8.2, 8.5-8.6, 9.1-9.3)

REFERENCE BOOKS:

1. Software Engineering for Internet Applications – Eve Anderson, Philip Greenspun, Andrew Grumet, 2006, PHI.
2. Fundamentals of SOFTWARE ENGINEERING – Rajib Mall, 2nd edition, PHI
3. SOFTWARE ENGINEERING – Stephen Schach, 7th edition, TMH.