ELECTIVE COURSE I – a. SOFTWARE ENGINEERING

UNIT I:

INTRODUCTION : Software Engineering paradigms - Waterfall life cycle model, spiral model, prototype model, 4th Generation techniques - Planning - Cost estimation - Organization structure - Software project scheduling, Risk analysis and management - Requirements and specification - Rapid prototyping.

UNIT II :

SOFTWARE DESIGN : Abstraction - Modularity - Software architecture - Cohesion,coupling - Various design concepts and notations - Real time and distributed system design - Documentation - Dataflow oriented design - Jackson system development - Designing for reuse - Programming standards.

UNIT III

SOFTWARE METRICS : Scope - classification of metrics - Measuring Process and Product attributes - Direct and indirect measures - Reliability - Software quality assurance - Standards.

UNIT IV

SOFTWARE TESTING AND MAINTENANCE : Software testing fundamentals - Software testing strategies - Black box testing, White Box testing, System testing - Testing tools - Test case management - Software maintenance organzation - Maintenance report - Types of maintenance.

UNIT V :

SOFTWARE CONFIGURATION MANAGEMENT(scm) & CASE TOOLS Need for SCM - Version control - SCM process - Software configuration items - Taxonomy - case repository - Features.

Book for study :

1. Roger S.Pressman, Software Engineering: A Practitioner Approach, 5th Edition, MCGraw Hill, 1999.

Book for reference :

1. Fairley, Software Engineering Concepts, McGraw Hill, 1985.
2. Sommerville I., Software Engineering, 5th Edition, Addison Wesley, 1996.