COURSE CODE:	**IGIT– 601-CR13**
COURSE TITLE:	**SOFTWARE ENGINEERING**
CREDITS	**4 + 2 =06**

Unit-I

Introduction to Software Engineering: The Evolving role of Software. Software characteristics and applications, Evolution of Software Engineering, Software crisis and Myths. Software Engineering-A layered Technology. Software Development Process Models (Paradigms): Waterfall Model. Prototyping, Iterative Development, Spiral Model, RAD Model Software process and project metrics, Software measurement-Size/Function oriented metrics. Metrics for Software Quality

UnitII

Software Project: Planning a Software Project. Effort Estimation: (COCOMO and Function Points Model), Project Scheduling, Staffing and Personnel Planning, Software Configuration Management Plan, Quality Assurance Plans, Project Monitoring Plans, Risk Management
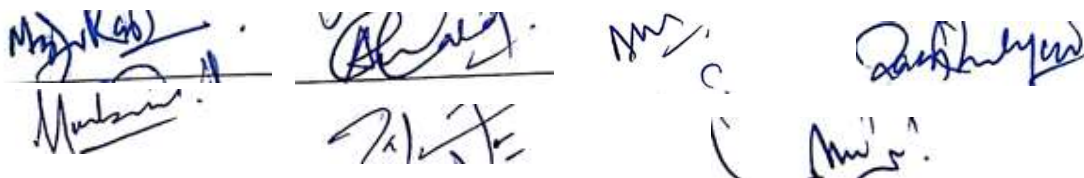
Unit III

Software Requirement Analysis and Specification: Need for SRS, Problem Analysis, Requirements Specification.Software Design: Design objectives and principles. Module level concepts, Coupling and Cohesion. Design Notations and specifications. Structured Design Methodology, Object Oriented Design. Detailed Design: Detailed Design, Verification (Design Walkthroughs, Critical Design Review, and Consistency Checkers), and Metrics.

Unit IV

Software Quality Assurance, Quality Concepts, SQA Activities, Software Reliability.Measure of Reliability and Availability. The ISO 9000 standards. Software Testing Techniques, Testing fundamentals, White box testing, Basis Path Testing, Control Structure Testing, Black Box testing, Software Testing strategies. Technical Metrics for Software-Mc-Calls Quality Factors

Recommended Books

1) Software Engineering A Practitioner's Approach R Pressman, Mcgraw Hill
2) Software Engineering Precise Approach, Pankaj, Wiley
3) Fundamentals of Software Engineering, Mall B, Prentice Hall India.
4) Software Engineering Udit Aggrawal, SK Kataria