

SOFTWARE ENGINEERING

(MINOR)

Course Code	20IT5601	Year	III	Semester	II
Course Category	Minor	Branch	IT	Course Type	Theory
Credits	4	L-T-P	4-0-0	Prerequisites	Basics of IT
Continuous Internal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes		Blooms Taxonomy Level
Upon Successful completion of course, the student will be able to		
CO1	Understand the process of software engineering and various process Models.	L 2
CO2	Design the requirements of software system.	L 3
CO3	Use various design elements to prepare software system.	L 3
CO4	Analyze various testing techniques.	L 4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations(H: High, M:Medium, L: Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		3								3				3
CO2			3						3	3			3	3
CO3			3						3	3			3	3
CO4			3						3	3			3	3

Syllabus		
Unit No	Contents	Mappe d CO
I	<p>Software and Software Engineering: The Nature of Software, The Unique Nature of Web Apps, Software Engineering, Software Process, Software Engineering Practice, Software Myths.</p> <p>Process Models: A Generic Process Model: Defining a framework activity, Prescriptive Process Models: The Waterfall Model, Incremental Process Model, Evolutionary Process Model, The Unified Process, What is an Agile Process?, XP Process.</p>	CO1
II	<p>Requirements Analysis And Specification: Requirements Gathering and Analysis, Software Requirement Specification (SRS): Characteristics of good SRS, Functional Requirements, Organization of SRS.</p> <p>Software Design: Overview of the Design Process, How to Characterize of a Design? Cohesion and Coupling, Approaches to Software Design.</p>	CO2, CO3
III	<p>Function-Oriented Software Design: Overview of SA/SD Methodology, Structured Analysis, Structured Design, Detailed Design, Design Review.</p> <p>User Interface Design: Characteristics of Good User Interface, Basic Concepts, Types of User Interfaces, A User Interface Design Methodology.</p>	CO1, CO3
IV	<p>Coding And Testing: Coding, Code Review, Software Documentation, Testing, Unit Testing, Black-Box Testing, White-Box Testing, Debugging, Integration Testing, System Testing.</p>	CO1, CO4
V	<p>Software Reliability And Quality Management: Software Reliability, Statistical Testing, Software Quality, Software Quality Management System.</p> <p>Software Maintenance: Software maintenance, Maintenance Process Models, Maintenance Cost.</p> <p>Software Reuse: what can be reused? Why almost No Reuse So Far? Basic Issues in Reuse Approach.</p>	CO1, CO4

Learning Resources
Text Books
<ol style="list-style-type: none"> 1. Software Engineering-A Practitioner's Approach, RogerS.Pressman, Seventh Edition McGraw Hill International Edition. 2. Fundamentals of Software Engineering, Rajib Mall, Third Edition,PHI.
References
<ol style="list-style-type: none"> 3. Software Engineering: A Primer,Waman SJawadekar,TataMc Graw-Hill,2008 4. Software Engineering, A Precise Approach, Pankaj Jalote,Wiley India,2010. 5. Software Engineering, Principles and Practices, DeepakJain, Oxford University Press.
E-Resources and other Digital Material
1. https://nptel.ac.in/courses/106101061/