Semester	**5**
Course	**MAJOR**
Paper Code	**C3CS230522T / C3CS230522P**
Paper Title	**SOFTWARE ENGINEERING**
No. of Credits	**4**
Theory / Practical / Composite	**COMPOSITE**
Minimum No. of preparatory hours per week a student has to devote	**5**
Number of Modules	**ONE**
Syllabus	1. Introduction: The Evolving Role of Software, Software Characteristics, Software Process Framework, Framework and Umbrella Activities, Process Models. 2. Requirement Analysis: Software Requirement Analysis, Initiating Requirement Engineering Process, Requirement Analysis and Modeling Techniques, Flow Oriented Modeling, SRS. 3. Software Design: Design principles, Architectural Design Elements, Software Architecture, Module level concepts, Coupling, Cohesion, Structured design methodology, Data Design at the Architectural Level and Component Level, UML. 4. Software Project Management: Phases in Software Project Management: Estimation in Project Planning Process, Project Scheduling, Phases in Software Project Management, Function Point Method, Cost Estimation – COCOMO, risk management. 5. Software Testing: Software Testing Fundamentals, Levels of Testing, Types of testing.
Learning Outcomes	1. Acquire the skills on how to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, implementation, and deployment 2. An ability to work in one or more significant application domains using software engineering principles and approaches 3. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software 4. Demonstrate an ability to identify, formulate, and solve software development problems by applying principles of software engineering 5. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle 6. Demonstrate an ability to use the techniques and tools necessary for software engineering practice

Reading/Reference Lists	1. Software Engineering: A Practitioner's Approach, Roger S Pressman, McGraw Hill 2. Software Engineering, Ian Sommerville - Pearson Education 3. An Integrated Approach to Software Engineering, Pankaj Jalote – NAROSA 4. Object-Oriented Analysis and Design with Applications, Grady Booch, Robert A. Maksimchuk, Addison Wesley 5. Fundamentals of Software Engineering, Rajib Mall, PHI	
Evaluation	Theory CIA: 12 Attendance: 3 Semester Exam: 45	Practical CA: 38 Attendance: 2
Paper Structure	Answer 3 out of 5 of 15 marks each	