Subject Syllabus

Software Engineering Laboratory

Course: BTech **Semester:** 5

Prerequisite: Basic knowledge of software applications.

Rationale: This course provides a broad introduction to software engineering. The various process models required to develop software is also being described. Moreover the functional and non-functional requirements are also described.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
					Internal Marks			External Marks		
Lecture Hrs/	Tutorial Hrs/	Lab Hrs/Week	Hrs/	Credit	T	CE	P	T	P	
0	0	2	-	1	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Outcome

After Learning the Course the students shall be able to:

After learning the course the students shall be able to:
1. Prepare and do Software Requirement Specification and Software Project Management Plan.
2. To ensure the quality of software product, different quality standards and software review techniques
3. Apply the concept of Functional Oriented and Object Oriented Approach for Software Design.
4. Understand modern Agile Development and Service Oriented Architecture Concept of Industry
5. Analyze, design, verify, validate, implement and maintain software systems.
6. Execute a Project Management Plan, tabulate Testing Plans and Reproduce effective procedures.

List of Practical

1.	**Project Definition and objective of the specified module and Perform Requirement Engineering Process.**
2.	**Identify Suitable Design and Implementation model from the different software engineering models.**
3.	**Prepare Software Requirement Specification (SRS) for the selected module.**
4.	**Develop Software project management planning (SPMP) for the specified module.**
5.	**Do Cost and Effort Estimation using different Software Cost Estimation models.**
6.	**Prepare System Analysis and System Design of identified Requirement specification using structure design as DFD with data dictionary and Structure chart for the specific module.**
7.	**Designing the module using Object Oriented approach including Use case Diagram with scenarios, Class Diagram and State Diagram, Collaboration Diagram, Sequence Diagram and Activity Diagram.**
8.	**Defining Coding Standards and walk through.**
9.	**Write the test cases for the identified module.**
10.	**Demonstrate the use of different Testing Tools with comparison.**
11.	**Define security and quality aspects of the identified module.**