IT-404A	SOFTWARE ENGINEERING (OPEN ELECTIVE)	L T P C 4 - - 3

COURSE OBJECTIVES:

1. To understand Basic concepts on Software Engineering methods and practices.
2. To understand Software Process Models and Software Development Life Cycle.
3. To understand requirements analysis and design of software development.
4. To know Software Development life cycle for Web app.

COURSE OUTCOMES:

After successful completion of the course, the students are able to

1. identify, formulate, and solve Software Engineering problems.
2. elicit, analyze and specify software requirements for various stakeholders.
3. familiar with Design, development, deployment and maintenance of a software project.
4. familiar with Architecture design and User Interface design
5. apply software engineering paradigms to web apps.

UNIT I *Text Book - 1* **(12)**

INTRODUCTION TO SOFTWARE ENGINEERING : The Evolving Role of Software, Software, The Changing Nature of Software, Legacy Software, Software Myths.

A GENERIC VIEW OF PROCESS : Software Engineering - A Layered Technology, A Process Framework, The CMMI, Personal and Team Process Models.

UNIT II *Text Book - 1,2* **(12)**

PROCESS MODELS : The Waterfall Model, Incremental Process Models, Evolutionary, Agile Process Model.

SOFTWARE ENGINEERING PRACTICE : Software Engineering Practice, Communication Practices, Planning Practices, Modeling Practices, Construction Practice, Deployment.

UNIT III *Text Book - 1,2* **(12)**

REQUIREMENTS ENGINEERING : A Bridge To Design and Construction, Requirements Engineering Tasks, Initiating the Requirements Engineering Process, Eliciting Requirements, Developing Use-cases, Building the Analysis Model, Negotiating Requirements, Validating Requirements.

DESIGN ENGINEERING : Design within the Context of Software Engineering, Design Process and Design Quality, Design Concepts, The Design Model.

UNIT IV *Text Book - 1,2* **(12)**

CREATING AN ARCHITECTURAL DESIGN : Software Architecture, Data Design, Architectural Styles and Patterns, Architectural Design. PERFORMING USER INTERFACE DESIGN: The Golden Rules, User Interface Analysis and Design, Interface Analysis, Interface Design Steps, Design Evaluation.

UNIT V *Text Book - 2* **(12)**

INITIATING A WEBAPP PROJECT : Formulating Web-Based systems, Planning for Web Engineering projects

ANALYSIS FOR WEBAPPS : Requirements Analysis for WebApps, Analysis Model for WebApps, The Content Model, The Interaction Model.

LEARNING RESOURCES:

TEXT BOOK(s):

Roger S.Pressman, 'Software Engineering- A Practitioner's Approach', 6th Edition, McGraw- Hill International, 2009.

REFERENCE BOOK(s):

1. Ian Sommerville, 'Software Engineering', 6th Edition, Pearson Education, 2014.
2. Carlo Ghezzi, Mehdi Jazayeri, Dino Mandrioli, 'Fundamentals of Software Engineering', 2nd Edition, PHI,2002.
3. RajibMall, 'Fundamentals of Software Engineering', 3rd Edition, PHI, 2013.