



## **Sub Committee for Curriculum Development**

**Course Name: Software Engineering & Practices**

**(UG/PG): UG**

**Number of Credits: 4**

**Level: 2**

### **Learning Objective(s):**

This course will help the student to understand the Software Industry oriented best practices for conceptualization of the system and best software practices adhere to evolve software. At the end of this course, the student will be able to write the organizational processes, requirement management for business needs, use of testing to reduce software defects.

**Pre-requisites:** NIL

**Pedagogy:** Case Study

### **Course Outline:**

Sr. No.	Topics	Hrs
1	Overview of systems Analysis and design:- Basic System Development Life Cycle, Different approaches and models for System Development:-Waterfall, Prototyping, Spiral (including WIN-WIN Spiral) ,Role & Skills of system Analyst.	[10]
2	Software Requirements Specification Techniques, Fact finding methods Requirements Specifications, Software requirement Specification (SRS),requirements definition, IEEE standard SRS format.	[12]
3	Information requirement Analysis – Decision Analysis Tools- Decision Tree, Decision Table, Structured English Functional Decomposition Diagram, Process modeling with Data Flow Diagrams, Entity Relationship Diagram: Identify Entity &Relationships Data dictionary	[15]
4	Designing of Input, Output and Program:- Design of input & Control:- Objectives of Input Design, Data Capture Guidelines, Design of Source Document, Input Validations. Design of output :- Objectives of Output, Design Types Of Output User Interface design	[12]
5	Maintenance Types of Maintenance and maintenance cost, Introduction to legacy systems	[05]

	Reverse Engineering, Role of documentation in maintenance and types of documentation	
6	Introduction to Software testing, Types of Testing	[06]
	Total	[60]

**Book Recommended:**

1. Software Engineering by Pressman, TMH,7th Ed.
2. System Analysis and Design by Jalote,Narosa Pub, 3rd Ed
3. Software Engineering by Sommerville,Pearson,8th Ed
4. System Analysis & Design methods by Whiten, Bentley, TMH,7th Ed.
5. System Analysis & Design by Elias Awad, Galgotia Pub,
6. Analysis & Design of Information System James Senn, TMH, 2nd Ed.

**Suggested Evaluation Methods:**

- Assignments
- Presentations
- Design Examples
- Examination
- Project Work

**Parallel/Similar courses the existing curriculum:**

S.No	Name of the course	Institute where it was offered
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Name of Member	Prof Harshad Gune	Dr Anagha Vaidya	Prof Sachin Naik
Designation	Dy Director	Assistant Prof.	Assistant Prof.
Org. / Inst.	SICSR	SICSR	SICSR
Signature			

Name of the Expert:

Signature:

Date: