SOFTWARE ENGINEERING

Semester	Subject Code	Category	Lecture Hrs		Theory Hrs		Practical		Credits
			Per week	Per Sem	Per week	Per Sem	Per week	Per Sem	
VI		Core Theory-12	6	90	6	90	0	0	4

COURSE OBJECTIVES

- This course helps to develop the software and what are the various steps involved to develop and deploy the software under engineering concept.

COURSE OUTCOME

On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Acquire strong fundamental knowledge in science, mathematics, fundamentals of computer science, software engineering and multidisciplinary engineering to begin in practice as a software engineer.	**K1**
CO2	Building the analysis model and acquiring the modeling concepts.	**K3 & k4**
CO3	Design applicable solutions in one or more application domains using software engineering approaches that integrate ethical,social, legal and economic concerns.	**K2,K3 & K4**
CO4	Applying testing methods and acquiring the testing strategies	**K3 & K4**

CO5	Apply new software models, techniques and technologies to bring out innovative and novelistic solutions for the growth of the society in all aspects and evolving into their continuous professional development.	**K3 & K4**

Knowledge level: K1-Remember; K2 –Understand; K3-Apply; K4-Analyze.

MAPPING WITH PROGRAM OUTCOMES

COS	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CO1	M	S	S	S	S	S
CO2	S	S	M	M	S	S
CO3	S	S	M	M	S	S
CO4	M	S	S	S	S	S
CO5	M	S	S	M	S	S

S- Strong; ***M- Medium;*** ***L- Low***

SYLLABUS

UNIT-I: **18 HRS**

Introduction: Evolving Role of Software – Changing Nature of Software – Software Myths; A Generic View of Process: Layered Technology – Process Models: Waterfall Model – Evolutionary Process Models.

UNIT-II: **17 HRS**

Requirements Engineering: Tasks – Initiating the Requirements Engineering Process – Eliciting Requirements – Building the Analysis Model – Requirements Analysis – Data Modelling Concepts.

UNIT-III: **17 HRS**

Data Engineering: Design Process and Design Quality – Design Concepts

– The Design Model Creating an Architectural Design: Software Architecture – Data Design – Architectural Design – Mapping Data Flow into Software Architecture; Performing User Interface Design: Golden Rules.

UNIT-IV: **19 HRS**

Testing Strategies: Strategic Approach to Software Testing- Test Strategies for Conventional and Object Oriented Software – Validation Testing – System Testing –Art of Debugging. Testing Tactics: Fundamentals

- White Box- Basis Path - Control Structure - Black Box Testing Methods

UNIT-V: **19 HRS**

Project Management: Management Spectrum - People - Product — Process Project. Estimation: Project Planning Process - Resources - Software Project Estimation - Project Scheduling - Quality Concepts — Software Quality Assurance - Formal Technical Reviews.

Distribution of Marks: Theory 85% and Problems 15%

TEXT BOOKS

S. No	Authors	Title	Publishers	Year of Publication
1	RogerS Pressman	Software Engineeri ng	A Practitioner's Approach", Sixth Edition, McGraw Hill International Edition, New York	2005

REFERENCES

S.No	Authors	Title	Publishers	Year of Publication
1	Rajib Mall	"Fundamentals of Software Engineering"	kindle	2014
2	Roger S Pressman	Software Engineerin g: practitione r's approach"	pearson	2015
3	Ian Sommerviley	Software Engineering"	pearson	2010

4	byLaPlante LaPlante Hong Zhu	"Encyclopedia Software Engineering" Of Software Design Methodology: From Principles to Architectural Styles"	pearson	2005
5	Carlo Ghezzi	Fundamentals of Software Engineering, 2/E 2nd Edition"	Prentice Hall	2002
6	by Grigore Rosu and Jose Meseguer	Algebraic Methodology Software Technology"	Prentice Hall	2008
7	Du Zhang and Jeffrey J P Tsai	Machine Learning Applications In Software Engineering (Serieson Software Engineering and Knowledge Engineering)"	World scientific publishing	2005

WEB SOURCES:

1. http:/fullstackengine.net/software-engineering/
2. http:/freetechbooks.com/software-engineering/

TEACHING METHODOLOGY

- Class room teaching
- Assignments
- Discussions

- Home test
- PPT Presentations

SYLLABUS DESIGNER

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