

Course code: Course Title	Course Structure			Pre-Requisite
SE413: Agile Software Process	L	T	P	Software Engineering
	3	1	0	

Course Objective: To understand the basic concepts of agile software process, to gain knowledge in the area of various Agile Methodologies, to develop Agile Software Process and to know the principles of agile testing.

S. NO	Course Outcomes (CO)
CO1	Understand iterative and evolutionary software development approaches to manage risks and ensure efficient incremental delivery.
CO2	Analyze and understand agile methodologies, iterative development principles, and software quality models.
CO3	Understand agile methodology, its lifecycle, roles, practices, and adoption strategies.
CO4	Analyze and apply agile methodologies, including Scrum, Extreme Programming, and Unified Process.
CO5	Apply and evaluate agile project management and testing principles.

S.No.	Contents	Contact Hours
UNIT 1	INTRODUCTION Software is new product development – Iterative development – Risk-Driven and Client-Driven iterative planning – Time boxed iterative development – During the iteration, No changes from external stakeholders – Evolutionary and adaptive development - Evolutionary requirements analysis – Early “Top Ten” high-level requirements and skilful analysis – Evolutionary and adaptive planning – Incremental delivery – Evolutionary delivery – The most common mistake – Specific iterative and Evolutionary methods.	9
UNIT 2	AGILE AND ITS SIGNIFICANCE Agile development – Classification of methods – The agile manifesto and principles – Agile project management – Embrace communication and feedback – Simple practices and project tools – Empirical Vs defined and prescriptive process – Principle-based versus Rule-Based – Sustainable discipline: The human touch – Team as a complex adaptive system – Agile hype – Specific agile methods. The facts of change on software projects – Key motivations for iterative development – Meeting the requirements challenge iteratively – Problems with the waterfall. Research evidence – Early historical project evidence – Standards-Body evidence – Expert and thought leader evidence – A Business case for iterative development – The historical accident of waterfall validity. MI, PCMM, Malcolm Balridge, 3 Sigma, 6 Sigma, Software Quality Models.	9
UNIT 3	AGILE METHODOLOGY: Method overview – Lifecycle – Work products, Roles and Practices values – Common mistakes and misunderstandings – Sample projects – Process mixtures – Adoption strategies – Fact versus fantasy – Strengths versus “Other” history.	9
UNIT 4	CASE STUDY Agile – Motivation – Evidence – Scrum – Extreme Programming – Unified Process – Evo – Practice Tips.	7

UNIT 5	AGILE PRACTICING AND TESTING Project management – Environment – Requirements – Test – The agile alliances – The manifesto – Supporting the values – Agile testing – Nine principles and six concrete practices for testing on agile teams.	8
	TOTAL	42

REFERENCES		
S.No.	Name of Books/Authors/Publishers	Year of Publication / Reprint
1.	Craig Larman, “Agile and Iterative Development – A Manager’s Guide”, Pearson Education, 1 st Edition.	2004
2.	Elisabeth Hendrickson, “Agile Testing”, Quality Tree Software Inc.	2008
3.	Alistair Cockburn, “Agile Software Development Series”, Addison Wesley.	2001