GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATIONS

Programme	Master of Computer Applications	**Branch/Spec.**	Computer Application
Semester	II	**Version**	1.0.0.0
Effective from Academic Year	2024-25	**Effective for the batch Admitted in**	June 2024
Subject Code	P12A5AGL	**Subject Name**	Agile Methodology

Teaching scheme						**Examination scheme (Marks)**			
(Per week)	**Lecture (DT)**		**Practical (Lab.)**		**Total**		**CE**	**SEE**	**Total**
	L	TU	P	TW					
Credit	2	0	0	0	2	Theory	40	60	100
Hours	2	0	0	0	2	Practical	00	00	00

Objective:

- Realize the importance of interacting with business stakeholders in determining the requirements for a software system.
- Show how agile approaches can be scaled up to the enterprise level.

Pre-requisites:

- The student should have a good working knowledge of Software Engineering and software development models

Course Outcomes :

- **1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High); "-" = No Correlation**

Name of CO	Description
CO1	Describe agile principles, values, and methodologies, and distinguish Agile models from traditional software development approaches.
CO2	Apply Scrum practices, estimation techniques, and Agile metrics using tools such as JIRA for effective project tracking and management.
CO3	Analyze agile knowledge management models and evaluate knowledge sharing mechanisms in Agile software engineering.
CO4	Apply agile requirement engineering techniques to manage and prioritize evolving requirements in dynamic development environments.

Mapping of CO and PO								
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	2	2	1	–	–	–	1	1
CO2	2	2	2	3	2	3	–	1
CO3	1	3	2	1	2	–	–	2
CO4	2	3	3	2	2	2	–	1

Content:		
Unit	**SECTION-I**	**Hrs**
1	**Agile Methodology:** Theories for Agile Management, Agile Software Development, Traditional Model vs. Agile Model, Classification of Agile Methods, Agile Manifesto and Principles, Agile Project Management, Agile Team Interactions, Ethics in Agile Teams, Agility in Design, Testing, Agile Documentations, Agile Drivers, Capabilities and Values	7
2	Agile Process: Lean Production, SCRUM, Scrum Ceremonies, Estimation techniques, Break Epic into tasks, Track tasks in Agile Scrum, Measuring metrics in Agile, Role of Developer and Tester in Agile using JIRA.	8
	SECTION-II	
3	**Agility and Knowledge management:** Agile Information Systems, Agile Decision Making - EarlS Schools of KM, Institutional Knowledge Evolution Cycle, Development, Acquisition, Refinement, Distribution, Deployment, Leveraging, KM in Software Engineering, Managing Software Knowledge, Challenges of Migrating to Agile Methodologies, Agile Knowledge Sharing, Role of Story-Cards, Story-Card Maturity Model (SMM).	7
4	**Requirement Management:** Impact of Agile Processes in RE, Current Agile Practices, Variance, Overview of RE Using Agile, Managing Unstable Requirements, Requirements Elicitation, Agile Requirements Abstraction Model, Requirements Management in Agile Environment, Agile Requirements Prioritization, Agile Requirements Modeling and Generation, Concurrency in Agile Requirements Generation.	8

Practical Content:
List of programs specified by the subject teacher based on above mentioned topics.

Text Books:	
1	Agile Management for Software Engineering: Applying the Theory of Constraints for Business Results by David J. Anderson and Eli Schragenheim, Pearson Publisher 2003.
2	Agile Software Engineering, Series: Undergraduate Topics in Computer Science by Hazza and Dubinsky, Springer 2009.

Reference Books:	
1	Agile and Iterative Development: A Managers Guide by Craig Larman, Addison-Wesley 1st Edition 2003.
2	Agile Information Systems: Conceptualization, Construction, and Management by Kevin C. Desouza, Butterworth-Heinemann Penguin Books Ltd 2007.
3	https://www.agilealliance.org/agile101/
4	https://www.workfront.com/project-management/methodologies/agile
5	https://onlinecourses.swayam2.ac.in/cec20_cs07/preview
6	https://www.classcentral.com/course/agile-software-development-9513

MOOC/Certification Courses:	
1	https://www.udemy.com
2	https://www.agilebacertification.com
3	https://www.coursera.org

Question Paper Scheme:
University Examination Duration: 3 Hours Note for Examiner: - (I) Questions 1 and 4 are compulsory with no options.

(II) Internal options should be given in questions 2, 3, 5 and 6.

SECTION – I

Q.1 –8 Marks

Q.2 –11 Marks

Q.3 –11 Marks

SECTION - II

Q.4 –8 Marks

Q.5 –11 Marks

Q.6 –11 Marks