

SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

QUESTION BANK

**M.E CSE
I SEMESTER**



CP3164 - AGILE METHODOLOGIES

Regulation – 2023

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Prepared by

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SUBJECT : CP3164 AGILE METHODOLOGIES

SEM / YEAR : I/I

UNIT I AGILE SOFTWARE DEVELOPMENT			
Basics and Fundamentals of Agile Process Methods, Values of Agile, Principles of Agile, stakeholders, Challenges. Lean Approach: Waste Management, Kaizen and Kanban, add process and products add value. Roles related to the lifecycle, differences between Agile and traditional plans, differences between Agile plans at different lifecycle phases. Testing plan links between testing, roles and key techniques, principles, understand as a means of assessing the initial status of a project/ How Agile helps to build quality.			
PART A			
Q. No	Questions	BTL	Competence
1	Explain Agile methodology.	BTL-2	Understanding
2	What is meant by Sprint?	BTL-1	Remembering
3	Explain Requirements step in Agile methodology.	BTL-2	Understanding
4	What is a plan in Agile methodology?	BTL-1	Remembering
5	Explain design step in Agile methodology.	BTL-2	Remembering
6	Explain development step in Agile methodology.	BTL-2	Understanding
7	What is done in testing step in Agile methodology?	BTL-1	Remembering
8	What is deployment in Agile methodology?	BTL-1	Remembering
9	Explain review step in Agile methodology.	BTL-2	Understanding
10	List the key ways with which Agile builds Quality.	BTL-1	Remembering
11	List the various steps in Agile methodology in order of execution.	BTL-1	Remembering
12	List the values of Agile.	BTL-2	Understanding
13	How team work is considered in values of agile?	BTL-1	Remembering
14	Explain the working software as values of agile.	BTL-2	Understanding
15	How customer collaboration is considered values of agile?	BTL-1	Remembering
16	Explain how responding to change contribute to values of agile?	BTL-2	Understanding
17	List any four principles of agile.	BTL-1	Remembering
18	Explain about Software delivery principle of Agile.	BTL-2	Understanding
19	Explain about self-organizing teams of Agile.	BTL-2	Understanding
20	List the principles of Agile stakeholders.	BTL-1	Remembering
21	Explain Lean approach to waste management.	BTL-2	Understanding
22	Explain Kaizen.	BTL-2	Understanding
23	What is Kanban?	BTL-1	Remembering
24	List roles related to the Agile Life Cycle.	BTL-1	Remembering

PART B				
Q. No	Questions	Marks	BTL	Competence
1	Explain Agile methodology with neat diagram.	16	BTL5	Evaluating
2	Explain principles of Agile.	16	BTL-4	Analyzing
3	Summarize the following (i) Values of Agile (ii) Benefits of Agile	(8) (8)	BTL5	Evaluating
4	Summarize the following. (i) Benefits of Agile Methodology. (ii) Disadvantage of Agile Methodology.	(8) (8)	BTL6	Create
5	Explain the roles and responsibilities in Agile Development	(16)	BTL-4	Analyzing
6	Explain the implementation steps of Agile Methodology.	(16)	BTL-6	Create
7	Explain the Agile Stakeholder and their principles	(16)	BTL5	Evaluating
8	Explain the following. (i) Challenges faced by Agile Stakeholders. (ii) Leans approach to waster management.	(8) (8)	BTL-4	Analyzing
9	(i) Express how to implement Lean waste management. (ii) Explain about Kaizen.	(8) (8)	BTL-3	Apply
10	(i) Explain about Kanban. (ii) Explain about Kaizen.	(8) (8)	BTL-4	Analyzing
11	Explain Principles and core concepts of Kanban.	(16)	BTL-4	Analyzing
12	Explain Principles and core concepts of Kaizen.	(16)	BTL-4	Analyzing
13	Explain the roles related to the lifecycle of Agile methodology.	(16)	BTL5	Evaluating
14	Differentiate between agile and traditional plans.	(16)	BTL-4	Analyzing
15	Differentiate between agile plans at different lifecycle phases.	(16)	BTL-4	Analyzing
16	Explain about testing in Agile methodology.	(16)	BTL5	Evaluating
17	Explain about assessing the initial status of an Agile Project	(16)	BTL5	Evaluating

UNIT II AGILE AND SCRUM PRINCIPLES			
Agile Manifesto, Twelve Practices of XP, Scrum Practices, Applying Scrum. Need of scrum, working of scrum, advanced Scrum Applications, Scrum and the Organization, scrum values.			
PART A			
Q. No	Questions	BTL	Competence
1	What is the purpose of manifesto for Agile Software Development?	BTL-1	Remembering
2	What is the Agile manifesto?	BTL-1	Remembering

3	List the core values of the Agile manifesto.	BTL-1	Remembering
4	Explain the individuals and interaction value of agile manifesto.	BTL-2	Remembering
5	Explain the Working Software over Comprehensive Documentation value of agile manifesto.	BTL-2	Remembering
6	Explain Customer Collaboration over Contract Negotiation value of agile manifesto.	BTL-2	Understanding
7	Explain Responding to Change over Following a Plan value of agile manifesto.	BTL-2	Understanding
8	Explain the Collaboration between Business Stakeholders and Developers in agile	BTL-1	Remembering
9	What is meant by metaphor in extreme programming?	BTL-1	Remembering
10	Explain refactoring in extreme programming.	BTL-1	Remembering
11	Explain pair programming in extreme programming.	BTL-2	Understanding
12	Explain collective ownership in extreme programming.	BTL-2	Understanding
13	Explain 40-Hour Week in extreme programming.	BTL-1	Remembering
14	Explain coding standards in extreme programming.	BTL-2	Understanding
15	List the scrum values.	BTL-1	Remembering
16	Explain the advanced scrum features and tools.	BTL-2	Understanding
17	List the scrum events.	BTL-1	Remembering
18	How advanced tools enhance scrum?	BTL-2	Understanding
19	List the scrum artifacts.	BTL-1	Remembering
20	Explain how teams of organization are empowered and self-organized by scrum.	BTL-2	Understanding
21	List the scrum roles.	BTL-1	Remembering
22	Point out the benefits for the organization due to scrum.	BTL-1	Remembering
23	Point out the Scrum values.	BTL-1	Remembering
24	List the need of scrum.	BTL-1	Remembering

PART B				
Q. No	Questions	Marks	BTL	Competence
1	Explain Agil Manifesto in detail.	16	BTL5	Evaluating
2	Explain twelve practices of extreme programming with a neat diagram.	16	BTL-4	Analyzing
3	Explain the following extreme programming practices. (i) The Planning Game (ii) Short Releases (iii) Metaphor (iv) Simple Design	(4) (4) (4) (4)	BTL6	Create
4	Explain the following extreme programming practices. (i) Testing (ii) Refactoring (iii) Pair Programming (iv) Collective Ownership	(4) (4) (4) (4)	BTL5	Evaluating
5	Explain the following extreme programming practices. (i) Continuous Integration	(4)	BTL-4	Analyzing

	(ii) 40 hour Week (iii) On-site Customer (iv) Coding Standards	(4) (4) (4)		
6	Explain core components of scrum practices.	(16)	BTL-4	Analyzing
7	Explain core components of applying scrum.	(16)	BTL5	Evaluating
8	Explain the need of scrum.	(16)	BTL-4	Analyzing
9	Explain the working of scrum with a neat diagram.	(16)	BTL-4	Analyzing
10	Explain the advanced scrum applications.	(16)	BTL-3	Apply
11	Explain how scrum works in an organization.	(16)	BTL-4	Analyzing
12	Explain scrum values.	(16)	BTL-4	Analyzing
13	Explain advantages of twelve practices of extreme programming.	(16)	BTL5	Evaluating
14	Explain the following. (i) Scrum values. (ii) Scrum Events.	(8) (8)	BTL-4	Analyzing
15	Explain the following. (i) Scrum Artifacts. (ii) Scrum Roles.	(8) (8)	BTL-4	Analyzing
16	Explain the following. (i) Scrum Frame work. (ii) Assemble the scrum team. (iii) Implement the scrum events. (iv) Utilize the scrum artifacts and continuous improvements	(4) (4) (4) (4)	BTL6	Create
17	Explain the following about working of scrum. (i) Roles in Scrum. (ii) Events. (iii) Artifacts.	(4) (8) (4)	BTL5	Evaluating

UNIT III AGILE PRODUCT MANAGEMENT			
Communication, Planning, Estimation Managing the Agile approach Monitoring progress, Targeting and motivating the team, Managing business involvement, Escalating issue. Quality, Risk, Metrics and Measurements, Managing the Agile approach Monitoring progress, Targeting and motivating the team, Managing business involvement and Escalating issue.			
PART A			
Q. No	Questions	BTL	Competence
1	Why Communication is important in agile product management?	BTL-1	Remembering
2	List the key aspects of communication in agile product management.	BTL-1	Remembering
3	Explain continuous and clear communication in agile product management.	BTL-2	Remembering

4	List collaborative tools for communication in agile product management.	BTL-1	Remembering
5	Explain planning in agile product management.	BTL-2	Remembering
6	List key aspects of agile planning.	BTL-1	Remembering
7	Explain the term “Agile Onion” in agile product management?.	BTL-2	Understanding
8	Explain product roadmapping in agile product management.	BTL-2	Understanding
9	Explain release planning in agile product management.	BTL-2	Understanding
10	Explain sprint planning in agile product management.	BTL-2	Understanding
11	Explain daily planning in agile product management.	BTL-2	Understanding
12	Explain steps in a sprint planning meeting.	BTL-2	Understanding
13	Explain agile estimation in agile product management.	BTL-2	Understanding
14	List the techniques for estimation in in agile product management?	BTL-1	Remembering
15	Explain Just-in-Time detail in agile product management.	BTL-2	Understanding
16	Explain any two benefits of agile estimation.	BTL-2	Understanding
17	Explain managing the agile approach in agile product management.	BTL-2	Understanding
18	Explain monitoring progress in agile product management.	BTL-2	Understanding
19	Explain sprint burndown chart.	BTL-2	Understanding
20	Explain velocity in monitoring in agile product management.	BTL-2	Understanding
21	What is meant by Lead time?	BTL-1	Remembering
22	What is meant by Cycle time?	BTL-1	Remembering
23	Explain shift-left testing.	BTL-2	Understanding
24	What is Test-Driven Development?	BTL-1	Remembering

PART B				
Q. No	Questions	Marks	BTL	Competence
1	Explain communication in agile product management.	16	BTL5	Evaluating
2	Explain planning in agile product management.	16	BTL6	Create
3	Explain the following. (i) Key Aspects of Agile Planning. (ii) Multiple levels of Agile Planning.	(8) (8)	BTL6	Create
4	Explain the following. (i) Common Techniques of Agile Estimation (ii) Benefits of Agile Estimation	(8) (8)	BTL5	Evaluating
5	Explain the following. (i) Core Principles of managing Agile approach. (ii) Key activities of managing Agile approach.	(8) (8)	BTL-4	Analyzing
6	Explain the following. (i) Key metrics for monitoring prograss. (ii) Qualitative and Ceremonial.	(16)	BTL-4	Analyzing
7	Explain targeting and motivating the team in agile product management.	(16)	BTL5	Evaluating
8	Explain managing business involvement in agile product management.	(16)	BTL-4	Analyzing
9	Explain the following with respect to Business involvement in Agile product management.		BTL-3	Apply

	(i) Setting a Clear Strategy and Vision. (ii) Foster Continuous Collaboration and Communication. (iii) Prioritize based on Business value. (iv) Align with Business Goals and Measure Success.	(4) (4) (4) (4)		
10	Explain the following. (i) Common causes of Quality issues in agile product management. (ii) Strategy to improve quality in agile product management.	(8) (8)	BTL-4	Analyzing
11	Explain the following. (i) Quality risks in agile product management. (ii) Strategies for managing quality risks in agile product management.	(8) (8)	BTL-4	Analyzing
12	Explain the following. (i) Risks associated with Metrics and Measurement. (ii) Ways to mitigate risk associated with Metrics and Measurement.	(8) (8)	BTL5	Evaluating
13	Explain the managing in agile product management.	(16)	BTL-4	Analyzing
14	Explain the estimation in agile product management.	(16)	BTL5	Evaluating
15	Explain the monitoring in agile product management.	(16)	BTL-4	Analyzing
16	Explain the Quality in agile product management.	(16)	BTL-4	Analyzing
17	Explain metrics and measurement in agile product management.	(16)	BTL5	Evaluating

UNIT IV AGILE REQUIREMENTS AND AGILE TESTING

User Stories, Backlog Management. Agile Architecture: Feature Driven Development. Agile Risk Management: Risk and Quality Assurance, Agile Tools. Agile Testing Techniques, Test-Driven Development, User Acceptance Test.

PART A

Q. No	Questions	BTL	Competence
1	Explain user acceptance test.	BTL-2	Understanding
2	What is user story?	BTL-1	Remembering
3	What is T-Shirt size usage in estimations?	BTL-1	Remembering
4	What is product backlog?	BTL-1	Remembering
5	What is Epic in product backlog?	BTL-1	Remembering
6	What is Bug in product backlog?	BTL-1	Remembering
7	What is Spike in product backlog?	BTL-1	Remembering
8	Who are responsible persons for product backlog?	BTL-1	Remembering
9	Who are responsible persons for sprint backlog?	BTL-1	Remembering
10	List the best practices for effective backlog management.	BTL-1	Remembering
11	Explain goal-oriented practice in backlog management.	BTL-2	Understanding
12	Explain “Don’t keep dinosaurs” practice in backlog management.	BTL-2	Understanding
13	What is Feature-Driven Development?	BTL-1	Remembering

14	What is the role of Chief Architect in Feature-Driven Development?	BTL-1	Remembering
15	What is the role of Chief Programmer in Feature-Driven Development?	BTL-1	Remembering
16	What is the role of Feature Owners in Feature-Driven Development?	BTL-1	Remembering
17	What is the role of Class Owners in Feature-Driven Development?	BTL-1	Remembering
18	What is the role of Domain Expert in Feature-Driven Development?	BTL-1	Remembering
19	Explain Domain Object Modelling in Feature-Driven Development.	BTL-2	Understanding
20	What is the role of Individual Class Ownership in Feature-Driven Development?	BTL-1	Remembering
21	Explain risk census.	BTL-2	Understanding
22	Explain risk board.	BTL-2	Understanding
23	Explain Burn Down Chart.	BTL-2	Understanding
24	What is risk response in Agile Risk Management?	BTL-1	Remembering

PART B				
Q. No	Questions	Marks	BTL	Competence
1	Explain User Stories.	16	BTL5	Evaluating
2	Explain factors to be considered when writing user stories.	(16)	BTL-4	Analyzing
3	Explain Backlog Management.	16	BTL5	Evaluating
4	Explain the following. (i) Differences between Product Backlog and Sprint Backlog. (ii) Best practices for effective backlog management.	(8) (8)	BTL5	Evaluating
5	Explain the following. (i) Key principles of Feature Driven Development. (ii) Difference between Feature Driven Development and Scrum	(8) (8)	BTL5	Evaluating
6	Explain the following. (i) Feature Driven Development Team roles. (ii) Challenges and solutions in FDD team formation.	(8) (8)	BTL-4	Analyzing
7	Explain Feature Driven Development architecture with neat diagram.	(16)	BTL6	Create
8	Explain the five stages of Feature Driven Development with example.	(16)	BTL5	Evaluating
9	Explain risk response in Agile risk management with example.	(16)	BTL-4	Analyzing
10	Explain the key benefits associated with adopting an Agile risk management.	(16)	BTL5	Evaluating
11	Explain the following. (i) Advantages of FDD. (ii) Disadvantages of FDD.	(8) (8)	BTL-4	Analyzing
12	Explaining the following. (i) Dealing with change in FDD. (ii) Best practices in FDD.	(8) (8)	BTL-4	Analyzing

13	Explain Agile Risk Management process.	(16)	BTL5	Evaluating
14	Explain the following. (i) Risk Identification in Agile Risk Management. (ii) Risk Assessment in Agile Risk Management.	(16)	BTL-4	Analyzing
15	Explain tools used in Agile methodologies.	(16)	BTL-3	Apply
16	Explain Agile project management tools.	(16)	BTL-4	Analyzing
17	Explain the factors to be considered in choosing Agile project management tools.	(16)	BTL-4	Analyzing

UNIT AGILE REVIEW AND SCALING AGILE FOR LARGE PROJECTS			
Agile Metrics and Measurements, The Agile approach to estimating and project variables, Agile Measurement, Agile Control: the 7 control parameters. Agile approach to Risk, The Agile approach to Configuration Management, The Atern Principles, Atern Philosophy, The rationale for using Atern, Refactoring, Continuous integration, Automated Build Tools. Scrum of Scrums, Team collaborations, Scrum, Estimate a Scrum Project, Track Scrum Projects, Communication in Scrum Projects, Best Practices to Manage Scrum.			
PART A			
Q. No	Questions	BTL	Competence
1	What is Agile metrics?	BTL-1	Remembering
2	What is Agile KPI's?	BTL-1	Remembering
3	What are the benefits of Tracking agile Metrics and KPI's?	BTL-1	Remembering
4	List major types of Agile metrics.	BTL-1	Remembering
5	What does Lean metrics measure?	BTL-1	Remembering
6	List the Lean metrics.	BTL-1	Remembering
7	What does Scrum metrics measure?	BTL-1	Remembering
8	List the scrum metrics.	BTL-1	Remembering
9	What does Kanban metrics measure?	BTL-1	Remembering
10	List the kanban metrics.	BTL-1	Remembering
11	What does Delivery metrics measure?	BTL-1	Remembering
12	List the delivery metrics.	BTL-1	Remembering
13	What does Outcome metrics measure?	BTL-1	Remembering
14	List the Outcome metrics.	BTL-1	Remembering
15	Explain about velocity metrics.	BTL-2	Understanding
16	Explain about sprint Burndown.	BTL-2	Understanding
17	Explain about Release Burndown.	BTL-2	Understanding
18	Explain about throughput agile metric.	BTL-2	Understanding
19	Explain work in progress metric.	BTL-2	Understanding
20	Explain escaped defects metric.	BTL-2	Understanding
21	Explain defect removal efficiency metric.	BTL-2	Understanding
22	What is CSAT?	BTL-1	Remembering
23	Explain Customer Satisfaction Score.	BTL-2	Understanding
24	Explain Cumulative Flow Diagram(CFD).	BTL-2	Understanding

PART B				
Q. No	Questions	Marks	BTL	Competence
1	Explain in detail about Lean metrics with examples.	(16)	BTL5	Evaluating
2	Explain the following in detail. (i) Velocity. (ii) Sprint Burndown. (iii) Release Burndown. (iv) Lead time.	(4) (4) (4) (4)	BTL5	Evaluating
3	Explain in detail about Scrum metrics with examples.	(16)	BTL6	Create
4	Explain how to set Agile KPI's	(16)	BTL-4	Analyzing
5	Explain the following in detail. (i) Cycle Time. (ii) Throughput. (iii) Work in Progress. (iv) Escaped Defects.	(4) (4) (4) (4)	BTL5	Evaluating
6	Explain in detail about Kanban metrics with examples.	(16)	BTL5	Evaluating
7	Explain in detail about Delivery metrics with examples.	(16)	BTL5	Evaluating
8	Explain the following in detail. (i) Defect Removal Efficiency. (ii) Customer Satisfaction Score. (iii) Employee Satisfaction. (iv) Cumulative Flow Diagram.	(4) (4) (4) (4)	BTL5	Evaluating
9	Explain key principles of Agile Estimation.	(16)	BTL-4	Analyzing
10	Explain in detail about Outcome metrics with examples.	(16)	BTL5	Evaluating
11	Explain Agile estimation techniques.	(16)	BTL5	Evaluating
12	Explain the need of Agile metrics.	(16)	BTL-4	Analyzing
13	Explain principles of Agile Control parameters.	(16)	BTL-3	Apply
14	Explain key parameters for control in Agile methodologies.	(16)	BTL-4	Analyzing
15	Explain the following. (i) Key principles of Agile Risk Management. (ii) Ways by which Agile teams manage risk.	(8) (8)	BTL-4	Analyzing
16	Explain Agile approach to configuration management.	(16)	BTL-4	Analyzing
17	Explain Agile principles and philosophy.	(16)	BTL-4	Analyzing