

**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE
(AUTONOMOUS)**

I – M. Tech I - Semester Regular Examinations (BR25), Feb - 2026

Agile Methodologies (CS&E)

Time: 3 hours

Max. Marks: 60

*Answer any Five Questions One Question from One UNIT
ALL the Questions Carry Equal Marks*

| UNIT-I | | Marks | CO | BL |
|-----------------|--|--------------|-----------|-----------|
| 1.a) | Explain the Agile Manifesto in detail. Why is each Agile value important in modern software development? | 6M | CO1 | BL2 |
| b) | Analyze how a fractured perspective leads to project failure and how Agile principles help overcome these issues. | 6M | CO1 | BL4 |
| OR | | | | |
| 2.a) | Describe the purpose behind each practice stated in the Agile Manifesto and explain how they influence project outcomes. | 6M | CO1 | BL3 |
| b) | Explain how to adopt a new Agile methodology in an organisation. What challenges might teams face and how can they be mitigated? | 6M | CO1 | BL2 |
| UNIT-II | | Marks | CO | BL |
| 3.a) | Explain the 12 Agile principles with examples from real software development projects. Why is the customer considered “always right” in Agile? | 6M | CO2 | BL2 |
| b) | Analyse the role of communication and collaboration in Agile projects. How do these practices improve team performance? | 6M | CO2 | BL4 |
| OR | | | | |
| 4.a) | Evaluate the concept of continuous improvement in Agile. How does it contribute to team growth and project success? | 6M | CO2 | BL5 |
| b) | Describe the Agile approach to project execution. How do Agile practices ensure that teams move projects forward while responding to change? | 6M | CO2 | BL3 |
| UNIT-III | | Marks | CO | BL |
| 5.a) | Explain the Scrum framework in detail, including roles, rituals, and artifacts. How do these components support Agile values? | 6M | CO3 | BL4 |
| b) | Discuss the concept of self-organizing teams in Scrum. What effects do they have on decision making and team accountability? | 6M | CO3 | BL2 |
| OR | | | | |
| 6.a) | Describe how to plan and conduct an effective Scrum sprint. Include key metrics such as velocity, burndown charts, and user stories. | 6M | CO3 | BL3 |
| b) | Evaluate the importance of Scrum values and visibility–inspection–adaptation cycle in achieving project success | 6M | CO3 | BL5 |

UNIT-IV

| | Marks | CO | BL |
|--|-------|-----|-----|
| 7.a) Explain the core practices of XP, including technical, planning, integration, and team practices, with examples. | 6M | CO4 | BL2 |
| b) Analyse how XP principles like simplicity, refactoring, and continuous integration improve code quality and project outcomes. | 6M | CO4 | BL4 |

OR

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|--|----|-----|-----|
| 8.a) Describe how XP supports stronger collaboration between developers and customers. What challenges might arise and how can they be addressed? | 6M | CO4 | BL3 |
| b) Examine the importance of feedback loops and incremental design in XP. How do they contribute to sustainable project progress and reduced technical debt? | 6M | CO4 | BL4 |

UNIT-V

| | Marks | CO | BL |
|---|-------|-----|-----|
| 9.a) Explain how value stream mapping and limiting work in progress (WIP) help teams identify bottlenecks and improve flow. | 6M | CO5 | BL2 |
| b) Analyse the Kanban methodology. How does visualizing workflows and managing flow improve team performance? | 6M | CO5 | BL4 |

OR

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|--|----|-----|-----|
| 10.a) Discuss the principles of Agile coaching. What strategies can coaches use to help teams overcome resistance to change? | 6M | CO5 | BL2 |
| b) Evaluate how Lean and Kanban principles complement Agile and Scrum frameworks in delivering high quality products with flexibility and continuous improvement | 6M | CO5 | BL5 |
