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**Question Paper Code:UE107**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Professional Elective

21ADV107 - ESSENTIALS OF SCRUM

Artificial Intelligence & Data Science

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Differentiate Between Traditional Models vs Agile Model? CO1-U
2. You are designing a new software module, but customer feedback suggests frequent changes. How can you apply agility in design to accommodate this? CO2-App
3. What is Lean Production. CO1-U
4. After completing a sprint, the team realizes they could improve their workflow. How can they apply Scrum to implement improvements? CO2-App
5. What does "knowledge sharing" mean in the context of Agile teams? CO1-U
6. Your team struggles with nonfunctional requirements being ignored in story cards. How would you apply Story Card Maturity Model (SMM) recommendations to ensure they're considered in each sprint? CO2-App
7. What is 'create heroes and magical thinking' in Lean? CO1-U
8. During a live service workflow in an office, staff members often wait for managerial approvals before progressing with client requests. To streamline this, they immediately begin pre-filling approval forms and route them via an automated internal system. How does starting approval forms early and routing them via automation help eliminate lean waste? Identify the waste type. CO2-App
9. What is the purpose of the Agile Requirements Abstraction Model? CO1-U
10. How can workshops be effectively used to elicit requirements in Agile projects? CO2-App

PART – B (5 x 16= 80 Marks)

11. (a) Explain the key principles of Agile Management. How do these principles promote flexibility, collaboration, and continuous improvement in organizations? CO1-U (16)
- Or
- (b) Describe the four core values and twelve principles of Agile Software Development as outlined in the Agile Manifesto. How do these values and principles support iterative and customer-focused development? CO1-U (16)
12. (a) A mid-sized company wants to implement SCRUM for its new mobile app project. Apply SCRUM roles, events, and artifacts to plan the project lifecycle. Demonstrate how sprint planning, daily stand-ups, and retrospectives help the team respond to changing requirements and deliver value incrementally. CO2- App (16)
- Or
- (b) A startup with a small, co-located team struggles with communication and frequent delivery delays. Apply the Crystal methodology principles to improve their project execution. Describe how Crystal's emphasis on frequent deliveries, reflective improvement, and osmotic communication can be leveraged effectively. CO2- App (16)
13. (a) Explain the concept of Agile Information Systems and its importance in modern software development. How does Agile IS promote flexibility, collaboration, and iterative delivery? CO1-U (16)
- Or
- (b) Describe the principles of Agile decision making and how it differs from traditional decision-making approaches. Why is quick feedback and decentralized decision-making critical in Agile environments? CO1-U (16)
14. (a) A product development team faces rapidly changing customer requirements. Apply commitment and options thinking principles to manage decision-making. Explain how set-based development could be used to explore multiple design options before committing to the final solution, minimizing risks and improving flexibility. CO2- App (16)

Or

- (b) In a software project, team members tend to rely heavily on “hero” culture, where only a few experts solve most problems. Apply Lean Thinking concepts to address this issue. Demonstrate how creating a culture of collective ownership and continuous improvement can eliminate magical thinking and improve team performance. CO2- App (16)
15. (a) Explain the concept of Agile Requirements Engineering. How does it differ from traditional requirements engineering, and what are its main benefits in software development projects? CO1- U (16)
- Or
- (b) Describe the process of requirements elicitation in an Agile environment. What techniques are commonly used, and why is continuous stakeholder engagement important throughout the elicitation? CO1- U (16)

