NEPAL COLLEGE OF INFORMATION TECHNOLOGY
Assessment Spring 2025

Level: Bachelor   Year: 2025
Program: BE_SE_M/D   Full Marks: 100
Course: **Agile Software Development**   Pass Marks: 45
                                                                      Time: 3 hrs.

Candidates are required to answer in their own words as far as practicable. The figures in the margin indicate full marks.
Attempt all the questions.

1a) What role does flexibility and customer collaboration play in Agile development? How does Agile address the rigidity of earlier models like waterfall? [7]

1b) Describe Kanban and its core principles. Why is limit work in progress (WIP) crucial in the Kanban framework? [8]

2a) Identify types of waste in software projects and how to eliminate them. What is Kaizen, and how is applied in Lean Software Development? [8]

2b) Sprint after sprint, your team's velocity keeps decreasing. How would you analyze this trend using Agile metrics like burndown or burnup charts, and what steps would you take to address the issue? [7]

3a) How would you use user stories, planning poker, and release planning to estimate and plan effectively? Discuss how these tools help manage scope, prioritize features, and maintain flexibility throughout the project. [8]

3b) Explain how version control integrates with CI tools. What are the steps to set up a CI/CD pipeline in a project? [7]

4a) List and explain key features of Agile project management tools. How do these features support transparency, accountability, and continuous progress tracking? [8]

4b) When should teams prefer Pair Programming over Mob Programming? Describe how remote pair programming works. [7]

5a) What is the Scaled Agile Framework, and how does it support the management of large, complex Agile teams? In a scaled Agile setup, what coordination techniques are crucial for aligning several teams working together? [8]

5b) Explain the importance of Agile metrics in measuring team performance and promoting continuous improvement. Discuss key performance indicators of agile metrics. [7]

6a) Describe about Agile Transformation and discuss key steps in agile transformation. [8]

6b) In your role as a servant leader, how can you apply communication skills and conflict management techniques to rebuild trust, encourage accountability, and improve team productivity? Support your answer with real-world strategies and examples. [7]

7. Write short notes on: (Any two) [2*5]
       a) Real World Case Study on Failed Agile Project
       b) Refactoring and Code Reviews
       c) Leadership in Agile

NEPAL COLLEGE OF INFORMATION TECHNOLOGY
UNIT TEST 2025-SPRING

Program: BESE   Time: 2 Hours
Semester: VI   FM: 70
Subject: Agile Software Development   PM: 32

Candidates are requested to give their answer as far as practicable in their own words. The figure in the margin indicated full marks. Attempt all the questions.

1. Explain the concept of Agile Software Development and how its value contrast with traditional methodologies. How does Agile promote team ownership and accountability? [6+4]
2. Compare Sprint Review and Sprint Retrospective in terms of purpose and output. How does sprint planning help in aligning the team's focus and goals? Why is limiting WIP crucial in the Kanban framework? [5+3+2]
3. Explain the concept of pair programming and its benefits. Explain cycle time and lead time, how are they measured and monitored in a Kanban System? [5+5]
4. Explain the difference between Acceptance criteria and User Story. Describe how story points and the Fibonacci sequence help in estimation. List out INVEST Criteria for user story. [4+4+2]
5. Differentiate between synchronous and asynchronous communication with examples. When should Agile teams choose chat, call, or documentation? Define CI and CD. [4+4+2]

                 OR

   Explain how Burndown and Burnup charts are used in Agile project tracking with the appropriate figure of each. When should you use Burnup charts instead of Burndown charts? [7+3]
6. Compare and contrast BDD with TDD. List and explain common refactoring techniques. [6+4]
7. What is the Given-When-Then structure in BDD? How does BDD bridge the gap between technical and business teams? What mindset should reviewers have during code review? [4+3+3]