**Course Title:** SOFTWRE DEVELOPMENT LIFE CYCLE

**Assignment # 02**

**Agile Development in Software Engineering Instructions:**

1. This assignment consists of descriptive and analytical tasks. Your responses should be detailed, well-structured, and demonstrate a clear understanding of the concepts.
2. Support your answers with examples, diagrams (if applicable), and proper justifications.
3. Ensure your work is plagiarism-free and properly referenced if you use external sources.
4. Submit your assignment by [28-11-2024].

**Objective:**

To explore and understand the core principles of Agile Development, compare it with traditional software development methodologies, and examine popular Agile frameworks such as Scrum and Kanban.

**Question:01**

1. **Introduction to Agile Development**
   * Provide a brief introduction to Agile Development. What is Agile, and why has it become a widely adopted methodology in modern software development?
2. **Core Principles of Agile Development**
   * Explain the key principles that form the foundation of Agile Development, referring to the **Agile Manifesto**.
   * Discuss how these principles impact software development practices and team dynamics.
3. **Comparison with Traditional Software Development**
   * Compare Agile Development with at least one traditional software development methodology (e.g., the Waterfall model).
   * Highlight the differences in approach, flexibility, project management, and outcomes.
4. **Agile Frameworks and Their Role**
   * Describe the purpose and main features of two commonly used Agile frameworks: **Scrum** and **Kanban**. Provide examples of how each framework supports Agile principles in real-world software development projects.
     + **Scrum:** Discuss roles (e.g., Scrum Master, Product Owner, Development Team), key events (e.g., Sprints, Sprint Planning, Daily Standups, Sprint Retrospective), and artifacts (e.g., Product Backlog, Sprint Backlog).
     + **Kanban:** Explain the visual nature of the Kanban board, work-in-progress (WIP) limits, and how it promotes continuous improvement.
5. **Case Study / Real-World Example (Optional)** (Bonus 5 Marks)
   * Research and present a brief case study of a company or project that successfully implemented Agile practices using Scrum or Kanban. Discuss the impact of Agile practices on their project outcomes.