**Q1. Explain Extreme Programming Framework.**

**Answer:** Extreme Programming (XP) is a software development framework that emphasizes teamwork, communication, simplicity, and customer satisfaction. XP is one of the most popular agile methodologies that can be used for developing high-quality software in a fast-paced and changing environment. Here are some of the key features of Extreme Programming:

1. **Planning:** XP emphasizes planning as an ongoing activity, not just a one-time event. The team plans and prioritizes features in small iterations, with the customer involved in the process.
2. **Small Releases:** XP encourages small releases of the software, typically every few weeks. This allows the team to get feedback from the customer and make changes quickly.
3. **Pair Programming:** In XP, two developers work together on a single task, with one person coding and the other person reviewing the code. This practice helps catch errors early and leads to higher-quality code.
4. **Test-Driven Development:** In XP, the team writes tests before writing code. This ensures that the code meets the requirements and makes it easier to make changes in the future.
5. **Continuous Integration:** XP teams integrate their code frequently, often multiple times a day. This allows the team to catch integration errors early and ensures that the software is always working.
6. **Refactoring:** XP encourages refactoring, which is the process of improving the code without changing its behavior. Refactoring helps keep the code clean and maintainable.
7. **Collective Code Ownership:** XP teams believe that all team members should be able to modify any part of the codebase. This leads to a more collaborative team environment and helps ensure that the code is of high quality.
8. **Sustainable Pace:** XP teams work at a sustainable pace, which means that they don't work overtime or push themselves too hard. This leads to happier, more productive team members.

Overall, Extreme Programming is a customer-focused, team-oriented, and collaborative approach to software development. It emphasizes frequent communication, small iterations, and high-quality code. By following XP practices, teams can deliver software quickly and efficiently while maintaining a high level of quality.