**Q1: What is the Feasibility Study of the SDLC model & why is this important?**

The feasibility study in the Software Development Life Cycle (SDLC) model is an assessment of the potential success of a software project before we start to develop it. It evaluates technical feasibility, operational feasibility, and economic feasibility by examining the project's requirements, resources, and constraints. This study helps us to determine whether a project is viable and should continue to the next stage of development.

It's important to do feasibility study before advancing to the next steps to develop a software project because it helps to save time and resources by identifying potential problems early in the development process. It allows the project manager/team to determine in advance, whether to proceed with the project or not. By conducting a feasibility study, organizations can minimize the risk of investing in a project that is unlikely to be successful or that may not deliver the expected results.

**Q2: Write 5 advantages of Agile methodology.**

The advantages of agile methodology are the following:

1. **Flexibility**: Agile methodology allows for changes in project requirements and priorities to be incorporated throughout the project lifecycle.
2. **Faster Delivery**: Agile methodology emphasizes delivering small, working increments of software in a short timeframe.
3. **Improved Collaboration**: Agile methodology encourages close collaboration between developers, stakeholders, and end-users.
4. **Higher Quality**: Agile methodology includes regular inspections and adaptation, leading to a higher quality product.
5. **Better Visibility**: Agile methodology provides greater transparency into project progress and allows stakeholders to have a clear understanding of what has been delivered and what still needs to be done.

**Q3: Write short notes on SDLC model phase.**

Following is a brief summary about SDLC model phase:

**Planning**: The planning phase is where project objectives and requirements are established, project scope defined, and a project plan created.

**Analysis**: In the analysis phase, requirements are gathered and analyzed in more detail to ensure the project's feasibility and that the solution meets the customer's needs.

**Design**: The design phase is where the solution's architecture and components are developed and documented.

**Implementation**: During the implementation phase, the solution is developed and tested.

**Testing**: The testing phase verifies that the solution meets requirements and functions as intended.

**Deployment**: The deployment phase involves installing and integrating the solution into the production environment.

**Maintenance**: The maintenance phase includes ongoing support, bug fixing, and updates to the software solution.