What are the key differences between waterfall and agile software development methodologies, and when would you choose one over the other?

Explain the concept of Object-Oriented Programming (OOP) and its significance in software engineering.

How does version control benefit software development, and what are some commonly used version control systems?

What is the difference between unit testing, integration testing, and system testing? Why are each of these important in software development?

Describe the importance of requirements engineering in the software development lifecycle, and discuss some common techniques used for requirements elicitation.

What is the role of design patterns in software engineering? Provide examples of commonly used design patterns and explain their benefits.

Discuss the advantages and disadvantages of using open-source software in software development projects.

Explain the concept of software maintenance and why it is necessary. What are some common types of maintenance activities performed on software?

How does the concept of scalability apply to software architecture and design? What strategies can be employed to ensure that a system is scalable?

Discuss the significance of continuous integration and continuous deployment (CI/CD) in modern software development practices, and explain how they contribute to the overall quality and efficiency of the development process.