

# 1 Lecture - CS504

## Important Subjective

**Define software engineering.** **Answer:** Software engineering is the application of engineering principles and practices to systematically develop, design, test, and maintain software systems.

**What are the main activities involved in the software development life cycle (SDLC)?**

**Answer:** The main activities in the SDLC include requirements gathering and analysis, system design, coding, testing, deployment, and maintenance.

**Explain the difference between functional and non-functional requirements.** **Answer:**

Functional requirements define what the software system should do, while non-functional requirements define how the system should perform, such as reliability, usability, performance, and security.

**What is the importance of software testing in the software development process?** **Answer:**

Software testing helps identify defects, ensures that the software meets the specified requirements, and improves the overall quality and reliability of the software system.

**Discuss the advantages and disadvantages of using the agile software development methodology.** **Answer:**

Agile methodology promotes flexibility, customer collaboration, and iterative development. However, it may face challenges in terms of documentation and scope creep if not managed properly.

**Describe the concept of software maintenance and its different types.** **Answer:** Software maintenance involves modifying and updating software after its initial release. The different types of software maintenance include corrective, adaptive, perfective, and preventive maintenance.

**Explain the concept of software configuration management (SCM).** **Answer:** Software configuration management is the process of tracking and controlling changes to software artifacts throughout the software development life cycle, ensuring version control and maintaining the integrity of the software system.

**What is the role of requirements engineering?** **Answer:**

Software engineering is the application of engineering principles and practices to systematically develop, design, test, and maintain software systems. **What are the main activities involved in the software development life cycle (SDLC)?** **Answer:** The main activities in the SDLC include requirements gathering and analysis, system design, coding, testing, deployment, and maintenance. **Explain the difference between functional and non-functional requirements.**

**Answer:** Functional requirements define what the software system should do, while non-functional requirements define how the system should perform, such as reliability, usability, performance, and security.