**1. Introduction to Spring Framework 2.Spring Architecture:**

**• Theory:**

**1.Overview of the core components of the Spring Framework: ♣ Core Container: IoC and DI ♣ Spring AOP: Aspect-Oriented Programming ♣ Spring ORM: Integrating Spring with ORM frameworks (e.g., Hibernate, JPA) ♣ Spring Web: Web framework for creating Java web applications. ♣ Spring MVC: Model-View-Controller framework for building web applications:-**

1. **Core Container (IoC & DI)**

* Manages object lifecycle and dependencies using **Inversion of Control (IoC)** and **Dependency Injection (DI)**.
* Provides **BeanFactory** and **ApplicationContext** for managing beans.

2. **Spring AOP (Aspect-Oriented Programming)**

* Separates cross-cutting concerns like **logging, security, and transactions** from business logic.
* Uses **Aspects, Pointcuts, and Advices** for modular code.

3. **Spring ORM (Object-Relational Mapping)**

* Integrates Spring with **Hibernate, JPA, MyBatis, etc.**
* Simplifies **database transactions and session handling**.

4. **Spring Web**

* Provides foundational support for **web applications and REST APIs**.
* Works with **servlets and request handling mechanisms**.

5. **Spring MVC (Model-View-Controller)**

* Full-fledged web framework using **MVC architecture**.
* Manages **requests, views, and controllers** for web applications.