

# 39 Lecture - CS506

## Important Subjective

Certainly, here are 10 short-answer subjective questions related to MVC (Model-View-Controller) along with their answers:

**\*\*Question 1:\*\*** What is MVC, and what are its core components?

**\*\*Answer:\*\*** MVC is a software design pattern that separates an application into three main components: Model (data and logic), View (user interface), and Controller (manages user interactions and application flow).

**\*\*Question 2:\*\*** Explain the purpose of the Model component in MVC.

**\*\*Answer:\*\*** The Model represents the application's data and business logic. It handles data retrieval, processing, and manipulation, ensuring separation from the user interface.

**\*\*Question 3:\*\*** Describe the role of the View component in MVC.

**\*\*Answer:\*\*** The View is responsible for rendering the data to the user interface. It presents information in a format that users can understand and interact with.

**\*\*Question 4:\*\*** What is the primary function of the Controller component in MVC?

**\*\*Answer:\*\*** The Controller manages user interactions and application flow. It receives input from the user, processes it, and interacts with the Model and View accordingly.

**\*\*Question 5:\*\*** How does the MVC pattern contribute to code maintainability?

**\*\*Answer:\*\* MVC separates concerns, allowing changes in one component without affecting others. This makes code more modular, easier to test, and simplifies maintenance.**

**\*\*Question 6:\*\* Provide an example of how MVC could be applied in a social media application.**

**\*\*Answer:\*\* In a social media app, the Model would handle user profiles and posts, the View would display the news feed, and the Controller would manage actions like posting, commenting, and liking.**

**\*\*Question 7:\*\* What benefits does MVC offer for collaborative development on large projects?**

**\*\*Answer:\*\* MVC promotes division of labor and parallel development. Different teams can work on Models, Views, and Controllers independently, leading to efficient collaboration.**

**\*\*Question 8:\*\* Explain the concept of "separation of concerns" in the context of MVC.**

**\*\*Answer:\*\* Separation of concerns refers to isolating different aspects of an application into distinct components. In MVC, Models handle data, Views manage presentation, and Controllers manage interactions, ensuring a clear division of responsibilities.**

**\*\*Question 9:\*\* How can the MVC pattern improve user experience in a web application?**

**\*\*Answer:\*\* MVC helps in creating responsive and dynamic user interfaces. Controllers manage user actions without affecting data handling, enabling a smooth and interactive experience.**

**\*\*Question 10:\*\* Discuss a scenario where changes to the user interface (View) of a mobile banking application wouldn't impact the underlying data operations (Model) and vice versa.**

**\*\*Answer:\*\* In a mobile banking app, changes to the UI like rearranging buttons wouldn't require altering the data processing logic. Similarly, changes to transaction processing wouldn't affect the UI layout. This separation prevents unintended side effects.**