**Part1: Comparing top 3 Single Page Application Frameworks —**

**EmberJS, AngularJS, ReactJS– 5 Marks**

* **EmberJS**
  + - **Strengths:**
      * Convention Over Configuration: EmberJS enforces conventions, which helps in maintaining consistency across the application. This is great for large teams and long-term projects.
      * Integrated Tools: It comes with a lot of built-in tools, like its own router and data layer (Ember Data), which can speed up development.
    - **Weaknesses:**
      * Steep Learning Curve: Because of its strict conventions and comprehensive nature, it can be hard to learn, especially for beginners.
      * Performance: While it’s robust, the framework can be heavy for smaller projects, potentially affecting performance.
  + **Best For:** Large-scale applications where structure and consistency are crucial.
* **AngularJS**
  + - **Strengths:**
      * Two-Way Data Binding: AngularJS automatically synchronizes data between the model and the view, which simplifies development.
      * Dependency Injection: This feature helps in managing dependencies and promotes modularity.
    - **Weaknesses:**
      * Performance Issues: The two-way data binding can become a performance bottleneck in large applications due to the digest cycle.
      * Complexity: AngularJS has a steep learning curve with concepts like directives and dependency injection, which can be overwhelming.
  + **Best For:** Complex enterprise applications where data-binding and modularity are important**.**
* **ReactJS**
  + - **Strengths:**
      * Virtual DOM: React’s Virtual DOM improves performance by updating only the parts of the DOM that have changed, which can lead to faster rendering.
      * Component-Based Architecture: Encourages reusability and makes it easier to manage and scale large applications.
    - **Weaknesses:**
      * View Layer Only: React focuses only on the view layer, so you might need to integrate additional libraries for state management and routing.
      * JSX Syntax: While powerful, JSX (JavaScript XML) can be confusing for those not familiar with it.
  + **Best For**: Interactive and dynamic user interfaces where performance is critical.
* **Summary**
  + **EmberJS** is ideal for large applications with a need for strong conventions and integrated tools.
  + **AngularJS** suits complex, data-heavy applications that benefit from two-way data binding.
  + **ReactJS** excels in building fast, interactive UIs and offers great flexibility but requires additional libraries for a full-featured solution.