**1. Waterfall Model**

**Example in LMS:**  
Gathering all the library features like issuing books, managing members, fines, etc at the start. Then design, build, and test them one by one.

**Advantages:**

* Good when requirements are clear from the beginning
* Easy to follow step by step

**Disadvantages:**

* Changing process in between is very difficult
* Errors are only found at the end

**Suitable for:**  
Small school libraries with fixed and simple needs

**2. Agile Model**

**Example in LMS:**  
Start with basic features like book issue or return. Get feedback from staff, then add more features like reports, SMS reminders, or fine alerts in later sprints.

**Advantages:**

* Easy to change or add features later
* Library staff can give feedback at every step

**Disadvantages:**

* Needs frequent meetings and testing
* Experienced team needed

**Suitable for:**  
Comparatively larger libraries

**3. Spiral Model**

**Example in LMS:**  
Start with planning and designing core features. Building one feature at a time and moving to the other after completing first.

**Advantages:**

* Helps find and solve problems early
* Changes can be made in each cycle

**Disadvantages:**

* Takes more time and cost
* Not good for small libraries or projects

**Suitable for:**  
University or city libraries with complex features

**4. V-Model**

**Example in LMS:**  
Plan testing for each feature while designing and then develop and test together.

**Advantages:**

* Strong testing makes the system reliable
* Errors are caught early

**Disadvantages:**

* Not flexible if librarian wants to change features later
* Needs clear plan from the beginning

**Suitable for:**  
Libraries that need accuracy and strong security