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For developing a simple and static website for a small local business like neighborhood bakery, the waterfall model would be appropriate.

→ Justification -

- 1) Well defined requirements - Project has well defined requirements that are not expected to change significantly.
- 2) Fixed Budget and Timeline - Since bakery owner has fixed budget and timeline, Waterfall model's structured approach allows for accurate planning & scheduling.
- 3) Straightforward nature - The project is simple with no need for iterative development. Sequential nature ensures that each phase is completed before moving to next.
- 4) Documentation - Waterfall model emphasizes thorough documentation, which is beneficial for ensuring that all project requirements and outcomes are clearly understood and agreed on.

→ Advantages of Using Waterfall model -

- 1) Structured approach - Linear and sequential flow makes project easy to understand.
- 2) Clear Milestones - Model has distinct phases which help in tracking progress and ensuring all steps are completed before moving to the next.
- 3) Easy to use - As easy to use and understand, especially for simple projects where requirements are known.

→ Limitations of Waterfall Model -

- 1) Inflexibility - Not suited for projects where requirements may evolve during the development process.
- 2) Late Testing - Testing is done only after development is complete, leading to discovery of issues late in process.
- 3) No Early Prototypes - Clients don't see working version of product until late in process, which can lead to misunderstandings about final product if initial requirements were not captured.

Q2)

Ans → This statement is often misleading & over simplistic. Adding more programmers to a late project does not lead to catching up but will have opposite effect -

Brooke's Law - Adding manpower to a project makes it later. When new programmers are added to a pre-existing project, they require time to get up to speed on the project. This leads to delay and consumption of time and resources.

Increases Communication Overhead -

Complexity of Communication increases. Coordinating work among larger teams leads to more meetings, more documentation & potential for misinterpretations. These can negate productivity gains.