Lab-1

IT314 Software Engineering

202101482

Software Process Models:-

A) A simple data processing project:- **Waterfall Model**

Reason:- Simple data processing is well-understood and requirements are not changing so we can follow the sequence process of activities.

B) A data entry system for office staff who have never used computers before. The user interface and user-friendliness are extremely important:- **Prototyping Model**

Reason:- The system has novice users as they have not used a computer before and in this system, UI(User Interface) is very important.

C) A spreadsheet system that has some basic features and many other desirable features that use these basic features:- **Incremental Model**

Reason:- For this system, there are some basic features and other desirable features can be added to the system with basic features.

C) A web-based system for a new business where requirements are changing fast and where an inhouse development team is available for all aspects of the project:- **Iterative Model**

Reason:- As requirements are changing fast for a given system and an in-house development team is available for all aspects of the project, it allows continuity or flexibility between workers and clients.

D) A website for an on-line store that has a long list of desired features it wants to add, and it wants a new release with new features to be done very frequently:- **Iterative Model**

Reason:- As this website has desired features initially that it wants to add and frequently it wants to add a new release with new features and as it gives regular deliveries or frequent releases.

E) A system to control anti-lock braking in a car:- **Waterfall Model**
Reason:- It follows a sequential approach and requirements are not changing so easy to be understood.

F) A virtual reality system to support software maintenance:- **Spiral Model**

Reason:- For virtual reality there would be rapidly emerging technologies and follows each phase by evaluated then planning of the next phase and goes for iterative development.

G) A university accounting system that replaces an existing system:- **Waterfall Model**

Reason:- The system requirements are likely to be known or predictable so it would be simple to be understood.

H) An interactive system that allows railway passengers to find train times from terminals installed in stations:- **Iterative Model**

Reason:- It enables ongoing user feedback and iterative modifications to make sure the system satisfies the needs of the passengers.

I) Company has asked you to develop software for a missile guidance system that can identify a target accurately:- **Spiral Model**

Reason:- The model accurately reflects the iterative nature of software development on projects with unclear requirements and it is going for continuous iteration to minimize the risk and to ensure the system's accuracy .

J) When emergency changes have to be made to systems, the system software may have to be modified before changes to the requirements have been approved. Choose a process model for making these modifications that ensures that the requirements documents and the system implementation do not become inconsistent:- **Incremental Model**

Reason:- It will go for an interactive process for making emergency modifications that ensure that the requirements documents and the system implementation do not become inconsistent.

K) Software for ECG machine:- **Incremental Model**

Reason:- This kind of machine requires continuous testing to make sure its accuracy and safe to use.

L) A small scale well-understood project (no changes in requirement will be there once decided):- **Waterfall Model**

Reason:- As no changes in requirement will be there once decided and itself is a well-understood project.