IT-314

(Software Engineering)

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- **Lab :- 1**

a) A simple data processing project.

- Ans :- Waterfall Model

- The waterfall model will be the most suitable software model process that can be utilised as a foundation for managing the development of the project because the requirements for a simple data processing project are clearly defined, straightforward, and would have minimum or no changes.

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

- Ans :- Prototyping Model

- The prototype model will be the most suitable one for this project because it can be more flexible than the waterfall model and helps to better grasp the requirements.

c) A spreadsheet system that has some basic features and many other desirable features that use these basic features.

- Ans :- Incremental Model

- The incremental model is the one that best matches the current project since it allows for the implementation of some basic capabilities and the addition of more features in the future.

d) A web-based system for a new business where requirements are changing fast and where an in-house development team is available for all aspects of the project.

   - Ans :- Agile Model

- For this stage of the project, where requirements are changing quickly, the agile approach will be the most appropriate. The agile paradigm is best suited for tasks where timing is crucial.

e) A Web-site for an on-line store which 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.

   - Ans :- Agile Model

   - Agile mode is the most appropriate paradigm for an online store. Since this model can be made available more quickly and modified as and when new features are needed.

f) A system to control anti-lock braking in car.

- Ans :- Waterfall Model
- The waterfall model is the most appropriate approach because the specifications for this software are clear and won't change in the future.

g) A virtual reality system to support software maintenance.

- Ans :- Agile Model
- Because virtual reality is a relatively new technology and the requirements are not well defined, the Agile approach can be used to construct the system. Additionally, customer happiness is very crucial for the growth of this project.Therefore, the Agile model is best.

h) A university accounting system that replaces an existing system.

- Ans :- Waterfall Model
- Since this is an automation of an existing manual process and the requirements are very clearly stated, the waterfall paradigm is the most appropriate.

i) An interactive system that allows railway passenger to find train times from terminals installed in stations.

- Ans :- Incremental Model

- Incremental model is most suitable as the initial software can be released with bare functionalities like displaying train times and further functionalities can be added as and when required.

j) Company has asked you to develop software for missile guidance system that can identify a target accurately.

- Ans :- Spiral Model
- The Spiral Model is best suited for missile guiding systems since it needs to be accurate and requires user feedback. Additionally, it is a fairly large project, thus the spiral model will work well.

k) 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.

- Ans :- Spiral Model

- The Spiral Model is best suited for this project since each cycle of the spiral model includes thorough documentation of the requirements and allows for the incorporation of last-minute changes into the programme..

l) Software for ECG machine.

- Ans :- Iterative Model
- The iterative strategy will be the most appropriate because it allows for the early delivery of the core functionalities and the later addition of new features following risk analysis and user feedback. hence offering a trustworthy and efficient medical service.

m) A small scale well understood project (no changes in requirement will be there once decided).

- Ans :- Waterfall Model
- The waterfall model will be the most efficient because the criteria are clear and won't alter after they've been chosen.