Assignment: 1

Deadline to submit: no later than August 1, 2025

1. Explain the different software life cycle models and compare them with advantages and disadvantages.
2. Differentiate plan driven and agile development.
3. Explain how prototyping model help in developing software? Differentiate between Evolutionary and throw-away prototype model.
4. What is software process model? Discuss waterfall model with its merits and demerits.
5. What are the principles of agile development? Explain agile development techniques.
6. Explain the agile software development. Compare between agile software development with prototyping software development.
7. What are rapid prototyping techniques? Briefly explain different rapid prototyping techniques
8. Explain the main activities used in requirements engineering. What are the desirable characteristics of a good SRS document? Explain with example.
9. Explain software engineering ethics with example.
10. Briefly explain functional, non-functional, and domain requirements.
11. Differentiate between functional and non-functional requirements. Which is more critical and why?
12. What are the various types of functional and non-functional requirements that are placed on the system? Explain with an example.
13. Describe any three functional and non-functional requirements for library management system.
14. Discuss the structure of SRS document.
15. Differentiate between V-shape model and spiral model.
16. Differentiate between software engineering and computer science.
17. Differentiate between software engineering and system engineering.
18. What are the good characteristics of software? Explain.
19. Explain the process of requirement engineering.
20. Differentiate between waterfall model and spiral model.
21. Draw a use case diagram for library system.

22. Draw use case diagram, class diagram and sequence diagram for online book recommendation system. Make your own assumptions.
23. Draw use case diagram and sequence diagram for online movie ticketing system.
24. Draw use case diagram and class diagram for online bus ticketing system.