**Part 1**

1.Software engineering refers to the systematic process of using tools available and the existing engineering principles to develop software products. It helps to ease the day to day activities by automating repetitive tasks.

2.The three key milestones in software engineering include:

The development of programming languages by people like Ada Lovelace which helped in calculations and automating repetitive tasks, establishment of software engineering as a discipline and the development of agile methodologies which allow for flexibility and interactivity when designing and implementing projects.

3. Research – gathering insights from users that will inform your design application.

Design – involves coming up with the user interface and system architecture.

Implementation – After designing you implement your design in code form.

Testing – before deploying the application is tested for bugs.

Deployment – the application is now ready for use by multiple users.

Maintenance –after deploying functional applications the systems functionality needs to be maintained in case of more downloads or increased usage.

4. Waterfall refers to a development approach that follows the software development life cycle while agile is an approach leveling on interactivity and is flexible to changes and applications or features are built on an incremental basis.

5. Software developer – develops applications using codes.

Quality assurance engineer tests the built applications if they meet the required criteria.

Project manager – responsible for overseeing the planning, execution, and delivery of software projects.

6. Integrated development environment provides an environment for developing your applications, provides version control systems and allow you to fix bugs making the development easy.

Version control systems helps developers to keep track of the changes made during development and at the same time it allows them to collaborate and control who can merge branches.

7. Time management – developers often have numerous deadlines to beat and the process of development and debugging can be time consuming. To rectify this, developers need to plan their work well and use the available task management software.

Keeping up with new technologies – new versions of different technologies are being released every day, and for developers working on projects finding time to learn them might be difficult. Setting aside time for learning and developing a continuous learning mentality is important.

Collaboration and communication – software development often requires teamwork and this might be difficult as some members of the team are unable to meet deadlines delaying others. Communication becomes key in that case.

8.Unit testing involves testing individual components of a code making it easy to catch and fix bugs.

Integration testing involves testing the subcomponents of a system while interacting to fix bugs or problems arising from the interaction.

System testing involves testing the whole application to see if it meets the set requirements.

**Part 2**

1.Prompt engineering refers to the process of designing and refining the input given to artificial intelligence models to improve their output and make them more accurate and reliable.

2.Vague prompt – Tell me about school.

Improved prompt – Kindly explain to me what school refers to, what are the different categories of schools that we have and what levels of education do they offer?

The improved prompt enhances the output given by the AI.