- 1. 1(a) <u>Scrum</u>: Scrum is a framework that helps teams work together. It encourages teams to learn through experiences, self-organize while working on a problem, and reflect on their wins and losses to continuously improve. Scrum also describes a set of meetings, tools, and roles that work in concert to help teams structure and manage their work.
  - (b) <u>Kanban</u>: Kanban is a popular framework used to implement agile software development. It requires real-time communication of capacity and full transparency of work. Work items are represented visually on a kanban board, allowing team members to see the state of every piece of work at any time. Kanban visualizes both the process (the workflow) and the actual work passing through that process. The goal of Kanban is to identify potential bottlenecks in any process and fix them so work can flow through it cost-effectively at an optimal speed or throughput.
  - (c) <u>Extreme Programming</u>: this is an agile software development framework that aims to produce higher quality software, and higher quality of life for the development team. Extreme programming is the most specific of the agile frameworks regarding appropriate engineering practices for software development. This framework is applied when the following conditions are met;
    - (i) Dynamically changing software requirements
    - (ii) Risks caused by fixed time projects using new technology
    - (iii) Small, co-located extended development team
    - (iv) The technology used allows for automated unit and functional tests
- 2. The members of an agile team include:
  - (a) <u>Scrum master</u>: he/she is responsible for facilitating the team, obtaining resources for it, and safeguarding the team from problems. This role encompasses the soft skills of project management but not the technical ones such as planning and scheduling, activities which are better left to the team as a whole.
  - (b) <u>Developers</u>: this role, sometimes referred to as programmers, and it is responsible for the creation and delivery of a system. This includes modeling, programming, testing, and release activities, as well as others.
  - (c) <u>Product owner</u>: this role represents the stakeholders. This is the one person responsible on the team for making decisions in a timely manner, and for providing timely information.
  - (d) <u>Stakeholder</u>: a stakeholder is anyone who is a direct user, indirect user, manager of users, senior manager, operations staff member, the "gold owner" who funds the project, support (help desk) staff member, auditors, your program/portfolio manager, developers working on other systems that integrate or interact with the one under development, or maintenance professionals potentially affected by the development and/or deployment of a software project.
- 3. Project management tools include:
  - (a) Trello
  - (b) Github
  - (c) JIRA
  - (d) Google forms
  - (e) Zoom
- 4. The phases of Software Development include:
  - (a) Planning
  - (b) Building
  - (c) Testing
  - (d) Reviewing

(e) Deployment