1. Given the project’s characteristics, I would suggest using the **Agile** software development methodology. The Agile methodology is flexible and allows for changes during the development process, which is suitable for this project as it’s a new development system and there may be many changes during the development process. The Agile methodology also promotes frequent communication and collaboration among team members and stakeholders, which is beneficial given the involvement of multiple departments in this project.
2. I would suggest the following types and levels/stages of testing:
   * **Unit Testing**: Conducted by developers to test individual components of the software.
   * **Integration Testing**: Conducted by developers or a separate integration team to test the interaction between different components of the software.
   * **System Testing**: Conducted by a separate testing team to test the software as a whole.
   * **User Acceptance Testing (UAT)**: Conducted by the end users (lecturers, students, academic staff) to ensure the software meets their needs and requirements.
3. Functional requirements:
   * Lecturers can manage constructive questions and student groups.
   * Students can view constructive questions and critically evaluate presentations.
   * Academic staff can generate statistics on class hours conducted according to the constructivist method.
   * Users can log in with the FU’s email account on the Gmail platform.

Non-functional requirements:

* + The system needs to ensure high performance and reliability.
  + The system requires little training time to use.

1. There would be two actors: Lecturer and Student. The Lecturer would have use cases like Manage Questions, Manage Student Groups, Import Student List, and Create Reports. The Student would have use cases like View Questions, Give Opinions, and Evaluate Presentations.

**Lecturer**

**Student**

1. Test cases for the use-cases listed in question 4:
   * Manage Questions: Verify that a lecturer can create, edit, and delete questions.
   * Manage Student Groups: Verify that a lecturer can create, edit, and delete student groups.
   * View Questions: Verify that a student can view all questions posted by the lecturer.
   * Give Opinions: Verify that a student can post their opinions on a question.
2. User stories:
   * As a lecturer, I want to manage constructive questions so that I can guide the learning process.
   * As a student, I want to view constructive questions so that I can give my own critical opinions.
3. . For the “Import Student List” activity, the steps could be: Select Import Option -> Choose File -> Validate File -> Import Data. For the “Assign Presentation and Review Group” activity, the steps could be: Select Student -> Assign to Presentation Group -> Assign to Review Group.

**Presentation and Review Group**

Select Student

Assign to Review Group

Assign to Presentation Group

**Import Student List**

Select Import Option

s

Import Data

Validate File

Choose File