

**Draw a State diagram for the following:**

**1. Exercise: Email Client Application**

**Marks:10**

The email client operates with concurrent processing, managing multiple email accounts and user interactions simultaneously while also tracking the overall application state. The system functions based on the following specifications:

- The email client has two primary states: "Idle" and "Active."
- Within the "Active" state, the system concurrently manages different aspects such as email account access, email sending/receiving, and folder navigation.
- Each aspect within the email client has its set of states and behaviors:
  - Email account access: "Idle," "Logging In," "Logged In," "Logging Out."
  - Email sending/receiving: "Idle," "Sending," "Receiving."
  - Folder navigation: "Idle," "Navigating."
- Users can log in/out of email accounts, compose emails, send/receive emails, and navigate between folders while the email client is active.

You can include additional annotations or labels as necessary to enhance clarity.