

## Phase 1: Planning

**1. Problem Statement** The SITEC institution currently requires a software solution to manage student registrations. The lack of a digital system makes it difficult to record student details, generate unique registration numbers efficiently, and retrieve student information based on specific courses.

### 2. Objectives

- To develop a computer program that automates student registration.
- To ensure all student data is securely stored in a database.
- To provide functionality for viewing student details filtered by course.
- To ensure a stable, error-free user experience without system crashes (Exceptions).

### 3. Scope

- **In-Scope:**
  - Student Registration Module (Name, Course selection).
  - Automatic generation of Registration Numbers (with an option to edit them).
  - Database connectivity status check at startup.
  - Viewing student lists categorized by course.
- **Out-of-Scope:**
  - Payment handling (not mentioned in the text).
  - Attendance tracking.
  - Online student portal.

### 4. Assumptions and Constraints

- **Constraint:** The system must strictly handle all errors; no "Exceptions" should be visible to the user at any stage.
- **Constraint:** The student Name and Course fields are mandatory; the system must not accept empty data.
- **Assumption:** The system will be used by an administrative user at the institute.