School of Computer and Information Sciences

Software Engineering Lab

M.Tech (CS, AI) 2025-26 Jan-May 2026

Announcement Date: 03-2-2026

Task-4 : **Problem Statement: Student Result Processing System**

Design and implement a **Student Result Processing System** in C that performs the following tasks:

1. Input & Validation

- Accept details for **N students**

- For each student, input: (Taken from a file)

    o Student ID (must be unique and alphanumeric).

    o Name (only alphabets, no digits or special characters).

    o Marks in 5 subjects (Minor-40 Marks, Major-60 Marks)

Perform validations:

- Reject invalid IDs (duplicate or containing special characters).

- Reject names with digits or symbols.

- Reject marks outside the range [0,100].

---

2. Computation

- Calculate **Total Marks** and **Percentage** for each student.

- Minimum passing marks in each subject is 50%

- Assign **Grade** based on percentage:

    o ≥ 90 → 0

    o 85–90 → A+

    o 75–85 → A

    o 65–75 → B+

    o 60–65 → B

    o 55-60 → C

    o 50–55 → D

    o < 50 → F

---

3. Output & Features

- Display a **tabular report** of all students with their ID, Name, Marks, Total, Grade, CGPA.
- Compute and display:
  - Class Average Percentage.
  - Highest and Lowest Percentage.
  - Number of students in each grade category.

Additional Requirements

- **Implement the above case study using the Technology chosen stack (MERN, WAMP OR any other stack)**