

System Level Design - First MID - April 2025

Name:

CSE

When answering the questions below, make sure to show all of your work. Pay attention to the point values on each question. State your assumptions, and explain your answers thoroughly. Remember that an explanation is expected with every answer except the multiple choice and true/false questions when the answer is true. Use blank paper if you do not have enough room.
Time: 09:00 to 12:00 | Total Marks: 75

1. Name a programming language commonly used in system-level programming. **2**

2. What is a loader in system programming? **3**

3. Explain the term linking.

2

4. What are system utilities?

3

5. What happens when `fork()` is called twice in a process?

5

6. Compare and contrast the use of C++ and Rust in system-level programming, focusing on the trade-offs between object-oriented design, memory safety, and performance. **5**

7. Define context switching.

2

8. What is a zombie process?

3

