

# Quiz#4

## AI-5A

**Time: 8 mins**

**Q1#** What happens if ***sem\_post*** is called more times than ***sem\_wait*** on a semaphore? Explain with an example.

- **Effect:** The semaphore count will exceed its initial value. If the count represents resource availability, this may falsely indicate resources are available when they are not.
- **Example:**

```
sem_init(&semaphore, 0, 1);
sem_post(&semaphore); // Count: 2
sem_post(&semaphore); // Count: 3
sem_wait(&semaphore); // Count: 2
```
- **Result:** The semaphore count is higher than the actual resources, which could lead to resource overuse.

**Q2#** Write a program where:

- Thread A waits for a signal from Thread B.
- Thread B waits for a signal from Thread C.
- Use binary semaphores to ensure the correct sequence of execution:  
**Thread C → Thread B → Thread A.**