Name(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Report: (30%)** | | |
| Key Ideas of Solutions | 5% |  |
| Diagram showing the state transitions of threads and its TCB | 5% |  |
| How to implement semaphore type and its operation | 8% |  |
| Identify critical sections and how to protect them | 7% |  |
| How synchronization operations interact with the scheduler | 5% |  |
| **Execution: (60%)** | | |
| Compilation | 5% |  |
| Creating semaphore | 10% |  |
| Up operation | 15% |  |
| Down operation | 15% |  |
| Scheduling | 5% |  |
| Other operations | 10% |  |
| **Comment (10%)** | | |
| **Total (100%)** | | |