Main Examination Scope 18/11/2023 (11:15 - 14:15)

Please note this is not a comprehensive listing but a general guide of expectations of specific knowledge areas. The scope of the exam is from Chapter 1 to Chapter 11 of the prescribed book. Key knowledge areas of the concepts drawn from each of those Chapters will be evaluated. The scope provides a guideline specifically to the essay type of questions. General knowledge of the basic concepts covered during the semester are necessary to answer the MCQ.

Among other concepts and in no particular order candidates are expected to be familiar with the following specifically for the essay type questions.

1. Registers consistency and register constructs.
2. Monitors, Conditions and Readers and Writers Locks.
3. BackOff algorithm functionality.
4. ALock.
5. Elimination Array, Elimination backOff Array
6. Queue locks,(Array based locks, CLH, MCS Queue locks, composite locks)
7. Lazy synchronization, Optimistic synchronization.
8. Naive synchronous queue
9. Bounded partial queue, unbounded total queue, unbounded lock-free queue.
10. Memory Reclamation and the ABA Problem.
11. Dual data structures.
12. Unbounded lockFree Stack.