**Midterm 2 – questions format**

**SEMAPHORES**

1. Question similar to:

After each step, give the value of the updated semaphore and the content of the updated semaphore queue.

**Counting** Semaphores: S1, S2, S3

**Binary** Semaphores: S4, S5, S6

Semaphores **initial values**:

S1 = 1, S2 = 0, S3 = 2, S4 = 0, S5 = 1, S6 = 1

P1: P(S3)

P2: P(S5)

P3: P(S5)

P5: P(S2)

P2: V(S2)

P10: V(S6)

P2: P(S4)

2. Each classical problem that we cover has 2 open questions.

Two of the open questions will be in the exam.

3. Another question will be similar to Sample 2 (given a story, synchronize its threads using semaphores)

4. Another question will be similar to Sample 3 (enforce order between processes)

Possible Extra credit question: give a scenario that will show that is P and / or V are NOT atomic operation one of the conditions to Critical Section problem will be violated.

they are 3 open questions in reader writer and 3 open questions in producer consumer