**CS6301: Special Topics in Computer Science - Introduction to**

**Multicore Programming**

**Programming Assignment 1 Report**

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The Graph Below shows the effect of degree of contention and system load on the system throughput, which is number of critical sections serviced per unit time (Here, 1ms is 1 unit time). The algorithm used was a generalized Peterson’s algorithm for n threads using a binary tree. Each thread was allowed to enter the critical section 1000 times. The program was run 15 times for each value of #threads and inter-request delay, and the average throughputs were plotted. The following can be inferred from the graph:

* System Throughput increases with the increase in number of threads contending for critical section. As the system used for executing the program had 4 cores, the number of threads were varied from 1 to 8.
* System Throughput decreases with an increase in system load which depends on the inter-request delay. The Inter-Request delay was randomly generated from an exponential distribution by using the mean, which itself was varied from [0,100] time units i.e. 20, 40, 60, and 80ms as shown in the chart below.