Report on Assignment 3:
Topic Modeling Using Gibbs Sampler

A. S. M. Ahsan-Ul-Haque

1205021

1. When does the sampler converge if you don't consider burn-in and lag? (The 5 most common words of each topic remain same after certain iterations). Test for Niter= 500,1000,2000,5000,10000 …

   Ans:

   After running the sampler for Niter= 500, 1000, 2000, 5000 and 10000, without considering burn-in and lag, we saw that the sampler converges somewhere between 5000 and 1000 iterations, since they both give the same results.

2. Is there any effect of burn-in? (The 5 most frequent words of each topic make more sense if we discard burn-in iterations). Test for Nburn-in = 100, 200, 400, 1000, 2000 …

   Ans.
   For this experiment, we considered Niter = 2500 for each case with no lag.

   After discarding samples obtained before Nburn-in = 100, 200, 400, 1000, 2000, no difference in the result was found. So, for the given documents there was no effect of burn-in.

3. Is there any effect of stride/lag? Test for lag L= 5,10,20, 50 …

   Ans.
   For this experiment, we considered Niter = 25000 for each case with Nburn-in = 0.
   After testing for lag L = 5, 10, 20 and 50, no difference in the result was found. So, for the given documents there was no effect of lag/stride.