Lab Assignment - MCMC

Instructor: Dr. Arabin Kumar Dey

1 Due date:

- 13/ 11 /2022.

2 Notes:

- Make a proper documentation preferably in latex or using some other software and submit the printout of the report in .pdf form.
- Each student needs to write his/ her own solutions, even though discussions of the assignments between students are encouraged.

3 Assignments:

1. Generate n random number from a Gamma distribution using MCMC and draw a histogram. Let's choose n = 100, 200, 500 and use some verification technique to conclude that the generated numbers are correct.
2. Choose different proposal distributions, find autocorrelation and make trace plots for each distributions. Comment on the choice of best proposal distribution based on this experiment. Start different initial values and graphically observe the mixing behaviour.