**Lab problems of Simulation and Modeling Sessional (Dr. Masud sir)**

Lab 01: Poisson Distribution:

A customer care center receives 5 calls per hour. Compute the probability of attending zero calls, one call, two call, ….., ten calls per hour. Simulate the probability mass function respect to the number of receiving call. Show the probability mass function graphs considering 10 and 15 calls per hour.

Lab 02: Normal Distribution:

To Show unimodal and multimodal density curves of normal distribution. To generate random sample with sample size 200, which follows a normal distribution with mean 100 and standard deviation 20. The distribution of diastolic blood pressure for men is normally distributed with a mean of about 80 and a standard deviation of 20. A histogram of the distribution of blood pressures for all mean displays a normal distribution with bell shape.

Lab 03: Exponential Distribution:

There were few waves in COVID-19 pandemic. Let a wave occurs every 100 days in Bangladesh, on average. After a wave occurs, find the probability using Exponential distribution that it will take more than 120 days for the next wave to occur. Simulate several Exponential distribution using rate parameters 0.5, 1.0, 2.0, and 4.0.