

Indian Institute of Technology Bombay

Department of Electrical Engineering

Handout 19

EE 706 Communication Networks

Quiz 8 : 10 points

March 18, 2010

1. **Stop-and-wait ARQ simulation:** Suppose we want to calculate the throughput of SW ARQ by simulation. Then we need to calculate the expected value of the time taken to communicate a frame X , i.e. we need to calculate $E[X]$. We want to use the law of large numbers to estimate $E[X]$. In order to do so, we need to generate instances $X_i, i = 1, 2, \dots, n$ of the time taken to communicate a frame. Once we have the instances we can estimate $E[X]$ as

$$E[X] \approx \frac{\sum_{i=1}^n X_i}{n}.$$

Write Scilab or Matlab code which estimates $E[X]$ by simulation.