B.A. (H) Economics
1st Semester
Introductory Statistics for Economics
25/10/2023

Instructions:
Attempt all questions.
Time: 1 hour (11am to 12 noon)

Q1.
An individual who has automobile insurance from a certain company is randomly selected. Let Y be the number of moving violations for which the individual was cited during the last 3 years. The pmf of Y is

y	0	1	2	3
$p(y)$	.60	.25	.10	.05

i) Compute E(Y), V(Y) (5+5)
ii) Suppose an individual with Y violations incurs a surcharge of $100Y. Calculate the expected amount of the surcharge. (5)

Q2. What is the pdf, expectation and variance of Poisson Distribution. Give 2 examples of variables following Poisson Distribution. What is the relation between Poisson and Binomial Distribution? (2+2+2+2+2)

Q3. Let

$f(x) = k\,(1 - (x-3)^2)$ for $2<x<4$
0 otherwise

i) Find the value of k for it to be a legitimate pdf (3)
ii) Find cdf (2)