B.Sc. (Hons.) in Information Technology

Year 2 - Semester 2, 2025

Lab Exercise 8 (Sampling Distributions)

IT2110 - Probability & Statistics Week 09

The nicotine contents, in milligrams for 40 cigarettes of a certain brand (population) were recorded.

1. Calculate population mean and variance of the dataset.
2. Get 30 random samples of size 5, with replacement and calculate sample mean and sample variance for each sample.
3. Calculate mean and variance of the Sample Means.
4. Compare and state relationship (if any) Population Mean and the Mean of Sample Means.
5. Compare and state relationship (if any) Population Variance and the Variance of Sample Means.

Use the Following Format.

Sample	Mean	Variance
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Sample	Mean	Variance
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

Population Mean	
Population Variance	
Mean of the Sample Means	
Variance of Sample Means	