SES 204 Introduction to Statistics   2Credit

Statistics – Its meaning; importance of statistics in soil, water and environmental research.

Data collection: Data, types, collection and graphical representation; Frequency distribution; Normal distribution; Population and types of sampling.

Population and Sampling: Concepts, types of sampling, and size of sampling.

Measures of central tendency: mean, median, and mode; Arithmetic, geometric and harmonic mean.

Mathematical expression of measurement: Ratios, rates, proportions. Measurement of morbidity: Incidence, prevalence, point and period prevalence. Measurement of Risk: Relation between risk and odds ratio.

Measures of dispersion: Range, Mean deviation, Variance, Standard deviation, Quartile, Co-efficient of variation, Standard Error, Confidence limit. Chi-Square Test, Probability rules.

Correlation and Regression:

Correlation: Concept, correlation coefficient and its significant; representation of scatter diagram

Regression: Simple and multiple regression, regression coefficient and significance of regression in biological experiment. Relationship between variables-Correlation and Regression analysis.

Books recommended:

An Introductions to Statistics – Muhammad Ali Mian and M. Alimullah Miyan

Statistical Methods – G.M. Senedicor

Statistical Procedures for Agricultural Research – Kwanchai A. Gomez and Arturo A. Gomez

Simple Lessons from Biometry – S.M.Z. Zaman, Kamal Rahim and Manotosh Howlader

Methods in Biostatistics – B.K. Mahajan