Integrated Economics, Semester I
Generic elective 2: Statistical Methods
Course Code: IGECO17GE12 **Credits: 06**

UNIT I

Introduction: Definition and scope of Statistics, concepts of statistical population and Sample, Data: quantitative and qualitative, attributes, variables, scales of measurement-nominal, Ordinal, interval and ratio, Presentation: tabular and graphical, including histogram and ogives.

UNIT II

Measures of Central Tendency: mathematical and positional, Measures of Dispersion: range, quartile deviation, mean deviation, standard deviation, coefficient of variation, Moments, Skewness and kurtosis.

UNIT III

Bivariate data: Definition, scatter diagram, simple, partial and multiple correlation (3 variables only), rank correlation, Simple linear regression, principle of least squares and fitting of polynomials and exponential curves.

UNIT IV

Theory of attributes, consistency of data, independence and association of attributes, measures of association and consistency

SUGGESTED READING:

1. Goon A.M., Gupta M.K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata.
2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications, (7th Edn.), Pearson Education, Asia.
3. Mood, A.M. Graybill, F.A. and Boes, D.C. (2007): Introduction to the Theory of Statistics, 3rd Edn., (Reprint), Tata McGraw-Hill Pub. Co. Ltd.

PRACTICAL/LAB. WORK:

List of Practical

1. Graphical representation of data.
2. Problems based on measures of central tendency.
3. Problems based on measures of dispersion.
4. Problems based on combined mean and variance and coefficient of variation.
5. Problems based on moments, skewness and kurtosis.
6. Fitting of polynomials, exponential curves.
7. Karl Pearson correlation coefficient.
8. Partial and multiple correlations
9. Spearman rank correlation with and without ties.
10. Correlation coefficient for a bivariate frequency distribution.
11. Lines of regression, angle between lines and estimated values of variables.
12. Checking consistency of data and finding association among attributes.