Minor Course in Statistics

Introduction to Statistical Data Analysis-I

Unit I:

Concept of statistical population, Attributes and variables (discrete and Continuous). Primary data –designing a questionnaire and schedule, collection of primary data, checking their consistency. Secondary data. Scrutiny of data for internal consistency and detection of errors of recording.

Unit II:

Presentation of data: classification, tabulation, diagrammatic & graphical representation of grouped data. Frequency distributions, cumulative frequency distributions and their graphical representations, histogram, frequency polygon and ogives.

Unit III:

Measure of central tendency and dispersion, merits and demerits of these measures. Moments and factorial moments. Shephard's correction for moments.

Unit IV:

Skewness and Kurtosis and their Measures. Measures based on quartiles. Introduction to Bivariate data.

No. of Credit: 4

Weakly Classes: 2 Theory + 2 Practical (30+30) hours

References

1. Charles Wheelam: *"Naked Statistics"* W. W. Norton & Company.

2. Darrell Huff: *"How to Lie with Statistics"* W. W. Norton & Company.

3. Goon, Gupta & Dasgupta: *"Fundamentals of statistics Vol. I"* The World Press Private Ltd., Calcutta.

4. Yule, G.U. and Kendall, M.G.: *"An Introduction to the theory of statistics"* Charles Griffin & Company Ltd.

5. C. E. Weatherburn: *"Mathematical Statistics"*

Introduction to Statistical Data Analysis-II

Unit I:
Bivariate data, Method of least squares for curve fitting. Correlation and regression, rank Correlation (Spearman's and Kendall's measure).

Unit II:
Intraclass correlation, correlation ratio. Partial and Multiple Correlation & Multiple Regression for trivariate data.

Unit III:
Attributes- Notion and terminology, contingency table, class frequencies, and ultimate class frequencies, consistency.

Unit IV:
Association of attributes, Independence, Measure of association for 2x2 table. Chi-square, Karl Pearson's and Tschuprow's coefficient of association. Contingency tables with ordered categories.

No. of Credit: 4

Weakly Classes: 2 Theory + 2 Practical (30+30) hours

References
1. Charles Wheelam: *"Naked Statistics"* W. W. Norton & Company.
2. Darrell Huff: *"How to Lie with Statistics"* W. W. Norton & Company.
3. Goon, Gupta & Dasgupta: *"Fundamentals of statistics Vol. I"* The World Press Private Ltd., Calcutta.
4. Yule, G.U. and Kendall, M.G.: *"An Introduction to the theory of statistics"* Charles Griffin & Company Ltd.
5. C. E. Weatherburn: *"Mathematical Statistics"*