



BHAVAN'S VIVEKANANDA COLLEGE

Code: GE 522

of Science, Humanities and Commerce, Sainikpuri
Autonomous College | Affiliated to Osmania University
Accredited with 'A' Grade by NAAC

B.Sc. III Year (CBCS): Statistics Syllabus
(To be implemented for the students joined in 2020-21)
wef the academic year: 2022 - 23
Semester V – (GE) Basic Statistics

60 hrs
(4 hrs/ week)
4 Credits

Course Objective:

The main objective of this course is to provide both theoretical and practical knowledge in the field of descriptive statistics. Incorporated with data science fields and its applications.

COB1: To perceive the basic concepts in Statistics

COB2: To calculate and interpret the various descriptive measures of centrality, dispersion and higher-order measures of location.

CoB3: The concept of association between two variables and forecast future values by regression equations.

CoB4: To introduce the basic practice of statistics by using SPSS, a statistical software program used for data management and data analysis.

UNIT I

(15)

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 graphic, including histogram and ogives.

UNIT II

(15)

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

(15)

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.

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Practicals on SPSS: Introduction, Data Analysis with SPSS: general aspects, work flow, entering data into SPSS Editor, Inserting and defining variables, Data entry, Data Editor.

Graphical Representation of Statistical data: Chart builder- Histograms, Bar Charts, box plots, Error bar, Pie Charts, Scatter Plots, Editing graphs and Axes.

Descriptive Analysis of data: Frequency tables, using frequency tables for analyzing data (Central tendency and dispersion).

Correlation and Regression: Pearson's Correlation, Scatter plots, Linear Regression Simple examples.

Course Outcomes:

After completing this course students will be able to:

CO1: Develop skills in presenting quantitative and qualitative data using appropriate diagrams, tabulations and construction of frequency distributions.

CO2: Evaluate data using measures of central tendency, dispersion and interpret the higher order measures of central tendency.

CO3: Compute an interrelation between the variables using Correlation and regression analysis.

CO4: Demonstrate the applicability of analyzing univariate and bivariate data analysis using SPSS.

List of Reference Books:

1. Goon A.M., Gupta M.K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol. I & II, 8thEdn. 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, 3rdEdn., (Reprint), Tata McGraw-Hill Pub. Co. Ltd. PRACTICAL/ LAB WORK.
4. SPSS for windows step by step - Darren George/Paul Mallery
5. SPSS: Stats practically short and simple – Sidney Tyrrell.

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9/11/2022
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