

## Sp Gupta Statistical Methods

Once solely the domain of engineers, quality control has become a vital business operation used to increase productivity and secure competitive advantage. Introduction to Statistical Quality Control offers a detailed presentation of the modern statistical methods for quality control and improvement. Thorough coverage of statistical process control (SPC) demonstrates the efficacy of statistically-oriented experiments in the context of process characterization, optimization, and acceptance sampling, while examination of the implementation process provides context to real-world applications. Emphasis on Six Sigma DMAIC (Define, Measure, Analyze, Improve and Control) provides a strategic problem-solving framework that can be applied across a variety of disciplines. Adopting a balanced approach to traditional and modern methods, this text includes coverage of SQC techniques in both industrial and non-manufacturing settings, providing fundamental knowledge to students of engineering, statistics, business, and management sciences. A strong pedagogical toolset, including multiple practice problems, real-world data sets and examples, and incorporation of Minitab statistics software, provides students with a solid base of conceptual and practical knowledge.

The Handbook for Statistical Genetics is widely regarded as the reference work in the field. However, the field has developed considerably over the past three years. In particular the modeling of genetic networks has advanced considerably via the evolution of microarray analysis. As a consequence the 3rd edition of the handbook contains a much expanded section on Network Modeling, including 5 new chapters covering metabolic networks, graphical modeling and inference and simulation of pedigrees and genealogies. Other chapters new to the 3rd edition include Human Population Genetics, Genome-wide Association Studies, Family-based Association Studies, Pharmacogenetics, Epigenetics, Ethic and Insurance. As with the second Edition, the Handbook includes a glossary of terms, acronyms and abbreviations, and features extensive cross-referencing between the chapters, tying the different areas together. With heavy use of up-to-date examples, real-life case studies and references to web-based resources, this continues to be must-have reference in a vital area of research. Edited by the leading international authorities in the field. David Balding - Department of Epidemiology & Public Health, Imperial College An advisor for our Probability & Statistics series, Professor Balding is also a previous Wiley author, having written Weight-of-Evidence for Forensic DNA Profiles, as well as having edited the two previous editions of HSG. With over 20 years teaching experience, he 's also had dozens of articles published in numerous international journals. Martin Bishop – Head of the Bioinformatics Division at the HGMP Resource Centre As well as the first two editions of HSG, Dr Bishop has edited a number of introductory books on the application of informatics to molecular biology and genetics. He is the Associate Editor of the journal Bioinformatics and Managing Editor of Briefings in Bioinformatics. Chris Cannings – Division of Genomic Medicine, University of Sheffield With over 40 years teaching in the area, Professor Cannings has published over 100 papers and is on the editorial board of many related journals. Co-editor of the two previous editions of HSG, he also authored a book on this topic.

Statistic (Deep)  
Business Statistics  
Fundamentals of Applied Statistics  
Research Methodology And Statistical Techniques  
Prediction with Statistics and Machine Learning  
Introduction to Statistical Quality Control

This is a textbook for an undergraduate course in probability and statistics. The approximate prerequisites are two or three semesters of calculus and some linear algebra. Students attending the class include mathematics, engineering, and computer science majors. Developed from celebrated Harvard statistics lectures, Introduction to Probability provides essential language and tools for understanding statistics, randomness, and uncertainty. The book explores a wide variety of applications and examples, ranging from coincidences and paradoxes to Google PageRank and Markov chain Monte Carlo (MCMC). Additional Knowledge updating is a never-ending process and so should be the revision of an effective textbook. The book originally written fifty years ago has, during the intervening period, been revised and reprinted several times. The authors have, however, been thinking, for the last few years that the book needed not only a thorough revision but rather a substantial rewriting. They now take great pleasure in presenting to the readers the twelfth, thoroughly revised and enlarged, Golden Jubilee edition of the book. The subject-matter in the entire book has been re-written in the light of numerous criticisms and suggestions received from the users of the earlier editions in India and abroad. The basis of this revision has been the emergence of new literature on the subject, the constructive feedback from students and teaching fraternity, as well as those changes that have been made in the syllabi and/or the pattern of examination papers of numerous universities. Knowledge updating is a never-ending process and so should be the revision of an effective textbook. The book originally written fifty years ago has, during the intervening period, been revised and reprinted several times. The authors have, however, been thinking, for the last few years that the book needed not only a thorough revision but rather a substantial rewriting. They now take great pleasure in presenting to the readers the twelfth, thoroughly revised and enlarged, Golden Jubilee edition of the book. The subject-matter in the entire book has been re-written in the light of numerous criticisms and suggestions received from the users of the earlier editions in India and abroad. The basis of this revision has been the emergence of new literature on the subject, the constructive feedback from students and teaching fraternity, as well as those changes that have been made in the syllabi and/or the pattern of examination papers of numerous universities. Knowledge updating is a never-ending process and so should be the revision of an effective textbook. The book originally written fifty years ago has, during the intervening period, been revised and reprinted several times. The authors have, however, been thinking, for the last few years that the book needed not only a thorough revision but rather a substantial rewriting. They now take great pleasure in presenting to the readers the twelfth, thoroughly revised and enlarged, Golden Jubilee edition of the book. The subject-matter in the entire book has been re-written in the light of numerous criticisms and suggestions received from the users of the earlier editions in India and abroad. The basis of this revision has been the emergence of new literature on the subject, the constructive feedback from students and teaching fraternity, as well as those changes that have been made in the syllabi and/or the pattern of examination papers of numerous universities. Some prominent additions are given below: 1. Variance of Degenerate Random Variable 2. Approximate Expression for Expectation and Variance 3. Lyapounov's Inequality 4. Holder's Inequality 5. Minkowski's Inequality 6. Double Expectation Rule or Double-E Rule and many others

The Impact of Disinvestment and Self Obligation on Financial Performance  
Business Statistics & Business Mathematics  
Substantially Improving Power and Accuracy  
Linear Models in Statistics  
Public Sector Enterprises in India

This is a reformatted version of Prof C R Kothari's all-time great book Quantitative Techniques (Third Revised Edition). Students and teachers will find the readability in the new version much enhanced and thus comprehension greatly improved. All the diagrams have been freshly drawnfor clarity.The book does not need much introduction as it has been known for years for its simplicity of approach which explains the tedious concepts of quantitative techniques in a most readerfriendly manner through practical examples. The style is so lucid that even a reader having no formal training of mathematics and statistics will not find it difficult to understand and to apply these techniques.The book is meant for MCom, CA, ICWA and degree diploma students of business administration.

Statistical Methods, Third Edition, provides students with a working introduction to statistical methods offering a wide range of applications that emphasize the quantitative skills useful across many academic disciplines. This text takes a classic approach that emphasizes concepts and techniques for working out problems and interpreting results. The book includes research projects, real-world case studies, numerous examples, and data exercises organized by level of difficulty. Students are required to be familiar with algebra. This updated edition includes new exercises applying different techniques and methods; new examples and datasets using current real-world data; new text organization to create a more natural connection between regression and the Analysis of the Variance; new material on generalized linear models; new expansion of nonparametric techniques; new student research projects; and new case studies for gathering, summarizing, and analyzing data. Integrates the classical conceptual approach with modern day computerized data manipulation and computer applications Accessible to students who may not have a background in probability or calculus Offers reader-friendly exposition, without sacrificing statistical rigor Includes many new data sets in various applied fields such as Psychology, Education, Biostatistics, Agriculture, Economics A thorough and definitive book that fully addresses traditional and modern-day topics of nonparametric statistics This book presents a practical approach to nonparametric statistical analysis and provides comprehensive coverage of both established and newly developed methods. With the use of MATLAB, the authors present information on theorems and rank tests in an applied fashion, with an emphasis on modern methods in regression and curve fitting, bootstrap confidence intervals, splines, wavelets, empirical likelihood, and goodness-of-fit testing. Nonparametric Statistics with Applications to Science and Engineering begins with succinct coverage of basic results for order statistics, methods of categorical data analysis, nonparametric regression, and curve fitting methods. The authors then focus on nonparametric procedures that are becoming more relevant to engineering researchers and practitioners. The important fundamental materials needed to effectively learn and apply the discussed methods are also provided throughout the book. Complete with exercise sets, chapter reviews, and a related Web site that features downloadable MATLAB applications, this book is an essential textbook for graduate courses in engineering and the physical sciences and also serves as a valuable reference for researchers who seek a more comprehensive understanding of modern nonparametric statistical methods.

Fundamentals of Modern Statistical Methods  
Business Mathematics and Statistics  
Practical Time Series Analysis  
Contains, Besides Theory, about 1000 Fully Solved Illustrations and about 1300 Problems with Answers  
Business Statistics (According to NEP- 2020)

An excellent book for commerce students appearing in competitive, professional and other examinations. 1. Statistics : Meaning, Nature and Limitations, 2. Statistics : Scope and Importance, 3. Statistical Investigation, 4. Types and Collection of Data, 5. Questionnaire and Schedule, 6. Sample Survey, 7. Editing of Collected Data, 8. Classification and Tabulation of Data, 9. Diagrammatic Presentation of Data, 10. Graphic Presentation of Data, 11. Construction of Frequency Distribution, 12. Measures of Central Tendency, 13. Geometric Mean and Harmonic Mean, 14. Partition Values, 15. Measures of Dispersion, 16. Measures of Skewness, 17. Moments, 18. Measures of Kurtosis, 19. Correlation, 20. Index Number, 21. Analysis of Time Series, 22. Interpolations and Extrapolation, 23 . Regression Analysis, 24. Probability Theory, 25. Probability Distributions or Theoretical Frequency Distributions, 26. Association of Attributes, 27 . Sampling Theory and Tests of Significance, 28. Chi-Square Test and Goodness of Fit, 29. Analysis of Variance, 30 . Statistical Quality-Control (SQC).

Statistics - An Introduction 2. Classification And Tabulation 3. Diagrammatic And Graphical Presentation 4. Measure Of Central Tendency 5. Measures Of Dispersion 6. Skewness, Moments And Kurosis 7. Correlation 8.Regression Analysis 9. Analysis Of Time Series 10. Index Numbers This completely revised second edition presents an introduction to statistical pattern recognition. Pattern recognition in general covers a wide range of problems: it is applied to engineering problems, such as character readers and wave form analysis as well as to brain modeling in biology and psychology. Statistical decision and estimation, which are the main subjects of this book, are regarded as fundamental to the study of pattern recognition. This book is appropriate as a text for introductory courses in pattern recognition and as a reference book for workers in the field. Each chapter contains computer projects as well as exercises.

Elementary Statistical Methods  
Fundamentals of Engineering Heat and Mass Transfer  
Statistical Analysis of Measurement Error Models and Applications  
Origin and Developmental Stages  
Bayesian Methods for Ecology

The essential introduction to the theory and application of linear models—now in a valuable new edition Since most advanced statistical tools are generalizations of the linear model, it is necessary to first master the linear model in order to move forward to more advanced concepts. The linear model remains the main tool of the applied statistician and is central to the training of any statistician regardless of whether the focus is applied or theoretical. This completely revised and updated new edition successfully develops the basic theory of linear models for regression, analysis of variance, analysis of covariance, and linear mixed models. Recent advances in the methodology related to linear mixed models, generalized linear models, and the Bayesian linear model are also addressed. Linear Models in Statistics, Second Edition includes full coverage of advanced topics, such as mixed and generalized linear models, Bayesian linear models, two-way models with empty cells, geometry of least squares, vector-matrix calculus, simultaneous inference, and logistic and nonlinear regression. Algebraic, geometrical, frequentist, and Bayesian approaches to both the inference of linear models and the analysis of variance are also illustrated. Through the expansion of relevant material and the inclusion of the latest technological developments in the field, this book provides readers with the theoretical foundation to correctly interpret computer software output as well as effectively use, customize, and understand linear models. This modern Second Edition features: New chapters on Bayesian linear models as well as random and mixed linear models Expanded discussion of two-way models with empty cells Additional sections on the geometry of least squares Updated coverage of simultaneous inference The book is complemented with easy-to-read proofs, real data sets, and an extensive bibliography. A thorough review of the requisite matrix algebra has been addedfor transitional purposes, and numerous theoretical and applied problems have been incorporated with selected answers provided at the end of the book. A related Web site includes additional data sets and SAS® code for all numerical examples. Linear Model in Statistics, Second Edition is a must-have book for courses in statistics, biostatistics, and mathematics at the upper-undergraduate and graduate levels. It is also an invaluable reference for researchers who need to gain a better understanding of regression and analysis of variance.

Conventional statistical methods have a very serious flaw. They routinely miss differences among groups or associations among variables that are detected by more modern techniques, even under very small departures from normality. Hundreds of journal articles have described the reasons standard techniques can be unsatisfactory, but simple, intuitive explanations are generally unavailable. Situations arise where even highly nonsignificant results become significant when analyzed with more modern methods. Without assuming the reader has any prior training in statistics, Part I of this book describes basic statistical principles from a point of view that makes their shortcomings intuitive and easy to understand. The emphasis is on verbal and graphical descriptions of concepts. Part II describes modern methods that address the problems covered in Part I. Using data from actual studies, many examples are included to illustrate the practical problems with conventional procedures and how more modern methods can make a substantial difference in the conclusions reached in many areas of statistical research. The second edition of this book includes a number of advances and insights that have occurred since the first edition appeared. Included are new results relevant to medians, regression, measures of association, strategies for comparing dependent groups, methods for dealing with heteroscedasticity, and measures of effect size.

This book provides an accessible presentation of concepts from probability theory, statistical methods, the design of experiments and statistical quality control. It is shaped by the experience of the two teachers teaching statistical methods and concepts to engineering students, over a decade. Practical examples and end-of-chapter exercises are the highlights of the text as they are purposely selected from different fields. Statistical principles discussed in the book have great relevance in several disciplines like economics, commerce, engineering, medicine, health-care, agriculture, biochemistry, and textiles to mention a few. A large number of students with varied disciplinary backgrounds need a course in basics of statistics, the design of experiments and statistical quality control at an introductory level to pursue their discipline of interest. No previous knowledge of probability or statistics is assumed, but an understanding of calculus is a prerequisite. The whole book serves as a master level introductory course in all the three topics, as required in textile engineering or industrial engineering. Organised into 10 chapters, the book discusses three different courses namely statistics, the design of experiments and quality control. Chapter 1 is the introductory chapter which describes the importance of statistical methods, the design of experiments and statistical quality control. Chapters 2–6 deal with statistical methods including basic concepts of probability theory, descriptive statistics, statistical inference, statistical test of hypothesis and analysis of correlation and regression. Chapters 7–9 deal with the design of experiments including factorial designs and response surface methodology, and Chap. 10 deals with statistical quality control.

Quantitative Techniques, 3rd Edition  
Introduction to Probability  
Fundamentals of Mathematical Statistics  
Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference Held June 10-16, 1989, with Support from the National Science Foundation and the U.S. Army Research Office  
Civil Engineering

Underlines the objective of the understanding of the physical phenomena involved and the ability to formulate and to solve typical problems. This book identifies the similarities in both qualitative and quantitative approach between heat and mass transfer. This edition has been thoroughly revised and enlarged. It is still considered to be a must for all those sitting Civil Engineering examinations. Time series data analysis is increasingly important due to the massive production of such data through the internet of things, the digitalization of healthcare, and the rise of smart cities. As continuous monitoring and data collection become more common, the need for competent time series analysis with both statistical and machine learning techniques will increase. Covering innovations in time series data analysis and use cases from the real world, this practical guide will help you solve the most common data engineering and analysis challenges in time series, using both traditional statistical and modern machine learning techniques. Author Aileen Nielsen offers an accessible, well-rounded introduction to time series in both R and Python that will have data scientists, software engineers, and researchers up and running quickly. You'll get the guidance you need to confidently: Find and wrangle time series data Undertake exploratory time series data analysis Store temporal data Simulate time series data Generate and select features for a time series Measure error Forecast and classify time series with machine or deep learning Evaluate accuracy and performance

Introduction to Statistical Methods, Design of Experiments and Statistical Quality Control  
Food Security, Poverty and Nutrition Policy Analysis  
Through Objective Type Questions  
Statistics and Probability with Applications for Engineers and Scientists  
Introduction to Statistical Pattern Recognition

Introducing the tools of statistics and probability from the ground up An understanding of statistical tools is essential for engineers and scientists who often need to deal with data analysis over the course of their work. Statistics and Probability with Applications for Engineers and Scientists walks readers through a wide range of popular statistical techniques, explaining step-by-step how to generate, analyze, and interpret data for diverse applications in engineering and the natural sciences. Unique among books of this kind, Statistics and Probability with Applications for Engineers and Scientists covers descriptive statistics first, then goes on to discuss the fundamentals of probability theory. Along with case studies, examples, and real-world data sets, the book incorporates clear instructions on how to use the statistical packages Minitab® and Microsoft® Office Excel® to analyze various data sets. The book also features: • Detailed discussions on sampling distributions, statistical estimation of population parameters, hypothesis testing, reliability theory, statistical quality control including Phase I and Phase II control charts, and process capability indices • A clear presentation of nonparametric methods and simple and multiple linear regression methods, as well as a brief discussion on logistic regression method • Comprehensive guidance on the design of experiments, including randomized block designs, one- and two-way layout designs, Latin square designs, random effects and mixed effects models, factorial and fractional factorial designs, and response surface methodology • A companion website containing data sets for Minitab and Microsoft Office Excel, as well as JMP® routines and results Assuming no background in probability and statistics, Statistics and Probability with Applications for Engineers and Scientists features a unique, yet tried-and-true, approach that is ideal for all undergraduate students as well as statistical practitioners who analyze and illustrate real-world data in engineering and the natural sciences.

The book examines the various aspects of non-financial central public sector enterprises (PSEs) in India, for a period from 1986-87 to 2010-11. The analysis is based on all the key financial ratios; namely, profitability, efficiency, liquidity, leverage and productivity. Liberalization and globalization have caused competition in India and have lowered the profit margins. At the same time, Indian government has reduced subsidies and budgetary support for PSEs to curtail their own fiscal deficit. Strategic and economic reforms were also introduced in PSEs to make their operations commercially profitable so that they are not dependent on the government to meet their financial requirements on the one hand, and have their own earnings to finance their expansion/modernization requirements as well as their social obligations, on the other. To what extent, the PSEs have succeeded in this objective constitutes one major aspect of the present research work. The other equally important aspect examined is financial performance of the PSEs which have opted for disinvestment and have signed memorandum of understanding (MoU) self obligations. The Indian Government has desired the central PSEs to be profitable in their operations in post-liberation era of 1990s. For this purpose, two major instruments, namely, disinvestment and MoUs, were introduced. This book examines, in detail, financial performance of PSEs which had opted for disinvestment and have signed MoU. Based on analysis/ findings and literature on the subject, the book contains some concrete suggestions that would prove extremely helpful to Indian Government to further improve their financial performance. ?

The interest in using Bayesian methods in ecology is increasing, however many ecologists have difficulty with conducting the required analyses. McCarthy bridges that gap, using a clear and accessible style. The text also incorporates case studies to demonstrate mark-recapture analysis, development of population models and the use of subjective judgement. The advantages of Bayesian methods, are also described here, for example, the incorporation of any relevant prior information and the ability to assess the evidence in favour of competing hypotheses. Free software is available as well as an accompanying web-site containing the data files and WinBUGS codes. Bayesian Methods for Ecology will appeal to academic researchers, upper undergraduate and graduate students of Ecology.

Introduction to Probability and Statistics Using R  
Nonparametric Statistics with Applications to Science and Engineering

The book approaches research from a perspective different from that taken in other educational research textbooks. The goal is to show educators that the application of research principles can make them more effective in their job of promoting learning. The basic point is that we do not have to stop teaching to do research; research is something we can do while teaching and if we do good research, we will do better teaching. This book includes most of the topics treated in traditional educational research books, but in a different order and with a different emphasis. The important content consists of:

• For M.Com., MBA, MFC, MBE, M.A(Eco.),MCA, B.Com(H), B.Com(P),B.A.(H)Eco,BBA,BBS,BBE, B.A., etc. of all Indian Universities. Also for CA., ICWA, IAS, and other Equivalent Competitive Examinations. • Presents a clear, simple, systematic and comprehensive exposition of the methods, principles and techniques of statistics in various disciplines with special reference of commerce, management, economics and business. • A large number of solved (about 1500) problems and unsolved (nearly 3000) problems have been included to enable the user of statistical techniques and methods in commerce, economics, management and other related areas.

Food Security, Poverty and Nutrition Analysis provides essential insights into the evaluative techniques necessary for creating appropriate and effective policies and programs to address these worldwide issues. Food scientists and nutritionists will use this important information, presented in a conceptual framework and through case studies for exploring representative problems, identifying and implementing appropriate methods of measurement and analysis, understanding examples of policy applications, and gaining valuable insight into the multidisciplinary requirements of successful implementation. This book provides core information in a format that provides not only the concept behind the method, but real-world applications giving the reader valuable, practical knowledge. \* Identify proper analysis method, apply to available data, develop appropriate policy \* Demonstrates analytical techniques using real-world scenario application to illustrate approaches for accurate evaluation improving understanding of practical application development \* Tests reader comprehension of the statistical and analytical understanding vital to the creation of solutions for food insecurity, malnutrition and poverty-related nutrition issues using hands-on exercises

Comprehensive Mathematics Activities and Projects IX

Statistics by Dr. B. N. Gupta (SBPD Publications)

Handbook of Statistical Genetics

Statistical Methods and Applications

Research Methodology

Ott and Longnecker's AN INTRODUCTION TO STATISTICAL METHODS AND DATA ANALYSIS, 6th Edition, International Edition provides a broad overview of statistical methods for advanced undergraduate and graduate students from a variety of disciplines who have little or no prior course work in statistics. The authors teach students to solve problems encountered in research projects, to make decisions based on data in general settings both within and beyond the university setting, and to become critical readers of statistical analyses in research papers and in news reports. The first eleven chapters present material typically covered in an introductory statistics course, as well as case studies and examples that are often encountered in undergraduate capstone courses. The remaining chapters cover regression modeling and design of experiments.

Measurement error models describe functional relationships among variables observed, subject to random errors of measurement. Examples include linear and nonlinear errors-in-variables regression models, calibration and inverse regression models, factor analysis models, latent structure models, and simultaneous equations models. Such models are used in a wide variety of areas, including medicine, the life sciences, econometrics, chemometrics, geology, sample surveys, and time series. Although the problem of estimating the parameters of such models exists in most scientific fields, there is a need for more sources that treat measurement error models as an area of statistical methodology. This volume is designed to address that need. This book contains the proceedings of an AMS-IMS-SIAM Joint Summer Research Conference in the Mathematical Sciences on Statistical Analysis of Measurement Error Models and Applications. The conference was held at Humboldt State University in Arcata, California in June 1989. The papers in this volume fall into four broad groups. The first group treats general aspects of the measurement problem and features a discussion of the history of measurement error models. The second group focuses on inference for the nonlinear measurement error model, an active area of research which generated considerable interest at the conference. The third group of papers examines computational aspects of estimation, while the final set studies estimators possessing robustness properties against deviations from common model assumptions.

This textbook covers the complete syllabus in the Business Mathematics & Business Statistics paper of B.Com. 2nd-year students. The Book has been designed strictly according to the latest updated syllabus prescribed by the University of Delhi. Besides revising and simplifying the text, a number of illustrations and examples are added to explain various concepts introduced in the text. Also, new problems mostly from recent university examinations have been added in this edition. At the same time, old stereotype problems have been removed. In fact, the whole book has been rewritten and given a new look altogether. Salient Features 1. The Book covers the complete syllabus in Business Mathematics & Business Statistics paper of B.Com. examination. 2. There are detailed self-contained chapters on all the syllabus elements. 3. Part I of the book starts with the introduction to Statistics and discusses measures of central tendency and of variation, correlation & regression analysis, index numbers, time series, and interpretation of data. 4. Part II of the book begins by introducing the concept of matrices and determinants. Their applications to business and economic problems are discussed in the chapter. 5. The Concept of differentiation & integration along with their applications are given in chapters 3 & 4 of part II. 6. The language used in the text is simple and the subject matter has been presented in a lucid and straightforward style. 7. Special care has been taken to develop the concepts in an easy-to-understand manner and are self-explanatory.

Fundamental of Research Methodology and Statistics

Fundamentals of Statistics

Temples in India

1. Statistics : Meaning, Nature and Limitations, 2. Statistics : Scope and Importance, 3. Statistical Investigation, 4. Process of Data Collection, 5. Methods of Sampling, 6. Preparation of Questionnaire, 7. Classification and Tabulation of Data, 8. Measures of Central Tendency, 9. Quartiles, 10. Geometric Mean and Harmonic Mean, 11. Measures of Dispersion, 12. Measures of Skewness, 13. Analysis of Time Series, 14. Correlation, 15. Regression Analysis, 16. Index Number, 17. Diagrammatic Presentation of Data, 18. Graphic Presentation of Data, 19. Association of Attributes Appendix (Log-Antilog Table).