

**BOOK REVIEWS**

**Miyan, M.A. and Mian M.A. *An Introduction to Statistics*. Ideal Books Dhaka, 2011. xix + 776 pp. Tk. 467.00/\$15.00/£10.00 ISBN 984-8379-16-9.**

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Conducting book reviews can often be an onerous and uninteresting task, however when we were asked to review this book we readily accepted the offer. There are several reasons for this. Firstly, when we were university student we went through this book due to curiosity as because at that time there were few Bangladeshi authors whom wrote the books on statistics. Secondly, there is, to our knowledge, a shortage of reference books of applied statistics by the Bangladeshi authors, which develop both the necessary background theory and present an exhaustive and informative account of the analysis of real examples. The book is organized into 23 chapters and 14 annexure. It is not possible in this brief review to do credit to all the works in this book. So we will restrict ourselves to mentioning those chapters which we thought were highlights. The book is extremely well written and clear, and there are very few typographical errors. Although the treatment of the material is mathematically rigorous, each new idea is accompanied by several worked examples. There are also a large number of problems for the reader and brief historical notes at the end each chapter. A very attractive feature of the book is that, when a topic is introduced, the means to carry out any necessary calculations are discussed.

Each chapter has clearly defined objectives, an outline, key formulae, text, illustration and practical exercises. The authors have succeeded in producing an interesting introductory in applied statistics. The writing style is clear and concise, the material is well organized. Several important topics are covered and some recent developments in the field are included. The text is organized into 23 chapters. Chapter 1 is a short introduction that emphasizes an

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overview of past, present, and a historical perspective of statistics. The first of my reservations is the authors' apparent assumption that the reader starts the book not having previously encountered any statistics. I find this unlikely, but even if it were true, I doubt that the reader would then be able to acquire the statistical knowledge they need at the rate the authors assume. Chapter 2 discusses framing a questionnaire and assembling of statistical data with the degree accuracy desired. Processing and representation of statistical data are clearly explained in Chapter 3 and 4. Different tools of statistics for measuring central tendency and dispersion of the observed data with some illustrations and interpretation of the estimates are given in Chapter 5 and 6. Chapter 7 deals with form of distribution: moments, skewness and kurtosis. The measures of relationship between and among the variables by using correlation and regression are critically discussed in Chapter 8. In this Chapter the authors have mentioned that lag and lead has got special significance in the study of correlation in business and socio-economic field. Lot of examples and exercises with illustrations are sited from different field of studies. Chapter 9 covers the uses of Interpolation and Extrapolation in business and commerce. In Chapter 10 the authors gave more emphasis on use and importance of index numbers in business. Almost all possible methods of calculating index numbers are discussed in this Chapter. The importance of time series analysis and different methods of time series analysis are discussed in Chapter 11. The method of periodogram analysis for determining the hidden periodicities in a time series are discussed adequately. The statistical methods in forecasting and also some theories of business forecasting with limitations are discussed in epigrammatic in this Chapter. Chapter 12 covers the total theories of probability and three important probabilities distributions with some examples. Chapter 13 and 14 deal with sampling methodologies and socio-economic survey. Chapter 15 is concern with different methods of statistical quality control and its' importance in industry. Chapter 16 narrated national income and some economic laws for computing national income. Chapter 17 discussed the role of test of hypothesis in statistics and its application in applied statistics for decision making. Chapter 18, 19 and 20 are introduced to the concept of analysis of variance, design of experiments and non-parametric statistics. The theory and methods for the standard designs – completely randomized ( CRD), randomized complete block (RCBD), Latin square, incomplete block and general factorial designs – are covered in depth. Topics usually dealt with for each of these designs include : definitions and models; least squares results leading to BLUEs and their standard errors for linear contrasts of parameters; inference comprising the F-test for the ANOVA table, both tests and confidence. Each chapter has been clearly explained with practical examples. Chapter 21 and 22 invariable covers the most important topics in statistics the operational research and linear programming for taking decision not only for business people but also for the others whom are working with applied statistics. In the last Chapter the authors critically discussed the major sources of published statistics of Bangladesh and some shortcoming of our official statistics. The main features of the annexure is that one illustrative questionnaire with illustrative field instruction manual are sited.

This is not a textbook for undergraduate students in statistics departments. It is intended for undergraduate and graduate students in departments such as business faculty and social

sciences, where statistics is taught essentially as a tool for applied research and for writing a sensible report in their respective fields.

The examples discussed, which the authors consider the most important part of the book, are manageable but substantial enough to be interesting. The second concern is that the lot of exercises may augment the book's utility as an undergraduate text. Despite these trivialities, I recommend the book to its intended audience. A very attractive feature of the book is that, when a topic is introduced, the means to carry out any necessary calculations are discussed. The examples discussed, which the authors consider the most important part of the book, are manageable but substantial enough to be interesting. There is an abundant supply of worked examples in each of these. At the end of each chapter, there are a large number of problems for the reader, some supplementary notes and a list of references. In fact, the number of problems is roughly double that of the first edition.

Overall the authors have done a remarkable job to assemble these diverse results into a well-structured book. The material is well presented and most statements are unambiguous and directly to the point.