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LECTURE- 2

BSc (AG)
2nd Year , IIIrd Sem.
Statistical Methods
AES-213



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Outline of Lecture

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- Graphical Representation of data
- Introduction
- Data Presentation
- Text Presentation
- Test Your Skills (Questions based on Lecture)
- Suggested Readings & References



Introduction

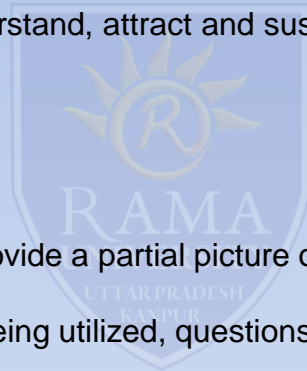
Data are usually collected in a raw format and thus the inherent information is difficult to understand. Therefore, raw data need to be summarized, processed, and analyzed. The techniques of data and information presentation in textual, tabular, and graphical forms are introduced. Text is the principal method for explaining findings, outlining trends, and providing contextual information.

A table is best suited for representing individual information and represents both quantitative and qualitative information. A graph is a very effective visual tool as it displays data at a glance, facilitates comparison, and can reveal trends and relationships within the data such as changes over time, frequency distribution, and correlation or relative share of a whole.

Introduction continue

Text, tables, and graphs for data and information presentation are very powerful communication tools. They can make an article easy to understand, attract and sustain the interest of readers, and efficiently present large amounts of complex information.

Data are a set of facts, and provide a partial picture of reality. Whether data are being collected with a certain purpose or collected data are being utilized, questions regarding what information the data are conveying, how the data can be used, and what must be done to include more useful information must constantly be kept in mind.



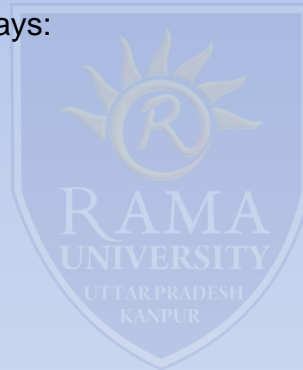
Data Presentation

Data can be presented in one of the three ways:

➤ as text

➤ in tabular form

➤ in graphical form



Text Presentation

Text is the main method of conveying information as it is used to explain results and trends, and provide contextual information. Data are fundamentally presented in paragraphs or sentences. Text can be used to provide interpretation or emphasize certain data. If quantitative information to be conveyed consists of one or two numbers, it is more appropriate to use written language than tables or graphs.

Text Presentation continue

For instance, information about the incidence rates of delirium following anesthesia in 2016–2017 can be presented with the use of a few numbers: “The incidence rate of delirium following anesthesia was 11% in 2016 and 15% in 2017; no significant difference of incidence rates was found between the two years.” If this information were to be presented in a graph or a table, it would occupy an unnecessarily large space on the page, without enhancing the readers' understanding of the data.

If more data are to be presented, or other information such as that regarding data trends are to be conveyed, a table or a graph would be more appropriate. By nature, data take longer to read when presented as texts and when the main text includes a long list of information, readers and reviewers may have difficulties in understanding the information.

Test Your Skills (Fill in the blanks)

1. We need graphical representation of data because.....
2. Write the number of ways in which data presented
3. What is text presentation
4. What is table presentation
5. What is the basic difference between text and table presentation



Suggested Readings & References

Suggested Readings & References

- 1) Statistical Methods: P.N. Arora, Sumeet Arora & S. Arora; S. Chand & Company Ltd.
- 2) Fundamental of Mathematical Statistics: S.C. Gupta & V. Kapoor; Sultan Chand & Sons.
- 3) Statistics: M.R. Spiegel; Schaum's Outline Series, Mc-Graw Hill Publication.
- 4) Advanced Engineering Mathematics: Erwin Kreyszig; John Wiley & Sons Inc.
- 5) Elements of Statistics: J.P. Chauhan & S. Kumar; Krishna Publication.



*** THANK YOU ***