FACULTY OF ENGINEERING & TECHNOLOGY

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LECTURE- 14

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

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Outline of lecture

- ➤ Measure of Dispersion

- ➤ Range definition & formula

- ➤ Merits of Range

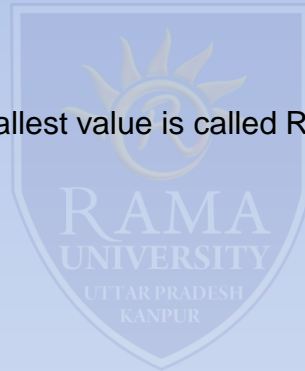- ➤ Demerits of Range

- ➤ Suggested Readings & References

Range

The difference between largest value and smallest value is called Range of observations.

Range = Largest value - smallest value

Range = L – S

Coefficient of range $= \dfrac{L-S}{L+S}$

Properties of Range

Merits or Advantages of Range:

❑　Range is easy to understand.

❑　Range is easy to calculate.

❑　Range is easily determined by inspection.

❑　Its calculation is based on only two extreme values.

❑　It is very useful in quality control in big industries such as food industry, medicine industry, etc.

Demerits or Disadvantages of Range:

o   Range is not depends on all the observations because it is focus on only two values.

o   Range is not capable for further mathematical calculations.

o   It is very much affected by fluctuation of sampling.

o   It does not give any idea of shape of the data set.

o   It is not practical measure of measure of dispersion.
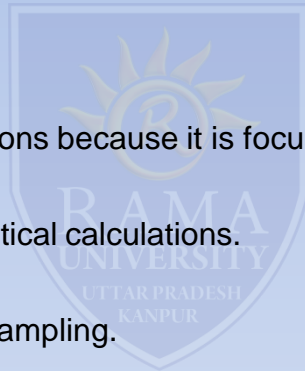
Suggested Readings & References

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 *