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FACULTY OF ENGINEERING & TECHNOLOGY

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LECTURE- 9

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

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Outline of lecture

- Measure of Central Tendency
- Median definition & formula
- Merits of Median
- Demerits of Median
- Test Your Skills (Questions based on Lecture)
- Suggested Readings & References

Median

First we arrange the data in ascending or descending order then middle term is called median of data.
When there are two terms in middle then mean of these two terms is called median.

When data is classified into class interval and frequency then we can use median formula-

$$Median = L_1 + \frac{\mathrm{L}_2 - \mathrm{L}_1}{f}\left(\frac{N}{2} - C\right)$$

where

$L_1 = lower\ limit\ of\ median\ class$
$L_2 = upper\ limit\ of\ median\ class$

$f = frequeny\ of\ median\ class$

$N = total\ frequency$

$C = cumulative\ frequency\ before\ median\ class$

Properties of Median

Merits or Advantages of Median:

- Median is easy to understand.
- Median is easy to calculate.
- In some cases median is easily find by inspection.
- Median is rigidly defined by a mathematical formula.
- Median is only measure of central tendency which is used for qualitative data (Honesty, Beauty, Intelligence etc).

Demerits or Disadvantages of Median:

- In some cases, median can not be determined by inspection.
- Median is not based on all the observations, this characteristic is called median in ‘insensitive’.
- Median is not capable for mathematical calculations.
- As compared with mean, median is very much affected by fluctuation of sampling.

Test Your Skills (Fill in the blanks)

1. Why we use median……
2. Write one characteristic of median …….
3. Write the one demerit of median …..
4. Write the formula of median in class interval and frequency form……..
5. Find the median of the numbers 41, 213, 516, 718, 234, 417. …….

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 *