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## **Business Statistics**

### **Miscellaneous**

**Q: Mention the limitations of index number.** ([www.prepNext.com](http://www.prepNext.com))

**Ans:**

The limitations of Index number are:

- 1) There is a chance of error at each stage of the construction of index number like
  - a) Selection of commodities
  - b) Selection of the base period
  - c) Collection of data relating to prices and quantities of the commodities
  - d) The choice of formula
  - e) The use of average

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- 2) Since index number are based on the sample data they are only approximate indicators and may not exactly represent the changes in the relative level of a phenomenon.
- 3) Index number may not represent the exact change in price level as they are based on sample data.
- 4) The customs, habits and taste of people change in the course of time and they may make the weighting not suitable for the present data.
- 5) Index numbers are special types of averages and the type of index used for their construction has its limitations. Thus, the index numbers may not really be the representative.
- 6) By selecting a selecting year as the base year or choice of commodities, price and quantity quotations, selfish and unscrupulous persons may get their desired result.
- 7) There may be an error in each index number, because there is no formula for measuring price change. Thus, there can be a formula error. Hence it will not be a representative one.

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**Q: “Standard Deviation is regarded as the best measure of dispersion.” Discuss. (Importance/ Merits of Standard Deviation)**

*(www.prepNext.com)*

**Ans.:**

Standard Deviation is one of the best measures of dispersion due to following reasons:

- 1) Standard deviation is based on all the observations.
- 2) It has greater mathematical significance and is capable of further mathematical treatment.
- 3) It is rigidly defined.
- 4) It represents the true measurement of dispersion of a series.
- 5) It is least affected by fluctuations of sampling.
- 6) It is extremely useful in correlation
- 7) It is used in fitting a normal curve to a frequency distribution.
- 8) It is widely used in biological studies.

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**Q: “Statistics is like a mould of clay of which one can make a god or a devil”. Discuss.** *(www.prepNext.com)*

**Ans.:**

Statistics neither proves anything nor disproves anything. It is only a tool i.e., a method of approach. Statistical analysis has considerable accomplishments to its credits. If used properly, statistical tools help in taking wise decisions and if misused they can do more harm than good. Statistics is misused very often in the sense that a dishonest man can always prove all that he wants to do by using false and distorted statistics. One can ignore certain things, while present other things that support what one wants to say. But the fault does not lie with the science of statistics as such. If statistical facts are misused by some people it is the people who are to be blamed and not the Statistics. For example, 52% of children from the south of a city passed an exam, while 54.3% of the children in the north passed the same exam. One may conclude that children in the north are more intelligent. In actual fact, the sample size may be very small, say 10, so it will be wrong to make such a sweeping statement about the entire population based on such a small sample which is not representative of the population. It is a case of interpreting the statistics how one likes. In fact, statistics are like clay of which one can make a God or Devil as he pleases.

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**Q: When are pie charts used to represent statistical data?**

*(www.prepNext.com)*

**Ans.:**

Pie diagrams are used in practice to show percentage breakdowns. For example, with the help of pie diagrams we can show the expenditure of the government under different heads like agriculture, industry, defence etc. in percentage.

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**Q: What do you mean by sample?** (www.prepNext.com)

**Ans.:**

Sample is the process of selecting a small part of the population. Under sampling only selected part is taken into account.

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**Q: Which average is considered to be the best for the construction of index number?** (www.prepNext.com)

**Ans.:**

Geometric Mean

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**Q: When is rank correlation used?** (www.prepNext.com)

**Ans.:**

Rank correlation is used when:

- 1) Number of pairs of observation is fairly small.
  - 2) The original data are in the form of ranks.
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**Q: Write the relationship among Fisher's Index, Laspeyre's Index and Paasche's Index.** (www.prepNext.com)

**Ans.:**

Fisher's Index is the weighted price index which is the geometric mean of Laspeyre's and Paasche's indices.

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**Fill In the Blanks:** (www.prepNext.com)

- 1) The index number for base year is taken as **100**.
  - 2) When  $r = \pm 1$ , the number of regression line is **1**, because if  $r = \pm 1$ , regression lines coincides (overlaps/ becomes identical)  
If  $r = 0$ , regression lines are perpendicular to each other.
  - 3) Flood in Assam is an example of **irregular variation** in time series.
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### **A FEW IMPORTANT TERMS**

**Attributes:** Qualitative observations of elementary units are called attributes. They may often be expressed numerically.

**Data:** Data refers to any group of measurements that happen to interest us. These measurements provide information the decision maker uses.

**Statistics:** Statistics is the use of data to help the decision-maker reach better decisions.

**OR**

A statistic is a single value obtained to describe in a summary fashion the pertinent characteristics about a sample.