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CH - 6, Diagrammatic Representation of Data

Introduction :- Data may be presented in a simple and attractive manner in form of diagrams. Diagrammatic representation of data helps us to visualise the whole meaning of numerical facts at a glance.

Utility of Diagrammatic Representation

① Make Data Simple and understandable
The most complex statistical data becomes simple with help of diagrams. One can understand the features of data merely by having a look at diagrams.

② Remembrance for long period :- In the form of diagrams, data are easily remembered for long period. These are not easily forgotten.

- ③ No need of Training of Special Knowledge
one needs no training of special knowledge in reading diagrams. Diagrams are easily understood even by a layman.
- ④ Saving of time and money Diagrammatic presentation of data saves a lot of time and labour compared to other techniques of data presentation.
- ⑤ Informative and Entertaining Besides being informative, diagrammatic presentation of data is an entertaining means of data presentation.
- ⑥ Helpful in Transmission of Information
Diagrams are very helpful in transmission of statistical information.

Limitations of Diagrammatic Presentation

- ① Estimate :- Diagrammatic presentation of data show only an estimate of actual behaviour of variables.
- ② Limited use :- only a limited set of data can be presented in the form of diagram, generally used when comparison are involved.
- ③ More time :- Diagrammatic presentation of data is a time consuming process. It involved too much verification of data.
- ④ Analysis :- It is not very easy to arrive at final conclusion after seeing the diagram.

Objectives of Diagrammatic Representation of Data

- ① Make complex data easily understandable
Diagrams make complex statistical data easily intelligible
- ② Comparison Diagrams are used to make comparisons between two or more variables in a very short time
- ③ Approximate idea Diagrams are most useful when it is required to get an approximate idea of characteristic features of statistical data
- ④ Clear idea of variations By looking at diagrams, we can get a clear idea of variations in value of variables.

Rules for Drawing / Constructing Diagrams

- ① Attractive and Effective - Diagrams must be attractive and effective in communicating the information.
- ② Proper Size - Diagrams must list the size of paper. It should be neither too big nor too small.
- ③ Proper Reading - Diagrams must have proper readings. A reading must be simple, short and informative.
- ④ Proper Scale - Before making a diagram, its scale must be carefully determined.
- ⑤ Use of Signs and Colors - Diagrams must carry some sign on the nature and classification of information. Colors may be used to indicate different aspects of a diagram.
- ⑥ Less use of words or numerical - In diagrammatic presentation of data, one should make use of minimum number of words and numericals.

- ⑦ Drawing the border diagrams must be boxed with full lines to make them attractive.
- ⑧ Simple simplicity is temporal feature of a diagram. It should not be ignored.

Types of Diagrams

① one dimensional diagrams one dimensional ~~type~~ diagrams are those diagrams which have information only in terms of some length. In this type of diagrams, breadth does not matter for ex:-
line diagrams, bar diagrams

② Two dimensional diagrams Two dimensional diagrams are those in which length as well as breadth of

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of text is considered. Eg:-

- 1) Rectangular diagrams
- 2) Circle diagrams

② These dimensional diagrams in three types of diagrams, length, breadth and height have to be taken into account. Eg. Cube

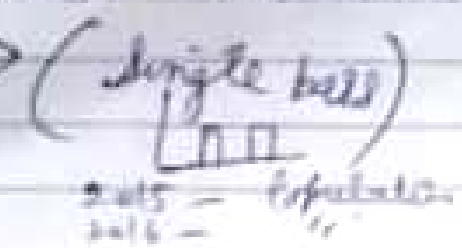
③ Histograms are the diagrams in which data is represented by using vertical symbols are histograms.

④ Line diagrams A line diagram is a diagram in which diagram data is represented in form of lines for eg. + Eg. 1

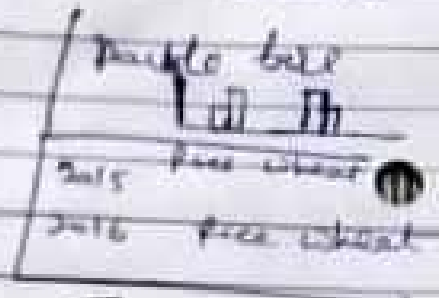
⑥ Bar Diagrams :- In these diagrams, only length of bars are taken into account. The width of bar is adjusted in accordance with space available and number of bars to be used. The gap of one bar and another is also kept constant (fixed). On construction of bar diagrams, either vertical Π or horizontal bars are used Π . But vertically bars are generally preferred.

Types of Bar Diagrams

① Simple Bar diagrams A simple bar diagram is used to represent the values of a single variable with respect to time or geographical location for eg the data of population or sales for different years may be shown by means of simple bar diagrams. The bars may be shaded or colored to make it more attractive. See eg 2



② Multiple bar diagrams The multiple bar diagrams are those diagrams which are used to compare two or more variables w.r.t time or location. See eg 6



③ Sub Divided Bar Diagrams In drawing such diagrams, first bars are drawn for total sum of values of different variables & then these bars are divided to show various components of variables. Different parts of bars must be distinguished by different shades or colours. See eg 8

