

CH-4 Organisation of Data.

Q1. what do you mean by the term classification?

A1. A raw data is divided into different classes to make it meaningful. These classes can be different characteristics of data like age group, income group, education level etc. [The process of dividing the data into classes is called as classification.]

It fulfils following objectives:-

1. Simplification of Data
2. Creates utility in Data
3. It makes Data comparable
4. It makes Data attractive & effective.

Q2. What are the different basis of classification of Data?

A2. following are the different basis:-

1. Geographical (Spatial)
2. Chronological
3. Qualitative
4. Quantitative - Numerical

1. **GEOGRAPHICAL (Spatial)**: In this classification data is divided on the basis of geographical differences of data.
For eg: Production of wheat in India can be classified as follows:

P_n (in 000 terms)

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state	Production
Punjab	15,300
Haryana	10,400
Bihar	12,600
U.P	18,400

2. CRONOLOGICAL : Data is classified on the basis of time, it is known as monological classification.
For eg: Production of wheat in India in last 5 years can be illustrated as follows.

Year	Production of wheat P_n (in 000 terms)
2018	1,07,800
2019	1,20,500
2020	1,30,100
2021	1,45,500
2022	1,90,400

3. QUALITATIVE: When data is classified on the basis of qualities or attributes of the data it is known as qualitative classification.

For eg: Data is classified on the basis of religion, intelligence, occupation, etc.

This classification can be of 2 types:

1. Simple Classification: It is classification according to Dichotomy i.e., on the basis of existence or absence

of a quality.
for eg: (healthy, unhealthy) (educated, un-educated) etc.

2. Manifold classification: when classification is done on the basis of more than one characteristics it is known as manifold classification.

for eg: workers are divided on the basis of skilled, unskilled & further classified on the basis of educated, un-educated etc.

4. QUANTITATIVE: The classification on the basis of a ~~character~~ characteristic that can be measured numerically is quantitative classification.

for eg: classification on the basis of height, weight, age, sales, etc.

~~This~~ This can be illustrated through following table:

Wages	No. of People
1-10K	150
10-20K	250
20K-30K	215
30K-40K	350
40K-50K	170

Q. what do you mean by statistical series & what are its different types?

A. It is a logical & systematic arrangement of items into a particular order or sequence in different classes or categories.

The types of statistical series are as follows.

Types of statistical series

On the basis of construction

- ① Individual series
- ② Discrete series
- ③ Continuous series

On the basis of General character.

- ① Time series
- ② Spatial series
- ③ Condition series

On the Basis of construction.

- ① Individual series: A raw data that is arranged in alphabetical order or in order of magnitude is known as Individual series.

In this series every item is presented individually and not grouped.

For eg:

Students	Marks
A	7
B	3
C	10
D	5
E	4
F	11

- ② Discrete series: A series having comparatively ~~no~~ larger amount of data but represented by discrete variables showing finite values of different items is known as Discrete series.

This can be illustrated through following table:



Marks	No. of students
5	7
10	23
15	21
20	24
25	10
	75

- ② Continuous Series: A series in which larger amount of data described by continuous variables, this series is prepared where data is comparatively large that may not have similarity but can be grouped in a particular range.
This can be illustrated through following table.

Marks	No. of students
1-10	7
10-20	10
20-30	17
30-40	23
40-50	13
	70

Table of differentiate all 3 series

Basis	Individual	Discrete	Continuous
Frequency	X	✓	✓
Classes	X	X	✓

Construction of Discrete Series.

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eg: Prepare a Discrete series from the following data:

Marks of students

2, 3, 7, 5, 9, 10, 3, 7, 2, 5, 3, 7, 2, 9, 6, 4, 3, 1, 2, 3, 9, 4, 5, 6, 7, 3, 2, 10

Marks	Frequency Tally Bars	Frequency
1	I	01
2	I	06
3	I	06
4	II	02
5	III	03
6	II	02
7		04
9	III	03
10	II	02

Kinds of Continuous series & its construction.

Exclusive Series

① Lower and upper limits are same

② Upper limit is excluded

eg: 0-10

10-20

20-30

30-40

Inclusive Series

① Upper of 1 & lower of next are different

② Lower & upper limit is included.

eg: 0-9

10-19

20-29

30-39

Conversion of Inclusive Series into Exclusive :-

Step 1 Find difference of upper limit of one & lower limit of next class.

Step 2 Divide the difference by 2 & add in ^{upper} limits & deduct in lower limits.

	<u>Inclusive</u>	<u>Exclusive</u>
eg.	0-9	-0.5 - 9.5
	10-19	9.5 - 19.5
	20-29	19.5 - 29.5
	30-39	29.5 - 39.5
	40-49	39.5 - 49.5

Q. "Prepare a continuous exclusive series from following taking 5 as class interval"

Marks $\rightarrow$ 3, 4, 5, 6, 7, 10, 11, 12, 3, 5, 12, 13, 16, 17, 18, 19, 11, 2, 3, 4, 5, 7, 9, 10.

Marks	Tally marks	Frequency
0-5	I	6
5-10	II	7
10-15	I	6
15-20		4