THEORY HAI ZAROORI
SPECIAL THEORY MCQs
& Out of Syllabus Theory
SESSION 2

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SESSION LINK:

https://www.youtube.com/live/XYWJ-4P441k?si=iqDO2twwRZPa2x6r

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THEORY WEIGHTAGE

Chapter	13. Statistical Description of Data	14. Central Tendency & Dispersion	15. Probability	16. Theoretical Distribution	17. Correlation & Regression	18. Index Numbers	Total
May 18	2	4	2	3	6	8	**25**
Nov 18	6	1	0	0	2	3	**12**
Jun 19	5	3	1	0	1	5	**15**
Nov 19	1	7	0	2	2	5	**17**
Nov 20	8	5	0	4	3	6	**26**
Jan 21	10	5	1	2	2	4	**24**
Jul 21	6	1	0	0	1	0	**8**
Dec 21	3	5	0	0	2	4	**14**
Jun 22	9	3	0	1	4	6	**23**
Dec 22	4	3	1	2	1	3	**14**
Jun 23	2	0	0	0	0	2	**4**

OUT of SYLLABUS Theory

Descriptive Statistics vs Inferential Statistics

Descriptive Statistics	• When a statistic is used only to *describe* scores in a sample (and not used to make inferences about populations), that is a descriptive use. • For example, a teacher may compute the mean test score for her class. She simply uses this number to think about how well her students did.
Inferential Statistics	• Inferential use of statistics occurs when a data analyst uses information from a sample (such as a mean or correlation) to make inferences or guesses about values of the corresponding mean or correlation in a **population** • Statistical inference only works well when sample sizes are reasonably large • For example, in a political poll, a polling organization obtains the percent of people who state an intention to vote for Candidate X for a sample of votes, perhaps selected by random digit telephone dialing from the population of all registered voters.

- Statistics is concerned with both quantitative and qualitative data
- Statistics cannot deals with qualitative classification

Simple Classification vs Manifold Classification

Simple Classification	• When based on only one attribute, the given data is classified into two classes, which is known as Simple Classification. • For example, when the population is divided into literate and illiterate, it is a simple classification.
Manifold Classification	• When based on more than one attribute, the given data is classified into different classes, and then sub-divided into more sub-classes, which is known as Manifold Classification. • For example, when the population is divided into literate and illiterate, then sub-divided into male and female, and further sub-divided into married and unmarried, it is a manifold classification.

Ideographs/ Pictograms

- A symbol that represents an idea or a thing, rather than the sounds of a word, is called an ideograph.
- A smiley face emoji is an ideograph that represents happiness.
- Many street signs are ideographs, meant to convey a specific meaning without using any words.

Qualitative Data Types

Nominal Data	• Nominal data are used to **label** variables without any quantitative value. • Common examples include hair color, nationalities, names of people, and so on. • Nominal means Name means Labels
Ordinal Data	• Ordinal word comes from order • Ordinal scales are often used for measures of satisfaction, happiness, and so on. • Example: high-low-medium, strong-weak, etc.

Research Data

Research data can be placed into two broad categories: quantitative or qualitative.

Quantitative data	Quantitative data are used when a researcher is trying to quantify a problem, or address the "what" or "how many" aspects of a research question. It is data that can either be counted or compared on a numeric scale. For example, it could be the number of first year students at Macalester, or the ratings on a scale of 1-4 of the quality of food served at Cafe Mac. This data are usually gathered using instruments, such as a questionnaire which includes a ratings scale or a thermometer to collect weather data. Statistical analysis software, such as SPSS, is often used to analyze quantitative data.
Qualitative data	Qualitative data describes qualities or characteristics. It is collected using questionnaires, interviews, or observation, and frequently appears in narrative form. For example, it could be notes taken during a focus group on the quality of the food at Cafe Mac, or responses from an open-ended questionnaire. Qualitative data may be difficult to precisely measure and analyze. The data may be in the form of descriptive words that can be examined for patterns or meaning, sometimes through the use of coding. Coding allows the researcher to categorize qualitative data to identify themes that correspond with the research questions and to perform quantitative analysis.

Sturges' Rule

In the early 20th century, German statistician Herbert Sturges formulated a method (now called Sturges' Rule) of choosing the optimum number of bins in a histogram that minimize the potential for these pitfalls. His formula is simple:

$k = 1 + 3.322 \log n$

Where:

k = the number of bins

n = the number of observations in the data set.

SPECIAL THEORY MCQS

Statistical Description of Data

PYQ May 2018
Frequency Density is used in the construction of

a. Histogram
b. Ogive
c. Frequency Polygon
d. None

Ans: a

PYQ Nov 2018
The following Frequency Distribution

X	12	17	24	36	45
F	2	5	3	8	9

a. Continuous Distribution
b. Discrete Distribution
c. Cumulative Frequency Distribution
d. None of the Above

Ans: b

PYQ Nov 2018
A suitable graph for representing the portioning of total into sub-parts in statistics is

a. Pie Chart
b. Pictograph
c. Ogive
d. Histogram

Ans: a

PYQ Jun 2019
_____ series is continuous.

a. Open Ended
b. Exclusive
c. Close Ended
d. Unequal Class Interval

Ans: b

PYQ Nov 2020
The average of salaries in a factory is Rs. 47000. The statement that the average salary is Rs. 47000 is _____

a. Descriptive Statistics
b. Inferential Statistics
c. Detailed Statistics
d. Undetailed Statistics

Ans: a

PYQ Nov 2020
Statistics cannot deal with _____ data

a. Quantitative
b. Qualitative
c. Textual
d. Undetailed

Ans: b

PYQ Nov 2020

The _____ is used when we want to examine the relationship between two variables.

a. Bar Graph
b. Pie Chart
c. Line Chart
d. Scatter Plot

Ans: d

PYQ Nov 2020

When data are classified according to one criterion then it is called as _____ classification

a. Quantitative
b. Qualitative
c. Simple
d. Factored

Ans: c

PYQ Jan 2021

A tabular presentation of data can be used for

a. Continuous Data
b. Nominal Data
c. Time Series Data for longer period
d. Primary Data

Ans: Wrong Que – Ans should be all

PYQ Jan 2021

From a histogram one cannot compute the approximate value of

a. Mode
b. SD
c. Median
d. Mean

Ans: b

PYQ Jul 2021

_____ means separating items according to similar characteristics grouping them into various classes

a. Classification
b. Editing
c. Separation
d. Tabulation

Ans: a

PYQ Jul 2021

In graphical re-presentation of data, ideographs are also called as

a. Pictographs
b. Asymmetry Graphs
c. Symmetry Graphs
d. Pictograms

Ans: d

PYQ Jun 2022

Which of the following does not form characteristics in dividing the data?

a. Number of auditors auditing the accounts
b. Number of files audited by auditor
c. Number of files audited less than 3, less than 5, less than 10
d. Number of files audited are very less, moderate, very large

Ans: d

PYQ Jun 2022
Which one is research data?
a. Discrete and Continuous
b. Qualitative and Quantitative
c. Processed and Unprocessed
d. Organized and Unorganized
Ans: b

MTP Mar 2021
Histogram is used for the presentation of
a. Time Series
b. Continuous Frequency Series
c. Discrete Series
d. Individual Series
Ans: b

MTP Mar 2021
The difference between upper limit and lower limit of a class is called as
a. Class Interval
b. Class Boundaries
c. Mid-Value
d. Frequency
Ans: a

Measure of Central Tendency and Dispersion

PYQ May 2018
The average of a series of overlapping averages, each of which is based on a certain number of items within a series is known as
a. Moving Average
b. Weighted Average
c. Simple Average
d. None
Ans: a

PYQ Jun 2019
Which of the following is a positional average?
a. Median
b. GM
c. HM
d. AM
Ans: a

PYQ Nov 2019
The deviations are minimum when taken from
a. Mean
b. Median
c. Mode
d. None
Ans: b

PYQ Nov 2020
50^{th} Percentile is equal to
a. Median
b. Mode
c. Mean
d. None
Ans: a

PYQ Nov 2020
Data for 10 matches are given, which of the following cannot be obtained?
a. Least Score
b. Highest Score
c. Best Score
d. Median Score
Ans: c

PYQ Jan 2021
From the record on sizes of shoes sold in a shop, one can compute the following to determine the most preferred shoe size
a. Mean
b. Median
c. Mode
d. Range
Ans: c

PYQ Dec 2021
For a moderately skewed distribution, the median is twice the mean, then the mode is _____ times the median
a. 3
b. 2
c. 2/3
d. 3/2
Ans: b

PYQ Dec 2021
For the data having odd number of observations, the difference between the first and the middle value is equal to the difference between last and the middle value. Then the middle value is equal to
a. Half of Range
b. Half of SD
c. Mode
d. Mean
Ans: d

PYQ Dec 2021
One hundred participants expressed their opinion on recommending a new product to their friends using the attributes: most unlikely, not sure, likely, most likely. The appropriate measure of central tendency that can be used here is
a. Mean
b. Mode
c. GM
d. HM
Ans: b

PYQ Dec 2021
Along a road there are 5 buildings of apartments, marked as 1, 2, 3, 4, 5. Number of people residing in each building is available. A bus stop is to be setup near one of the buildings so that the total distance walked by the residents to the bus stop from their buildings must be kept minimum. One must consider involving _____ to find the position of bus stop.
a. Mean
b. Median
c. Mode
d. Weighted Mean
Ans: b

PYQ Jun 2022
When each value doesn't have equal importance then we consider
a. AM
b. GM
c. HM
d. Weighted AM
Ans: d

MTP Oct 2021
Pooled Mean is also called as
a. Mean
b. GM
c. Grouped Mean
d. None
Ans: c

MTP Mar 2021
The sum of the squares of deviations of a set of observations has the smallest value, when deviations are taken from
a. AM
b. GM
c. HM
d. None
Ans: a

MTP Mar 2021
GM is better when
a. Ratios and Percentages are given
b. Interval of scale are given
c. Both
d. A or B
Ans: a

MTP Mar 2021
Which of the following central tendency cannot be obtained graphically
a. Mean
b. Median
c. Mode
d. Quartile
Ans: a

MTP Apr 2021
Inter-quartile range is _____ of QD
a. Half
b. Double
c. Triple
d. Equal
Ans: b

Correlation and Regression

PYQ May 2018
In the method of concurrent deviations, only the direction of change in the variables are considered to measure
a. Coefficient of SD
b. Coefficient of Regression
c. Coefficient of Correlation
d. None
Ans: c

PYQ May 2018
Correlation Coefficient is _____of unit of measurement
a. Dependent
b. Independent
c. Both
d. None
Ans: b

PYQ May 2018
Rank Correlation coefficient lies between
a. 0 to 1
b. -1 to +1 inclusive
c. -1 to 0
d. Both
Ans: b

PYQ Jun 2019
AM of regression coefficients is
a. Equal to r
b. Greater than or equal to r
c. Half of r
d. None
Ans: b

PYQ Jul 2021
If the sum product of the deviations of X and Y from their means is zero the correlation coefficient between X and Y is
a. Zero
b. Positive
c. Negative
d. 10
Ans: a

PYQ Jul 2021
The sum of square of any real positive quantities and its reciprocals is never less than
a. 4
b. 2
c. 3
d. 1
Ans: b

PYQ Jun 2022
Karl Pearson's correlation coefficient method is used for
a. Any Data
b. Scattered Data
c. Grouped Data
d. Ungrouped Data
Ans: d

PYQ Jun 2022
Which of the following is used to find the correlation between two qualitative characteristics
a. Karl Pearson
b. Spearman Rank Correlation
c. Concurrent Deviation
d. Scatter Diagram
Ans: b

Index Numbers

PYQ Jan 2021
The cost-of-living index is always
a. Price Index Number
b. Quantity Index Number
c. Weighted Price Index Number
d. Value Index Number
Ans: c

PYQ Jan 2021
When the quantities of all commodities are changing in the same ratio, then the index numbers due to Lasperey's Index and Paasche's Index will be
a. Equal
b. Unequal
c. Reciprocal of Marshall Edgeworth Index
d. Reciprocal of Fisher's Index
Ans: a

PYQ Dec 2021
Index numbers are not helpful in
a. Framing Economic Policies
b. Revealing Trend
c. Forecasting
d. Identifying Errors
Ans: d

PYQ Jun 2022
GM is used in which method of Index Numbers
a. Lasperey's
b. Paasche's
c. Fisher's
d. None
Ans: c

PYQ Dec 2022
In price index, when a new commodity is required to be added, which of the following is used?
a. Shifted Price Index
b. Splicing Price Index
c. Deflating Price Index
d. Value of Price Index
Ans: a

PYQ Dec 2022
Which of the following Index Measures the change from month to month in the cost of a representative basket of goods and services of the type which are bought by a typical household?
a. Retail Price Index
b. Laspeyre's Price Index
c. Fisher's Price Index
d. Paasche's Price Index
Ans: a