

1 4th Sem REHBAR COMPUTER OPPOSITE DEGREE COLLEGE SUMBAL 7006622409 .

4TH SEMESTER CBCS.

SUBJECT:- SOCIOLOGY.

RS: 100.

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COURSE TITLE	SOCIOLOGY
COURSE CODE	METHODOLOGY OF SOCIAL RESEARCH
SEMESTER	FOURTH (SEM)

UNIT-I INTRODUCTION -DESCRIPTION

- Nature and Scope of Social Research
- Types of Social Research: Pure and Applied

Q: -What do you mean by Research?

Ans: - Research is an intensive and purposeful search for knowledge and understanding of social and physical phenomena. It is a method for the discovery of true values in a scientific way.

Research may be defined as the application of the scientific method in the study of problems. At times, the terms research and scientific method are used interchangeably.

The term research consist of two words,' Re'+ 'Search'. "Re" means again and again and "Search" means to find out something. The following is the process;

$$\text{Person phenomena} \xrightarrow[\text{Again and Again}]{\text{Observs}} = \text{conclusions} \xrightarrow[\text{Analysis of Data}]{\text{Collection of data}}$$

Therefore, the research is a process of which a person observes the phenomena again and again and collects the data and on the basis of data he draws some conclusions.

Definition of Research:

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a) According to Black and Champion, “scientific research consist of obtaining information through empirical observation that can be used for systematic development of logically related propositions attempting to establish casual relations among variable”.

b) Emory defines research as “any organized inquiry designed and carried out to provide information for solving a problem”.

c) Kerlinger defines research as a” systematic, controlled, empirical and critical investigation of hypothetical relations among natural phenomena”.

d) L.V. Redman and A.V.H. Morryhave defined “systematic effort to gain new knowledge we call research”.

Characteristic of Research

The above definitions reveal the following characteristics of research.

a) Research is a systematic and critical investigation to a phenomenon.

b) It aims at interpreting and explaining a phenomenon.

c) It adopts scientific method.

d) It is based on empirical evidences and observable experience.

e) It develops generalizations, principles or theories.

f) It directed towards finding answer to the questions and solutions to the problems.

TYPES OF RESEARCH:

There are many classifications of research.

Some of the important classifications are:

(i) Exploratory research

(ii) Conclusive research

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- (iii) Fundamental or pure or basis research
- (iv) Applied research
- (v) Action research
- (vi) Historical research
- (vii) Descriptive research
- (viii) Experimental and non-experimental research

Q: - Meaning and definition of Social Research?

Ans: -Social Research is a composite of two words "re means again" and search which means to find or to dig or to discover. So, the whole word means a process of finding or digging again & again. Literally, research means investigation undertaken in order to discover new facts or additional information. In pure and social sciences, research means to discover answers to questions by the applications of scientific methods and procedures.

According to C. A. Moser: "Social research is a systematized investigation to gain new knowledge about social phenomenon and problems."

According to P.V. Young: "Social research is a scientific undertaking which by means of logical methods, aim to discover new facts or old facts and to analyze their sequences, interrelationships, casual explanations and natural laws which govern them."

Objectives of social research

- To facilitate the understanding of human behavior.
- To acquire knowledge about social phenomena, events, issue, problems etc.

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- To identify functional relationship existing in the social phenomena.
- To find out the natural laws that regulates or directs social phenomena.
- To standardize the society concept, e.g. culture, struggle, generation gap, social distance etc.
- To formulate solution to social problems.
- To maintain social organization, remove social tension, misconception, etc.
- To develop social revival plan.

Characteristics of social research

- ❖ Research is directed towards the problem
- ❖ Research emphasizes the dent of generalizations, principles or theories that will be helpful in predicting future occurrences.
- ❖ Research is based upon observable experiences or empirical evidence.
- ❖ Research demands accurate observation and description.
- ❖ Research involves gathering new data from primary or firsthand sources or using existing data for a new purpose.
- ❖ Although research activity may at times be somewhat random and unsystematic, it is more often characterized by carefully designed procedures, always applying rigorous analysis.
- ❖ Research requires expertise.
- ❖ Research strikes to be objective and logical applying every possible test to validate the procedures employed, the data collected at the conclusion reached.
- ❖ Research involves the quest for answers to unsolved problems.
- ❖ Research is characterized by patient and unhurried activity.

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❖ Research is carefully recorded and reported.

Significance of Social Research

❖ It inculcates scientific and inductive thinking

❖ It provides new ideas and insights

❖ It promotes the development of logical habits of thinking and organization.

❖ It evaluate existing policies and helps to formulate new policies

❖ It solve various operational problems related to economy, politics, business and Government.

❖ It studies social relationships and helps to solve various social problems

❖ It helps to improve the level of living in the society

Q:-Nature of Social Science Research

In contrast to the physical science the social science lack the power of exact prediction; this is attributed to the “erratic”, idiosyncrasy and irregular nature of human behavior. Social scientist point out that the low predictable potential in social science is due to our limited knowledge of relevant variables operative in the group like customs, traditions etc, The cause and effect are difficult to be segregated clearly. The present state of development of social science is far behind physical science. Merton advises to social scientist against their despair; it is possible to develop border applicability.

Objectives of Social Research

The major objectives of social research are listed as follows: -

a) The aim of social research is to discover new facts and verifying or testing old facts.

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b) It tries to understand the human behavior and its interaction with the environment.

c) It tries to find out the casual connection between human activities and natural laws governing them.

Functions of Social Research

a) Discovery of facts and their interpretation.

b) Diagnosis of problems and their analysis.

c) Systematization of knowledge.

d) Control over social phenomena.

e) Prediction.

f) Development planning.

g) Social welfare.

Scope of Social Science Research

The fields of social science research unlimited and the materials of research are endless. Every group of social phenomena, every phase of human life and every stages of past and present development are materials for the social scientist. The area of research in various social sciences provides vast scope for research in social sciences.

The main scope of social research are:

- ❖ Social research provides new insight in to the organized society and its social structure.
- ❖ Social research also provide new horizon in scientific explanation; advanced and tested principles of procedure and suggested new concepts.

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- ❖ Another scope of social research is that exemplified by studies and attempt to test or challenge existing theories and revise them the light of new evidence.
- ❖ Social research helpful to establish new theory and established techniques of exploration.
- ❖ Social research also provides contributions to existing store of fruitful ideas, methodology and basis understanding of social life and control of its problems.

Q: -What are the Types of Social Research?

Ans: -The following are two types of Social Research: -

1. Pure Research

Pure research is focused to collect knowledge without any intention to apply it. It is purely intellectual in character. It is also known as basic or fundamental research. Intellectual curiosity is the only motivational factor behind it. It is not necessarily problem oriented. It aims at extension of knowledge. It may lead to either discovery of a new theory or refinement of an existing theory. The development of various sciences owes much too pure research. The findings of pure research enrich the store house of knowledge. Pure research lays the foundation for applied research. The findings of pure research formed the basis for innumerable scientific and technological inventions like steam engine, auto mobiles and telecommunication etc, which have revolutionized and enriched our human life.

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Basic research had many definitions, most of them unsatisfying in one way or another. It can even authoritatively been said that an adequate or operational definition of basic research is not possible (Kidd-1959).

In many cases basic research is done to test theory to test relations among phenomena in order to understand the phenomena, with little or tothought of application of the results to practical problems (Kerlinger – 1972). The best example is that to Michael Faraday. He said research in electricity, without knowing that, it would be useful. He did continuous search to find out the truth or knowledge. Knowledge for knowledge sake only.

Contributions of Pure Research

- ❖ Pure research of solutions to many practical problems by developing principles.
- ❖ Pure research helps to find out the critical factors in practical problems.
- ❖ Pure research provides many alternative solutions and thus enables us to choose best solutions.

2.Applied Research

Applied research is focused up on a real-life problem requiring an action pr policy decision. It tries to find out practical and immediate result. It is thus problem oriented and action directed.

According to Kerlinger (1979) applied research is research directed towards the solution of specified practical problems. Julian Simon has pointed out that applied social sciences help in making policy decision.

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“Applied research methods are sometimes more sophisticated than any methods used in pure research (touffers: 1950).

There is vast scope for applied research in the fields of technology, management, commerce, economics and other social sciences. Innumerable problems are face in these areas. They need empirical study for finding solutions. The immediate purpose of an applied research is to find solutions to practical problems, it may incidentally contribute to the development of theoretical knowledge by leading to the discovering of new facts or testing of a theory or to conceptual clarity.

Contributions of Applied Research

- ❖ *Applied research can contribute new facts. It uncovers new facts which enrich the concerned body of knowledge.*
- ❖ *Applied research can put theory to the test. It offers an opportunity to test the validity of existing theory.*
- ❖ *Applied research may aid in conceptual clarification. Many concepts are vague. E.g. small farmer, social responsibility, social structure etc; Applied research aid conceptual clarity.*
- ❖ *Applied research may integrate previously existing theories. A practical problem has many facts. It cannot be solved by the application of abstract principles from a single science. The solution of a practical problem may require some integration of the theories and principles of various disciplines.*

Q: -Relation between Pure and Applied Research?

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Ans: -The distinction between pure and applied research is not absolute. Both are not contradictory but are complementary. Pure research may have significant potential for its application to the solution of a practical problem and applied research may end up with making a scientific contribution to the development of the theoretical knowledge.

The terms 'pure' and 'applied' just represent the polar of a continuum. Morry said "research studies have differing degree of 'purity' and 'applicability', depending on whether their purpose is solely to advance knowledge in a field or to solve some financial problem.

UNIT-II RESEARCH DESIGN

- Meaning and Significance
- Types of Research Design: Descriptive, Analytical and Exploratory

Q: -Meaning of Research Design?

Ans: -Research design is a pre-planned sketch for the explanation of a problem. It is the first step to take and the whole research. **Study** will conduct on the basis of this **Research Design**. It gives us a due that how the further process would be taking place and how would be the research study carry into classification, interpretation and suggestions. This is a guideline for the whole work.

Definitions of Research Design

Some of the researcher & sociologists has given their definitions.

1. Vimal Shah: "Research Design is a plan of study whether controlled or uncontrolled and subjective as well as objective".

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2. Ackoff: "It is the process of making decisions before the situation arises in which the decisions are to be carried out after for control".

3. Miller: "Researcher Design is a planned sequence of the entire process involved in the conducting of as research study".

4. E.A. Suchaman: "It is a series of guide lines or steps to keep one in right path".

5. Kerlinges: "Research design is a plan, structure and strategy of investigations to obtain answers to the research questions".

It has been concluded from the above definitions that, "It is pre-proposed sketch, outlines or plan which is prepared for the undertaking of the whole study is future".

Characteristics of a Good Research Design

Following are some of the main characteristics of research design.

1. Objectivity
2. Precision
3. Reliability
4. Validity
5. Generalization

Significance/Need for A Research Design

- ❖ It facilitates the smooth sailing of the various research operations
- ❖ It gives maximum information with minimum expenditure of effort, time and money
- ❖ It stands for advance planning of the methods to be adopted for collecting data and techniques to be used for analysis

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- ❖ It has a great bearing on the reliability of the results arrived at
- ❖ It minimize the bias and maximizes the reliability of the data collected and analysed

Q: -What are the Types of Research Design?

Ans: -There are different types of research design depend on the nature of the problem and objectives of the study. Following are the four types of research design.

Explanatory Research Design: -In explanatory research design a researcher uses his own imaginations and ideas. It is based on the researcher personal judgment and obtaining information about something. He is looking for the unexplored situation and brings it to the eyes of the people. In this type of research there is no need of hypothesis formulation.

Descriptive Research Design: -In descriptive research design a researcher is interested in describing a particular situation or phenomena under his study. It is a theoretical type of researcher design based on the collection designing and presentation of the collected data. Descriptive research design covers the characteristics of people, materials, Scio-economics characteristics such as their age, education, marital status and income etc. The qualitative nature data is mostly collected like knowledge, attitude, beliefs and opinion of the people. Examples of such designs are the newspaper articles, films, dramas, and documentary etc.

Diagnostic Research Design: -Here researcher wants to know about the root causes of the problem. He describes the factors responsible for the

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problematic situation. It is a problem-solving research design that consists mainly:

Emergence of the problem

Diagnosis of the problem

Solution for the problem and

Suggestion for the problem solution

Experimental Research Design: -In this type of research design is often uses in natural science but it is different in social sciences. Human behavior cannot be measured through test-tubes and microscopes. The social researcher use a method of experiment in that type of research design. One group is subjected to experiment called independent variables while other is considered as control group called dependent variable. The result obtained by the comparison of both the two groups. Both have the cause and effect relationship between each other.

UNIT-III SAMPLING

- Sampling: Meaning and Significance
- Types of Sampling: Probability and Non-Probability Sampling
- Advantages and Disadvantages of Sampling

Q: -Sampling: Meaning and Significance

Ans: - Sampling is the process by which a selected area of the 'Universe' is chosen which is known as the representative of a large area or Universe and which it is believed has the entire characteristic in a miniature. Since the social researcher cannot take into consideration the whole area for reasons of time, cost etc., a truly representative cross section of this larger

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whole is taken for data collection. Sampling is based on the probability theory leaving it to chance to decide the presence or absence of universal characteristics in the selected sampling.

Following are some of the definitions given by various scientists.

- 1. Goode and Halt:** "A sample is a smaller representative of a large whole".
- 2. Rummel & Ballaine:** "The process of using a part or sample for the estimation of the whole is called sampling".
- 3. John Meadage:** "A sample is a part of the whole universe. While sampling is a process of selecting a part from the whole universe to make the investigation or study more easier."
- 4. P.V. Young:** "Sampling is the study of a segment or a stratum of the whole universe for study and the method used for collection of that part or segment is called sampling".

Objectives of Sampling Method

- 1.** To collect the desired information about the universe in minimum time and high degree of reliability.
- 2.** To get the precision of estimate and reliability of estimate.

Characteristics of a Simple

- 1.** Small or adequate in size.
- 2.** High degree of accuracy.
- 3.** Free from errors due to unbiased.
- 4.** No substitution to originally selected units.
- 5.** Representative of the whole universe

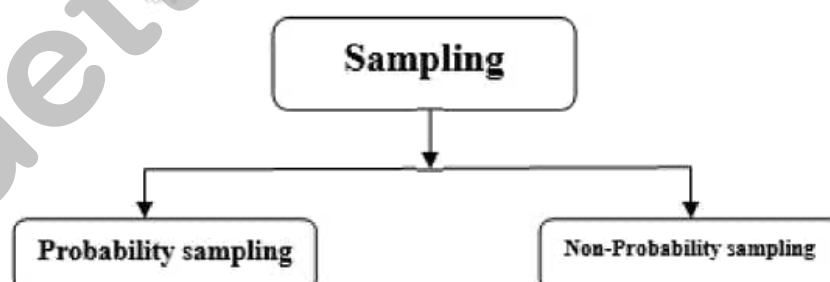
Q: -Need or Significance for Sampling

Sampling is used in practice for a variety of reasons such as:

1. Sampling can save time and money. A sample study is usually less expensive than a census study and produces results at a relatively faster speed.
2. Sampling may enable more accurate measurements for a sample study is generally conducted by trained and experienced investigators.
3. Sampling remains the only way when population contains infinitely many members.
4. Sampling remains the only choice when a test involves the destruction of the item under study.
5. Sampling usually enables to estimate the sampling errors and, thus, assists in obtaining information concerning some characteristic of the population.

Q: - Write down the various types of sampling.

Ans: -



1. **Probability Sampling:** – Probability sampling is based on the concept of random selection - in probability sampling every element of population have a equal chance of choose as a sample. It's a controlled procedure that ensures that each population element is given a known non-zero chance of selection.

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- It gives each element in the population an equal probability of getting into the sample, and all choices are independent of one another.
- It gives each possible sample combination an equal probability of being chosen.

2. Simple Random Sampling: -In simple random sampling we close the element with simple lottery system. We then mix all these slips thoroughly in a container and then drawn as a lottery either blind foled or by rotating a drum. In simple random sampling each and every element has equal probability of selection.

$$\text{Probability of Selection} = \frac{\text{Sample Size}}{\text{Population Size}}$$

A simple random sampling is very easy to understand and implement. But it's take or need a list of population elements and it can be time-consuming and expansion.

3. Complex Random Sampling: -Probability sampling under restricted sampling techniques, as started above, may result in complex random sample design. Some of the popular complex random sampling design are:-

- Systematic Sampling:** -A versatile form of probability sampling is systematic sampling. In this approach every **Kth item** or element in the population is sampled, beginning with a random start of an element in the range of **1 to K**. The Kth element or skip interval is determined by dividing the sample size into population size to obtain the skip pattern applied to sample frame.

$$K = \text{Skip Interval} = \frac{\text{Population Size}}{\text{Sample Size}}$$

For example, we have a population of 100 persons and we need 4 persons as a sample: -

- Firstly, we divide 100 persons in four equal parts $K = 25$.
- After that we choose one element randomly from first group or 1 to 25th element.
- After that add every 25th element on that element.

For example, if 5 is came in drawn from first selection. Add every 25th item in that than sample elements are 5th, 30th, 55th, 80th element.

ii) Stratified Sampling: – If a population from which a sample is to be drawn from a heterogeneous group. It's containing following steps.

- Population is divided into several sub-populations that are individually more homogeneous than the total population. These sub groups are called 'strata'.
- After that select randomly one element from each strata to constitute sample. Basically, it is used when the population contain element with different characteristic for cover each characteristic we used this sampling. So, strata are formed on the basis of common characteristic.

ii) Cluster Sampling: – If the total area of population is too big then we used cluster sampling. In this we divide our population into a number of smaller and non-overlapping areas and then we select these smaller areas as a sample. Basically, these smaller areas are called cluster.

After converting our population into cluster we select randomly the no. of

cluster which we require for sample.

iv) Area Sample: – If we divide our cluster to be some geographic subdivision, in that case cluster sampling is better known as area sampling.

v) Multi Stage Sampling: – When the total population is divided into several stages. The sampling process is carried out through several stages. For example, we want to select 1000 colleagues from southern state. In first stage we select any state. In second stage we select some city from that state. After that we select some colleagues from that city. It's called a multi stage sampling.

2. Non-probability Sampling: – Depending upon the object of inquiry and other considerations a predetermined number of sample unit is selected. It's called non-probability sampling.

The probability of selection of the element from the population is unknown. There is a unequal chance of each element for selection. In this type of sampling a researcher can select according to their convenience.

Methods of Non-probability Sampling

• **Convenience:** – In this the researcher have freedom to select any one according to their convenience.

• **Judgement Sampling:** – The choice of sample items depends exclusively on the judgement of the investigation. The investigator's experience and knowledge about the population will help to select the sample unit.

• **Quota Sampling:** – Under this design quotas are set up according to some specified characteristic such as age group, income group etc.

For example: – The sampling quota would call for sampling students at a

55 to 45percent ratio.

Q: -Advantages and Disadvantages of Sampling

“Sample” is a part of the whole universe selected for the study while “sampling” is the method used for the selection of a simple.

Advantages of Sampling Method

- 1. Reduce Cost.** It is cheaper to collect data from a part of the whole population and is economically in advance.
- 2. Greater Speed.** Sampling gives more time to researcher for data collection, so it is quickly and has a lot of time for collection of inflammation.
- 3. Detailed Information.** Investigator during studying a small universe provides a detail and comprehensive information's.
- 4. Practical Method.** Sampling is the only practical method when the population is infinite.
- 5. Much Easier.** it is much easier to collect information from many individuals in a universe.

Disadvantages of Sampling Method

- 1.** Careful sampling selection is difficult.
- 2.** Experts are required for careful study of the universe.
- 3.** If the information's is required for each and every unit in the study, then it is difficult to interview each and every person in sampling method.

UNIT 4 STATISTICS IN SOCIAL RESEARCH

- Measures of Central tendency:
 - o Mean
 - o Median

o Mode

Definition of Statistics

The word 'statistics' seems to have derived from either the Latin word 'status' or the Italian word 'Statitsta' both meaning 'a political state'.

Various definitions

1. Bowley defines statistics as the science of counting in one context.
2. Boddington defines statistics as the science of estimates and probabilities.
3. According to Lovitt, the science of statistics deals with the collection. Classification and tabulation of numerical facts as the basis for explanation, description and comparison of phenomena.
4. Seligman defines statistics as the science which deals with the methods of collecting classifying, presenting, comparing and interpreting numerical data collected to throw some light on any sphere of enquiry.
5. Croxton and Cowden define statistics as the collection, presentation analysis and interpretation of numerical data.

Characteristics of Statistics

1. Statistics should be numerically expressed. For example the statement Rajan is of height 6' 1" makes the fact clear and easily understandable.
2. Statistics are aggregates of facts. Statistics means the facts pertaining to a group of individuals or individual item.

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3. Statistics are affected to a market extent by a multiplicity of causes. There are a variety of forces or factors operating on the facts and figures in an aggregate. The influence of any particular factor cannot be isolated.
4. Statistics must be collected in a systematic manner for a predetermined purpose. Determination of the main purpose or objectives of any scientific study is the first and the most important step which in turn paves way for other operations to follow.
5. Statistics are enumerated or estimated according to reasonable standards of accuracy.
6. Statistics should be placed in relation to each other.

Importance of Statistics as An In disciplinary

Following are the uses or importance of statistics:

- 1. To present the data in a concise and definite form :** Statistics helps in classifying and tabulating raw data for processing and further tabulation for end users.
- 2. To make it easy to understand complex and large data :** This is done by presenting the data in the form of tables, graphs, diagrams etc., or by condensing the data with the help of means, dispersion etc.
- 3. For comparison :** Tables, measures of means and dispersion can help in comparing different sets of data..
- 4. In forming policies :** It helps in forming policies like a production schedule, based on the relevant sales figures. It is used in forecasting future demands.

5. Enlarging individual experiences : Complex problems can be well understood by statistics, as the conclusions drawn by an individual are more definite and precise than mere statements on facts.

Limitation of Statistics

Following are the main limitations of statistics:

1. Statistics study only number facts.
2. Statistics study only aggregates of facts not any alone data.
3. Statistics study homogenous data only.
4. Statistics data are true only on the base of average.
5. Drawing conclusions without references in statistics increases the possibilities of error.
6. Statistics can be used only by the experts.

Measures of Central Tendency

Measures of central tendency encapsulate in one figure a value that is typical for a distribution of values. It is also known as Statistical average.

MEAN

There are three types of mean

1. Arithmetic mean
2. Geometric mean
3. Harmonic mean

Simple arithmetic mean

The arithmetic mean is most commonly used statistical average in the disciplines such as commerce, management, economics, etc. the arithmetic mean of series of data is the sum of all the values divided by this total

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numbers. If $x_1, x_2, \dots, x_n$ are the 'n' values of the variate x . the arithmetic mean of these values which is denoted by $\bar{x}$ is defined by

$$\begin{aligned}\bar{X} &= (X_1 + X_2 + \dots + X_n) / n \\ &= \sum X / n\end{aligned}$$

Where $\sum$ stands for the sum of all observations.

Advantages

1. The arithmetic mean is the most familiar and widely used measure of central tendency. It is simple to understand and easy to calculate.
2. It is rigidly defined.
3. It acts as a single representative value of the whole data.
4. Its calculation depends upon all the values in the series.
5. It is suitable for algebraic treatment.
6. It is least affected by sampling fluctuations.
7. It is useful in further statistical analysis, i.e. useful in the computation of standard deviation, correlation, coefficient of skewness, etc.

Disadvantages

1. It is very much affected by the presence of a few extremely large or small values of the variable.
2. Mean cannot be calculated, if a single item is missing.
3. Arithmetic mean from a grouped frequency distribution cannot be calculated unless some assumptions are made regarding the sizes of the classes.
4. Arithmetic mean has no significance of its own.
5. For non-homogeneous data, the average may give misleading conclusions.

Median

Median is another measure of central tendency. This is the mid-point in a distribution of values. Unlike arithmetic mean, median is based on the position of a given observation in a series arranged in ascending order. Therefore, it is called positional average. It is unaffected by the presence of an extremely large or small value. Median of a given series is the value of the variable that divides the series into two equal parts. It can be calculated from a grouped frequency distributions with the open-end classes.

Calculation of Median

Ungrouped Data: The given values are arranged in order of magnitudes. Median is calculated by formula $((n+1)/2)$ th item, N being the numbers of items.

When N is odd: When the number of observations is an odd number, the median will be calculated by the formula $N - ((N+1)/2)$ the item, where ' N ' is the numbers of items.

Advantages

1. It is simple to understand and easy to calculate.
2. For an open-end distribution median gives a more representative value.
3. For a qualitative phenomena, median is the most suitable average.
4. It is not affected by the extreme values
5. It is rigidly defined.

Disadvantages

1. It is not based on all the values.
2. It is much affected by sampling fluctuations in comparison to mean

3. It is not suitable for algebraic treatment.

4. Its calculation depends on the arrangement of the data in order of magnitude.

5. The formula for median depends on the assumption that the items in the median class are uniformly distributed, which is not very true.

Mode

Mode is another measure of central tendency. It is also a positional average like the median. The mode is defined as the most frequently occurring value. In other words, mode is that value of frequency distribution whose frequency is maximum. But for some frequency distributions mode may not be most frequent value. It is that value of the variate around which other items tend to concentrate most heavily. For some distributions the mode may not exist and even if it exists it may not be unique as there may be more than one mode. A distribution having only one mode is called unimodal, the distribution having two modes is called bimodal and the distribution having more than two modes is called multimodal. Mode is often used in business. In many situations mode is more suitable than mean or median. For example, when we speak of "most common wage". We mean modal wage is the usage that the largest number of workers receive. In the case of a shopkeeper who sells shoes, he is interested in knowing the size of shoes which are commonly demanded. In such a situation, the mean would indicate a size that may not fit any person. Mode will give most common size of shoe which is most usually purchased by the customers.

Advantages

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1. Mode is easily understood.
2. It is used widely for market research.
3. In certain situations mode is the only suitable average, e.g., modal size of shoes, modal wages etc.
4. For the preference of consumers product, the modal preference is considered.
5. Mode can be calculated for open end classes also provided the closed classes are of equal widths.
6. It is not affected by extreme values.

Disadvantages

1. It is not always possible to find the well-defined mode.
2. It is not suitable for further algebraic treatment.
3. It is not based on all the items of the data.
4. The value of the mode is affected significantly by the size of the class interval.

SOLUTIONS

DEFINE ARITHMETIC MEAN

Arithmetic mean is the average of all the items:

$$\text{Mean} = \frac{\text{Sum of all the values in the given data set}}{\text{The number of values in the set.}}$$

Mathematically;

Arithmetic mean is the sum of all observations by total no. Of observations.

i.e,

$$\text{Arithmetic mean} = \frac{\text{sum of all observations}}{\text{Total no. Of observations}}$$

$$X = \frac{\sum(X)}{N}$$

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Numerical:

FOR UNGROUPED DATA

Q#1: Find the arithmetic of the following data:

2, 4, 6, 8, 12, 5, 24, 32, 7, 0

Sol:

We know,

Arithmetic mean = $\frac{\text{sum of all observations}}{\text{Total no. Of observations}}$

$$\text{Arithmetic mean} = \frac{2+4+6+8+12+5+24+32+7+0}{10}$$

$$\text{Arithmetic mean} = \frac{100}{10}$$

$$\text{Arithmetic mean} = 10$$

Q#2: Find the arithmetic of the following data:

-8, 4, 6, 8, -5, 5, -10, 32, 7, 0

Sol:

We know,

Arithmetic mean = $\frac{\text{sum of all observations}}{\text{Total no. Of observations}}$

$$\text{Arithmetic mean} = \frac{-8+4+6+8+(-5)+5+(-10)+32+7+0}{10}$$

$$\text{Arithmetic mean} = \frac{-8+4+6+8-5+5-10+32+7+0}{10}$$

$$\text{Arithmetic mean} = \frac{39}{10}$$

$$\text{Arithmetic mean} = 3.9$$

FOR GROUPED DATA (LONG METHODS AND SHORT METHODS)

Q#1: Calculate the mean of the following data grouped data using long method.

Class interval	Mid point X	F	fX =(F.X)
80-84	82	1	82
75-79	77	3	231
70-74	72	5	360
65-69	67	7	469

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60-64	62	8	496
55-59	57	11	627
50-54	52	9	468
45-49	47	7	329
40-44	42	6	252
35-39	37	2	74
30-34	32	1	32
		N= 60	$\sum fx = 3420$

$$\text{Mean} = \frac{\sum fx}{N} = 540/60 = 9$$

Q#2: Calculate the mean of the following data grouped data using short method or Assumed method.

Age (C.I)	Population (f)	Mid value (m)	Deviation $D = (m - A)$	$fx = fD$
0-10	10	5	-30	-300
10-20	12	15	-20	-240
20-30	24	25	-10	-240
30-40	32	35	-0	0
40-50	29	45	10	290
50-60	11	55	20	220
60-70	3	65	30	90
70-80	1	75	40	40
	N=122			$\sum fx = -140$

Assumed mean = A= 35.

C.I= 10

N=122

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We know

$$\begin{aligned} \text{Mean} &= A + \frac{\sum fx}{N} \times C.I \\ &= 35 + \frac{-140}{122} \times 10 \\ &= 35 - 11.475 \\ &= 23.52 \end{aligned}$$

MEDIAN

Median-The middle value of any frequency distribution is called Median, below and above which lie values with equal total frequencies.

Numerical

FOR UNGROUPED DATA

Q1: find the median of the given date:

i) 4, 4, 6, 9, 7, 7, 5, 8, 8

ii) 4, 4, 6, 9, 7, 7, 5, 8, 8, 3

Solution- i) In the given data set there are 9 terms, which is an odd number so the median will be middle value of data set after rewriting in numerical order.

Rewriting the given data set in increasing order -

4, 4, 5, 6, 7, 7, 8, 8, 9

It is a data set containing nine numbers so the median would be fifth number, median for this data set will be 7.

ii) In the given data set there are 10 terms, which is an even number so the median will be the average of two middle terms after rewriting in numerical order.

Rewriting the given data set in increasing order -

3, 4, 4, 5, 6, 7, 7, 8, 8, 9

It is a data set containing ten numbers so the median would be average of fifth and sixth number that comes 6.5.

ALTERNATIVE METHOD OF MEDIAN FOR UNGROUPED DATA

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Set the individual series either in the ascending (increasing) or in the descending (decreasing) order, of the size of its items or observations.

If the total number of observations be 'n' then

- If 'n' is odd,

The median = size of $\left(\frac{n+1}{2}\right)^{\text{th}}$ observation

- If 'n' is even, the median =

$$\frac{1}{2} \left[\begin{array}{l} \text{size of } \left(\frac{n}{2}\right)^{\text{th}} \text{ observations} \\ + \text{size of } \left(\frac{n+2}{2}\right)^{\text{th}} \text{ observations} \end{array} \right]$$

Example The following figures represent the number of books issued at the counter of a Statistics library on 11 different days. 96, 180, 98, 75, 270, 80, 102, 100, 94, 75 and 200. Calculate the median.

Solution:

Arrange the data in the ascending order as 75, 75, 80, 94, 96, 98, 100, 102, 180, 200, 270.

Now the total number of items 'n' = 11 (odd)

Therefore, the median = size of $\left(\frac{n+1}{2}\right)^{\text{th}}$ item
 = size of $\left(\frac{11+1}{2}\right)^{\text{th}}$ item
 = size of 5th item
 = 98 books per day

Example The population (in thousands) of 36 metropolitan cities are as follows :

2468, 591, 437, 20, 213, 143, 1490, 407, 284, 176, 263, 19, 181, 777, 387, 302, 213, 204, 153, 733, 391, 176 178, 122, 532, 360, 65, 260, 193, 92, 672, 258, 239, 160, 147, 151.

Calculate the median.

Solution:

Arranging the terms in the ascending order as :

19, 20, 65, 92, 131, 142, 143, 147, 151, 153, 160, 169, 176, 178, 181, 193, 204, 213, 239, 258, 263, 260, 384, 302, 360, 387, 391, 407, 437, 522, 591, 672, 733, 777, 1490, 2488.

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Since total number of items $n = 36$ (Even). the median =

$$\frac{1}{2} \left[\text{size of } \left(\frac{n}{2} \right)^{\text{th}} \text{ item} + \text{size of } \left(\frac{n+2}{2} \right)^{\text{th}} \text{ item} \right]$$

$$= \frac{1}{2} \left[\text{size of } 18^{\text{th}} \text{ item} + \text{size of } 19^{\text{th}} \text{ item} \right]$$

$$= \frac{1}{2} [213 + 239]$$

$$= \frac{1}{2} (452)$$

$$= 226 \text{ thousands}$$

FOR GROUPED DATA

Example1:

Calculate the median for the following and verify it graphically.

Age (years) : 20-25 25-30 30-35 35-40 40-45

No. of person : 70 80 180 150 20

Solution:

Age (years)	No. of persons	Cumulative frequency
C.I.	f_i	c.f.
20 - 25	70	70
25 - 30	80	$70 + 80 = 150$
30 - 35	180	$150 + 180 = 330$
35 - 40	150	$330 + 150 = 480$
40 - 45	20	$480 + 20 = 500$
	$n = \sum f_i = 500$	

Now median = size of $\left(\frac{n}{2} \right)^{\text{th}}$ item

$$= \text{size of } \left(\frac{500}{2} \right)^{\text{th}}$$

= size of 250^{th} item which

lies in (30 - 35) class interval

Median =

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$$\ell_1 + \left[\frac{N/2 - c.f}{f} \right] (\ell_2 - \ell_1)$$

Here

$$\ell_1 = 30, \quad \ell_2 = 35, \quad n/2 = 250, \quad c.f. = 150 \quad \text{and } f = 180$$

Therefore, Median

$$\begin{aligned} &= 30 + \left[\frac{250 - 150}{180} \right] (35 - 30) \\ &= 30 + \frac{100}{180} \times 5 \\ &= 32.78 \text{ years} \end{aligned}$$

MODE

The Mode is that/those numbers that present in data set more than any other numbers, So it is a value of term that occurs most often. It is possible that any data set have more than one mode.

If there are two modals within a distribution then it is said to be bi-modal.

If there are three models within a distribution then it is said to be tri-modal.

Example- Find out the mode of given data set -

3, 4, 4, 5, 6, 7, 7, 8, 8, 9

Solution- In the given data set there are three numbers which came twice, so it is trimodal distribution, and the modes will be 4, 7 and 8.

Example2. The marks obtained (out of 50) by 60 students in a class test are given below:

No. of students	Marks obtained
7	13
15	17
12	25
3	32
6	38
2	42
1	44
2	47

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1	48
1	49

Find the mode of the above distribution

Solution: In the given distribution, the variate 17 has maximum frequency.

... Mode = 17

MODE FOR THE GROUPED DATA

Mode = $3 \text{ median} - 2 \text{ mean}$.

Multiple type questions:

Q1. Which of the following is a form of research typically conducted by teachers, counselors and other professionals to answer question they have and to specifically help them to solve local problems?

- A, action research b, basic research
- C. predictive research c, orientational research

Ans. A

Q2. The development of a solid foundation of reliable knowledge typically is built from which type of research?

- a, basic research b, action research
- c, evaluation research c, orientational research

Ans. A

Q3. Which of the following is not the characteristic of researcher?

- a. He is industrious and persistent on the trail of discovery.
- b. He is a specialist rather than a generalist.
- c. He is not inspirational to his chosen field but accepts the reality
- d. He is not versatile in his interest and even in his native abilities.

Ans: D

Q3. An example of scientific knowledge is:

- a. Social traditions and customs
- b. Authority of the prophet or great men.
- c. Religious scriptures
- d. Laboratory and fields experiments:

Ans: D

Q4. Which of the following is the most essential characteristic of a research worker?

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- a. Sympathy
- b. open mindedness
- C, observation
- d. interest of the subject

Ans: B

Q5. All the examples of qualitative variables except:

- a. Sex
- b. religion and caste
- c, observation
- d. interest of the subject

Ans: D

Q6. A research problem is feasible only when:

- a. It is researchable
- b. It is new and adds something to knowledge
- c. It has utility and relevance
- d. All of the above

Ans: D

Q7. The most frequently used method of research in sociology is/are:

- a. Experiment method
- b. Explorative method
- c. Descriptive method
- d. Both B, and C.

Ans: D

Q8. The experimental study is based on the law of

- a. Replication
- b. Single variable
- c. Occupation
- d. Interest of the subject

Ans: A

Q9. The period against which comparisons are made in index number is called:

- a. Current year
- b, coming year
- C, coming year
- d. none of these

Ans: B

Q10. The historical research is different from experimental research in the process of

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- a. The formulation of the hypothesis
- b. Replication
- c. The hypothesis testing
- d. All of the above

Ans: D

Q11. A statistical measure based upon the entire population is called parameter while measure based upon a sample is known as:

- a. Sample parameter
- b. Inference
- c. Statistics
- d. None of these

Ans: C

Q13. The mathematical method of measuring trend value is called:

- a. Least squares method
- b. Semi averages method
- c. Moving averages method
- d. None of the above

Ans: A

Q14. Which form of reasoning is the process of drawing a specific conclusions from a set of premises?

- a. Rationalism
- b. Deductive reasoning
- c. Inductive reasoning
- d. Probabilistic

Ans: B

Q15. Research that is done to examine the findings of someone else using the same variable but different people is which of the following?

- a. Exploration
- b. hypothesis
- c. replication
- d. empiricism

Ans: C

Q16. _____ is the idea that knowledge comes from experiences:

- a, rationalism
- b, deductive reasoning
- c, logic
- d, empiricism.

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Ans: D

Q17. What general type of research is focused on collecting information to help a research advance an ideological or political position?

- a, Evaluation research
- b, Basic research
- c, Action research
- d, orientational research.

Ans: D

Q18. Which scientific method focuses on testing hypothesis developed from theories?

- a. Deductive method
- b. Inductive method
- c. Hypothesis method
- d. Pattern method

Ans: A

Q19. Which scientific method often focuses on generating new hypothesis and theories?

- a. Deductive method
- b. Inductive method
- c. Hypothesis method
- d. Pattern method

Ans: B

Q20. Which research paradigm is based on the pragmatic view of reality?

- a. Qualitative research
- b. Quantitative research
- c. Mixed research
- d. None of the above.

Ans: C

Q20. Which research paradigm is least concerned about generalizing its findings?

- a. Qualitative research
- b. Quantitative research
- c. Mixed research
- d. None of the above.

Ans: B

Q21. Which of the following best describes quantitative research?

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- a. The collection of non numerical data
- b. An attempt to confirm the research's hypothesis.
- c. Research that is exploratory
- d. Research that attempts to generate a new theory.

Ans: B

Q22. Which type of research provides the strongest evidence about the existence of cause and effect relationship?

- a. Non experimental research
- b. Experimental research
- c. Social research
- d. None of the above.

Ans: B

Q23. What is the key defining characteristic of experimental research?

- a. Extraneous variables are never present.
- b. A positive correlation usually exists
- c. A negative correlation exists
- d. Manipulation of the independent variable.

Ans: D

Q24. In _____ random assignment to group is never possible and the researcher can not manipulate the independent variable

- a. Basic research
- b. Quantitative research
- c. Experimental research
- d. Causal- comparative and correlational research

Ans: D

Q25. research that is done to understand an event from the past is known as _____?

- a. Experimental research
- b. Historical research
- c. Repelication
- d. Archival research

Ans: b

Q26. A good qualitative problem statement:

- a. Defines the independent and dependent variables
- b. Conveys a sense of emerging design

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- c. Specifies a research hypothesis to be tested
- d. Specifies the relationship between variables that the researcher expects to find

Ans:b

Q27. One step that is not included in planning a research study is:

- a. Identifying a researchable problem
- b. A review of current research
- c. Statement of the research question
- d. Conducting a meta-analysis of the research

Ans:d

Q28 the research participants are described in detail in which section of the research plan?

- a. Introduction
- b. Method
- c. Data analysis
- d. Discussion

Ans: b

Q29. Research hypotheses are _____

- a. Formulated prior to a review of the literature
- b. Statements are predicated relationships between variables
- c. Stated such that they can be confirmed or refuted
- d. B and c

Ans: (d)

Q30. hypotheses in qualitative research studies usually _____

- a. Are very specific and stated prior to beginning the study
- b. Are often generated as the data are collected ,interpreted ,and analyzed
- c. Are never used
- d. Are always stated after the research study has been completed

Ans:b

Q31. A research plan-----

- a. Should be detailed
- b. Should be given to others for review and comments
- c. Sets out the rationale for a research study
- d. All of the above

Ans:d

Q32. According to year text ,which of the following is not a source of research ideas?

- a. Everyday life
- b. Practical issues

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- c. Past research
- d. Theory

Ans:d

Q33. Which of the following is not an ethical guideline for conducting research with humans?

- a. Getting informed consent of the participant
- b. Telling participants they must continue until the study has been completed
- c. Keeping participants 'identify anonymous
- d. Telling participants they are free to withdraw at any time

Ans:b

Q34. -----tests focus on information acquired through the informal learning that goes on in life

- a. Personality
- b. Achievement
- c. Aptitude
- d. Intelligence

Ans:c

Q35. According to your text ,how many points should a rating scale have ?

- a. Five
- b. Four
- c. Ten
- d. Somewhere from 4 to 11 points

Ans: d

Q36.according to the text, questionnaires can address events and characteristics taking place when ?

- a. In the past (retrospective questions)
- b. In the present (current time questions)
- c. In the future (prospective questions)
- d. All of the above

Ans: D

Q37. Which of the following are principles of questionnaire construction?

- a. Consider using multiple methods when measuring abstract constructs
- b. Use multiple items to measure abstract constructs
- c. Avoid double-barreled questions
- d. All of the above

Ans: D

Q38. Which of these is not a method of data collection?

- a. Questionnaires
- b. Interviews

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- c. Experimentised
- d. Observations

Ans: c

Q39. Secondary /existing data may include which of the following?

- a. Official documents
- b. Personal documents
- c. Archived research data
- d. All of the above

Ans: D

Q40. An item that directs participants to different follow-up questions depending on their response is called a _____

- a. Response set
- b. Probe
- c. Semantic differential
- d. Contingency question

Ans: D

Q41. Which of the following terms best describes data that were originally collected at an earlier time by a different person for a different purpose?

- a. Primary data
- b. Secondary data
- c. Experimental data
- d. Field notes

Ans: B

Q42. Open – ended questions provide primarily _____ data.

- a. Confirmatory data
- b. Qualitative data
- c. Predictive data
- d. None of the above

Ans: B

Q43. Which of the following is true concerning observation?

- a. It takes less time than self-report approaches
- b. It costs less money than self-report approaches
- c. It is often not possible to determine exactly why the people behave as they do
- d. All of the above

Ans: C

Q44. Qualitative observation is usually done for exploratory purposes; it is also called _____ observation.

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- a. Structured
- b. Naturalistic
- c. Complete
- d. Probed

Ans: B

Q45. Which of the following is not one of the six major methods of data collection that are vused by social researchers?

- a. Observations
- b. Interviews
- c. Questionnaires
- d. Checklists

Ans: D

Q46. The type of interview in which the specific topics are decided in advance but the sequence and wording can be modified during the interview is called:

- a. The interview guide approach
- b. The informal conversational interview
- c. A closed quantitative interview
- d. The standardized open- ended interview

Ans: A

Q47. Which of the following is not a major method of data collection :

- A. Questionnaires
- B. Interviews
- C. Secondary data
- D. Focus groups
- E. All of the above are methods of data collection

Ans: E

Q48. The researcher has secretly placed him or herself (as a member) in the group that is being studied. This researcher may be which of the following?

- a. A complete participant
- b. An observer-as- participant
- c. A participant- as – observer
- d. None of the above

Ans : A

Q49. Which of the following is not a major method of data collection?

- a. Questionnaires
- b. Focus groups
- c. Co-relational method

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- d. Secondary data

Ans:c

Q50. When each member of a population has an equally likely chance of being selected, this is called

- a. A non-random sampling method
- b. A quota sample
- c. A snowball sample
- d. An equal probability selection method

Ans: D

Q51. Which of the following is not a form of nonrandom sampling?

- a. Snowball sampling.
- b. Convenience sampling
- c. Quota sampling
- d. Purposive sampling

Ans: A

Q52. Sampling in qualitative research is similar to which type of sampling in quantitative research?

- a. Sampling random sampling
- b. Systematic sampling
- c. Quota sampling
- d. Purposive sampling

Ans: D

Q53. Which of the following would generally require the largest sample size?

- a. Cluster sampling
- b. Simple random sampling
- c. Systematic sampling
- d. Proportional stratified sampling

Ans: A

Q54. How often does the census Bureau take a complete population count?

- a. Every year
- b. Every five years
- c. Every ten years
- d. Twice a year.

Ans: C

Q56. -----tests focus on information acquired through the informal learning that goes on in life

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- a. Personality
- b. Achievement
- c. Aptitude
- d. Intelligence

Ans: c

Q57. According to your text ,how many points should a rating scale have ?

- a. Five
- b. Four
- c. Ten
- d. Somewhere from 4 to 11 points

Ans:d

Q58.according to the text, questionnaires can address events and characteristics taking place when ?

- a. In the past (retrospective questions)
- b. In the present (current time questions)
- c. In the future (prospective questions)
- d. All of the above

Ans: D

Q59. Which of the following are principles of questionnaire construction?

- a. Consider using multiple methods when measuring abstract constructs
- b. Use multiple items to measure abstract constructs
- c. Avoid double-barreled questions
- d. All of the above

Ans: D

Q60. Which of these is not a method of data collection?

- a. Questionnaires
- b. Interviews
- c. Experimentised
- d. Observations

Ans:c

Q61. People who are available, volunteer, or can be easily recruited are used in the sampling method called _____.

- a. Simple random sampling
- b. Cluster sampling
- c. Systematic sampling
- d. Convenience sampling

Ans: D

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Q62. A type of sampling used in qualitative research that involves selecting cases that do not conform to the researchers' expectations and generalizations is referred to as:

- a. Proportional stratified sampling
- b. Quota sampling
- c. One-stage cluster sampling
- d. Two-stage cluster sampling

Ans: B

Q63. Which of the following is not a type of non random sampling?

- a. Cluster sampling
- b. Convenience sampling
- c. Quota sampling
- d. Purposive sampling

Ans: A

Q64. Which one of the following would require the smallest sample size because of its efficiency?

- a. One stage cluster sampling
- b. Simple random sampling
- c. Two stage cluster sampling
- d. Quota sampling

Ans: B

Q65. The process of drawing a sample from a population is known as.

- a. Sampling
- b. Census
- c. Survey research
- d. None of the above

Ans: A

Q66. _____ is a set of elements taken from a large population according to certain rules.

- a. Sample
- b. Population
- c. Statistic
- d. Element

Ans: A

Q67. The questionnaire method is not applicable if:

- a. There is overpopulation

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- b. There is wide spread literacy
- c. There is illiteracy
- d. None of the above.

Ans: C

Q68. The method is very frequently used by the sociologists?

- a. Ideal type method
- b. Sample method
- c. Sociometry
- d. Field research method

Ans: B

Q68. An interview based on the list of questions is called?

- a. Personal interview
- b. Open discussion
- c. Structured interview
- d. None if the above

Ans: C

Q69. The questionnaire method of data collection is not applicable if there is?

- a. An illiteracy
- b. Over population
- c. A big area
- d. A slum

Ans: A

Q70. A better objective view of the working of a group is given by:

- a. Participant observation
- b. Case study method
- c. Questionnaire method
- d. Interview

Ans: A

Q71. An observation uninfluenced by personal basis is said to be:

- a. Functional
- b. Analytical
- c. Objective
- d. Subjective

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Ans: C

Q72. Which of the following gives a better inside view of a group?

- a. Questionnaire
- b. Interview
- c. Participant observation
- d. Case study method

Ans: B

Q73. Which of the following is not a uniform formal method of data collection?

- a. Interview
- b. Administered questionnaire
- c. Mailed questionnaire
- d. Participant observation

Ans: C

Q74. Another term for structured interview is :

- a. Mass interview
- b. Focused interview
- c. Informal interview
- d. Differential interview

Ans: C

Q75. Which of the following is not a measure of central tendency?

- a. Median
- b. Regression
- c. Mode
- d. Arithmetic mean

Ans: B

Q76. Standard deviation can never be:

- a. Negative
- b. Positive
- c. Zero
- d. None of the above

Ans: A

Q77. In case of open end classes an appropriate measure of dispersion to be used is_____

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- a. Range
- b. Standard deviation
- c. Quartile deviation
- d. Mean deviation

Ans: C

Q78. Attributes of objects, events or things which can be measure are called:

- a. Data
- b. Qualitative measure
- c. Variables
- d. None of the above

Ans: D

Q79. To study the public opinion which of the following is used?

- a. Quota sampling
- b. Random sampling
- c. Judgment sampling
- d. Direct interview

Ans: D

Q80. An idea of a guess about a given state of affairs put forward as a basis for empirical testing is called:

- a. Sampling
- b. Research design
- c. Hypothesis
- d. Objectivity

Ans: C

Q81. Which of these is not a method of data collection?

- a. Questionnaire
- b. Interviews
- c. Experiments
- d. Observations

Ans: C

Q82. Open-ended questions provide primarily _____ data:

- a. Confirmatory data
- b. Collective data
- c. Predictive data

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d. None of these

Ans: B

Q83. The most crucial feature of scientific data is its:

- a. Reliability
- b. Quality
- c. Quantifiability
- d. Applicability

Ans: D

Q84. The hypothesis generally refers to:

- a. A developed proposition
- b. A raw proposition
- c. Tested proposition
- d. Logical proposition

Ans: C

Q85. The two types of observations method in sociology are:

- a. Spontaneous and controlled
- b. Formal and informal
- c. Open ended and closed
- d. None of the above

Ans: D

Q86. In open-ended questionnaire, the questions have:

- a. Very closed choice
- b. Open choices
- c. Opened and closed choices
- d. None of the above

Ans: C

Q87. In sociological research, the quantitative information is sought through the method of:

- a. Direct observation
- b. Case study
- c. Interview/questionnaire /schedule
- d. Scaling/ sampling

Ans: C

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Q88. The questionnaire is not applicable if:

- a. There is over population
- b. There is widespread literacy
- c. There is literacy
- d. The area is vast.

Ans: C

Q89. Which method is frequently used by the sociologists?

- a. Ideal type method
- b. Sample method
- c. Sociometry
- d. Field research method

Ans: D

Q90. From which one of the following 'sum of the differences from a measure would always be zero?

- a. Mode
- b. Median
- c. Mean
- d. Standard Error

Ans: C

Q91. A statement of prediction that sets forth the basis for testing the relationship between variables in an attempt to link theory to reality is called:

- a. Random sampling
- b. Questionnaire
- c. Hypothesis
- d. Assumption

Ans: C

Q92. Name the technique which is to be used before the actual field work starts:

- a. Pilot Study
- b. Census study
- c. Case study
- d. Survey

Ans: A

Q93. In depth investigation of a phenomena or a process or an event that focuses on its historicity and contemporary interlinks with wider society is termed as:

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- a. Content study
- b. Participant observation
- c. Content analysis
- d. Case study.

Ans: D

Q94. A statement of relationship between variables to be tested is known as:

- a. Research question
- b. Hypothesis
- c. Objective of the study
- d. Problem of the study

Ans: B

Q95. Which of the following is a measure of variation in a data set?

- a. The sample standard deviation
- b. The Sample range
- c. The Sample variance
- d. All of the above

Ans: D

Q97. The two type of possible variables are:

- a. Accurate and approximate
- b. Sample and population
- c. Qualitative and categorical
- d. Qualitative and quantitative

Ans: D

Q98. A list of all the units in a population is called a:

- a. Census
- b. Frame
- c. Sample
- d. Variable

Ans: B

Q99. Which of the following is not a measure of the variability of data?

- a. Range
- b. Variance
- c. Mean

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d. Standard deviation

Ans: C

Q100. Social research can be conducted to study the problems related to:

- a. An individual
- b. A group
- c. All groups
- d. Some groups

Ans: C