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Department of Geography

Research Methodology in Geography



Research!

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Unit-II

Research Hypothesis, Sampling, Nature and Analysis of Geographical Data

- 2.1. Meaning of Hypothesis, relevance and types of hypothesis
- 2.2. Sampling: Meaning and importance, types of sampling
- 2.3. Selection of sample and size of sample
- 2.4. Nature and type of Geographical data, significance of spatial and temporal data in geographical studies.
- 2.5. Methods and sources of geographical data collection: conventional and modern; limitations of secondary data and need for data generation, collection of primary data: questionnaires and schedules, field work, sample surveys and their significance
- 2.6. Geographic Data analysis: Qualitative, Quantitative and Advanced techniques of geographic data processing and analysis.

2.1. Meaning of Hypothesis, relevance and types of hypothesis

- A supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation.
- Types of hypothesis
- **Simple Hypothesis**
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- **Complex Hypothesis**
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- **Empirical Hypothesis**
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- **Null Hypothesis**
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- **Alternative Hypothesis**
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- **Logical Hypothesis**
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- **Statistical Hypothesis**

Sampling: Meaning and importance, types of sampling

- A sample is defined as a smaller set of data that is chosen and/or selected from a larger population by using a predefined selection method. These elements are known as sample points, sampling units or observations.
- **Types of Samples: Probability Sampling Methodologies**
- **Simple random sampling:** The simplest way of selecting a sample is the simple random sampling. In this method, each member has an equal chance of being a part of the sample. The objects in this sample are chosen purely on a random basis and each member has the exact same probability of being chosen. For example, if an University a dean would like to collect feedback from students about their perception of the teachers and level of education, all 1000 students in the University could be a part of this sample. Any 100 students can be selected at random to be a part of this sample.

- **Cluster sampling:**
- **Systematic sampling**
- **Stratified random sampling:**

Non-Probability Sampling Methodologies

- **Convenience sampling**
- **Judgemental/purposive sampling:**
- **Quota sampling:**

2.3. Selection of sample and size of sample

- **Population size:**
- **Margin of error (confidence interval)**
- **Confidence level:**
- **Standard deviation:**

Advantages of a Sample

- **Reduced cost & time**
- **Reduced resource deployment:**
- **Accuracy of data**
- **Apply properties to a larger population**

2.4. Nature and type of Geographical data, significance of spatial and temporal data in geographical studies.

Unit-III

4.2. Scientific Report Writing

4.1. Introduction- aim and objectives, data and methodology

4.2. Data analysis, result, conclusion

4.3. Referencing system, weblography and bibliography.

4.4. Plagiarism, concept of impact factor, citation.

- ***What is referencing?***
- When you are writing a piece of work and use someone else's words or ideas you must reference them. This means that you need to include detailed information on all sources consulted, both within your text (in-text citations) and at the end of your work (reference list).
- ***What is plagiarism?***
- Plagiarism involves deliberately or inadvertently presenting someone else's ideas as your own. It is cheating. It doesn't just apply to direct quotations but summarized and paraphrased argument too. Plagiarism is treated very seriously and usually results in disciplinary action.
- ***Bibliography***
- A **bibliography** is a list of works (such as books and articles) written on a particular subject or by a particular author. ... Also known as a list of works cited, a **bibliography** may appear at the end of a book, report, online presentation, or research paper.

- The **impact factor (IF)** or **journal impact factor (JIF)** of an academic journal is a scientometric index that reflects the yearly average number of citations that recent articles published in a given journal received. It is frequently used as a proxy for the relative importance of a journal within its field; journals with higher impact factors are often deemed to be more important than those with lower ones.
- **Citation**
- A quotation from or reference to a book, paper, or author, especially in a scholarly work.