

# Research Methodology

Fourth Class

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# Meaning Of Research

- Research may be very broadly defined as a systematic gathering of data and information and its analysis for the advancement of knowledge in any subject. The research attempts to answer intellectual and practical questions by applying systematic methods. Webster's Collegiate Dictionary defines research as "studious inquiry or examination; exp: investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws".

# Objectives Of Research:

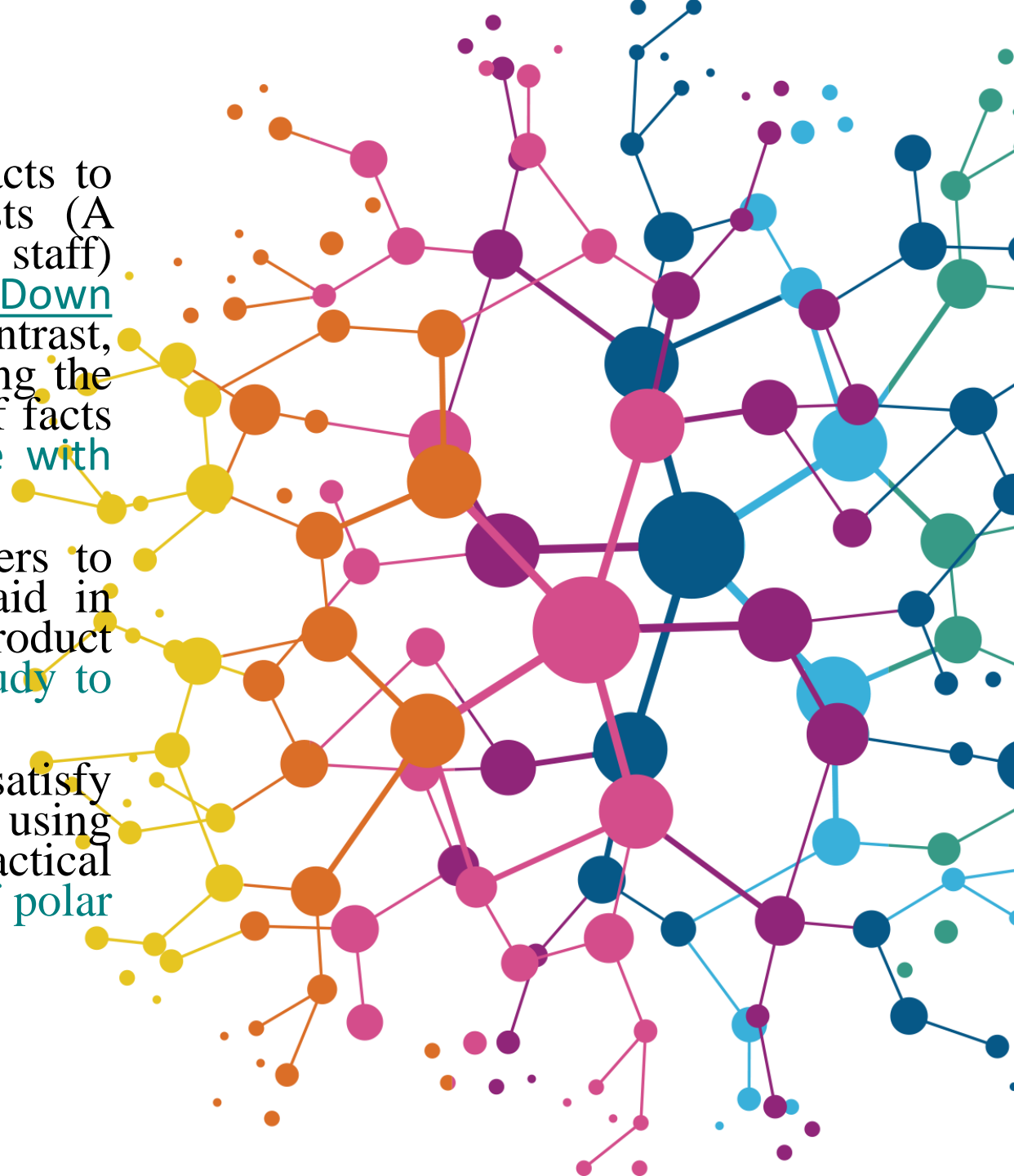
- The purpose of research is to discover answers to questions through the application of scientific procedures. **The main aim of the research is to find out the truth which is hidden and which has not been discovered as yet.** Though each research study has its own specific purpose, we may think of research objectives as falling into a number of following broad groupings:
  - 1. To gain familiarity with a phenomenon or to achieve new insights into it (**studies with this object in view are termed exploratory or formative research studies**)
  - 2. To portray accurately the characteristics of a particular individual, situation, or group (**studies with this object in view are known as descriptive research studies**);
  - 3. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as diagnostic research studies);
  - 4. To test a hypothesis of a causal relationship between variables (**such studies are known as hypothesis-testing research studies**).

# Types of research

Types of research can be classified in many different ways

- Descriptive versus Analytical Research
- Applied versus Fundamental Research
- Qualitative versus Quantitative Research
- Conceptual versus Empirical Research

- **Descriptive research** concentrates on finding facts to ascertain the nature of something as it exists (A company wants to evaluate the morale of its staff) (How many siblings of people with Down syndrome have positive experiences). In contrast, analytical research is concerned with determining the validity of a hypothesis based on the analysis of facts collected (Why do so many siblings of people with Down syndrome have positive experiences?)
- **Applied research** is carried out to find answers to practical problems to be solved and as an aid in decision-making in different areas including product design, process design, and policy-making (a study to examine ways to increase longevity in tires)
- **Fundamental research** is carried out more to satisfy intellectual curiosity, than with the intention of using the research findings for any immediate practical application. (a study on the migration patterns of polar bears)



- **Quantitative research** studies such aspects of the research subject which are not quantifiable, and hence not subject to measurement and quantitative analysis. In contrast, quantitative research makes substantial use of measurements and quantitative analysis techniques.
- **Conceptual research** involves the investigation of thoughts and ideas and developing new ideas or interpreting the old ones based on logical reasoning. In contrast, empirical research is based on firm verifiable data collected by either observation of facts under natural conditions or obtained through experimentation. (A group of researchers wants to see if there is any correlation between chemically dyeing your hair and the risk of cancer in women)

