

- *Research methodology* is a way to systematically solve the research problem.
- It may be understood as a science of studying how research is done scientifically.
- In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them.
- It is necessary for the researcher to know not only the research methods/techniques but also the methodology.
- Researchers not only need to know how to develop certain indices or tests how to calculate the mean, the mode, the median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques are relevant and which are not, and what would they mean and indicate and why.
- Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not.
- All this means that it is necessary for the researcher to design his methodology for his problem as the same may differ from problem to problem.
- For example, an architect, who designs a building, has to consciously evaluate the basis of his decisions, i.e., he has to evaluate why and on what basis he selects particular size, number and location of doors, windows and ventilators, uses particular materials and not others and the like.

- Similarly, in research the scientist has to expose the research decisions to evaluation before they are implemented.
- He has to specify very clearly and precisely what decisions he selects and why he selects them so that they can be evaluated by others also.
- Research methods do constitute a part of the research methodology. The scope of research methodology is wider than that of research methods.
- *Thus, when we talk of research methodology, we not only talk of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular method or technique and why we are not using others so that research results are capable of being evaluated either by the researcher himself or by others.*
- Why a research study has been undertaken, how the research problem has been defined, in what way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analysing data has been used and a host of similar other questions are usually answered when we talk of research methodology concerning a research problem or study.

Reference: Kothari, C R 2004, *Research Methodology: Methods and Techniques 2nd Edition*, New Age International Publication pp: 08-09