

## **CHN-604(RM) Research Methodology**

### **Unit : I Research and objective of research**

Introduction Motivation for research, research and scientific method, research process in flow chart, descriptive and analytical research, applied and fundamental research, qualitative and quantitative research, conceptual and empirical research, signification of research.

### **Unit :II Research & Methods**

Research and Scientific methods, various methods to complete a research process : formulating a research problem, extensive literature review, development of working hypothesis , preparing a research design, determining sample design, collecting data, execution of project, analysis of data, hypothesis testing, preparation of thesis, Importance of earlier known literature criteria for good research.

### **Unit :III Research Problem & Design**

Research problem, selecting a problem, techniques, for defining a problem, research design, feature, of good research design, Important concepts related to research design, (Dependent & Independent variables, extraneous variables, control, confounded relationship, research hypothesis, experimental & non experimental hypothesis testing research, experiment & control group, treatments, experiment) Different experimental research designs, (Informal and formal)

### **Unit :IV Research scenario (Chemistry )**

Problems faced by researchers in India, comparison of research activities of state universities with central universities. Research Developments in India and their comparison with global output.

Research developments and facilities in our university campus. Role of state governments & central government in research developments. Role of modern technology and research in chemistry.

#### Reference

Research Methodology  
Methods and Techniques (Second revised edition ) -CR Kothari  
New Age International Publishers