

JSS Science and Technology University, Mysuru

Course Code	Course Title	Study Domain	Teaching Hours
21RMESD01	Research Methodology	Compulsory Course	54 Hours

COURSE ASSESSMENT METHOD:

- Semester End Exam [100 Marks, 3 Hours]

COURSE OUTCOMES:

Upon successful completion of this course, research scholars will be able to:

CO1: Explain And Illustrate the Basic Principles of Research and Defining the Research Problem.

CO2: Design of Various Sample Surveys and Measurement and Scaling

CO3: Develop Various Data Collection Method and Testing of Hypothesis

CO4: Explain the concepts of IPR and Plagiarism

CO5: Develop Interpretation and Prepare a Research Report/Thesis

UNIT-1: INTRODUCTION

Research Methodology: Meaning, Objectives, Characteristics, Approaches of Research - Significance of Research - Research Methods Vs. Methodology - Types of Research - Descriptive Vs. Analytical, Applied Vs. Fundamental, Quantitative Vs. Qualitative, Conceptual Vs. Empirical - Research Process - Criteria of Good Research - Developing a Research Plan.

Defining the Research Problem: Selecting the problem - Necessity of defining the problem - Techniques involved in defining the problem.

UNIT-2: REVIEWING OF THE LITERATURE

Introduction, Importance of Literature Review in Defining a Problem - Survey of Literature - Primary and Secondary Sources - Reviews, Treatise, Monographs Patents - Web as a Source - Searching the Web - Identifying Gap Areas from Literature Review - Development of Working Hypothesis

Research Design: Introduction – Meaning of Research Design - Need of Research Design - Features of Good Design- Important Concepts Relating to Research Design-Different Research Design - Basic Principles of Experimental Design - Important Experimental Designs.

UNIT-3: DESIGN OF SAMPLE SURVEYS

Introduction, Sample Design, Sampling and Non - Sampling Errors, Steps in Sampling Design - Characteristics of a Good Sample Design - Types of Sample Designs.

Measurement and Scaling: Qualitative and Quantitative Data - Classification and

Goodness Measurement Scales - Sources of Error in Measurement - Techniques for Developing Measurement Tools - Scaling - Classification -Techniques-Multidimensional Scaling - Deciding the Scale.

Data Collection: Methods of Data Collection - Collection of Primary Data and Secondary Data – Selection of Appropriate Method for Data Collection.

Testing of Hypotheses: Basic Concepts – Testing The Hypothesis - Procedure for Hypotheses Testing - Hypotheses Testing for Mean, Proportion – P -Value Approach - Limitations of The Test of Hypothesis -Variance Data Analysis with Statistical Packages Correlation and Regression - Important Parametric Test - Chi-Square Tests - Analysis of Variance and Covariance - Linear Regression Analysis.

UNIT-4: IPR AND PLAGIARISM

Invention and Creativity - Intellectual Property - Importance and Protection of Intellectual Property Rights (IPRs) - A Brief Summary of: Patents, Copyrights, Trademarks, Industrial Designs - Integrated Circuits - Geographical Indications - Establishment of WIPO - Application and Procedures. Plagiarism – Sensitive Issues of Plagiarism and Different Tools for Plagiarism Check.

UNIT-5: INTERPRETATION AND REPORT WRITING

Interpretation and Report Writing - Techniques of Interpretation - Structure and Components of Scientific Reports - Different Steps in The Preparation - Layout, Structure and Language of the Report - Illustrations and Tables - Types of Report - Technical Reports and Thesis.

TEXT BOOKS / REFERENCES:

Text books:

1. Kothari, C.R., 1990. Research Methodology: Methods and Techniques. New Age International.
2. Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K., 2002. An introduction to Research Methodology, RBSA Publishers

Reference books:

3. Anderson, T. W., An Introduction to Multivariate Statistical Analysis, Wiley Eastern Pvt., Ltd., New Delhi
4. Fink, A., 2009. Conducting Research Literature Reviews: From the Internet to Paper. Sage Publications
5. Intellectual Property Rights in the Global Economy: Keith Eugene Maskus, Institute for International Economics, Washington, DC, 2000

ADDITIONAL LEARNING SOURCES:

1. Day, R.A., 1992.How to Write and Publish a Scientific Paper, Cambridge University Press.
2. Subbarau NR-Handbook on Intellectual Property Law and Practice-S Viswanathan Printers and Publishing Private Limited.1998.

