Course Structure & Syllabus
For PhD programme

Paper – I & II

Cluster 3
(RSB, RSC, RSTTM, RSHM, RSFT)

WEF AY 2024-25

Course: Research Methodology   **Subject Code: RMP995M101**

L-T-P-C – 3-1-0-4   **Credit Units: 04**   **Scheme of Evaluation: T**

Course Objective:
The primary objective of the course is to provide students with a comprehensive understanding of the research process and equip them with necessary knowledge and skills to conduct rigorous research in their chosen field of study.

Course Outcome:

On successful completion of the course the scholars will be able to:		
SI No	**Course Outcome**	**Blooms Taxonomy Level**
CO 1	**Define** the **concepts and** terminologies of research methodology	BT1
CO 2	**Understand** the tools & techniques of research methodology	BT2
CO 3	**Apply** various research methodologies to accomplish quality research outcomes.	BT3
CO 4	**Analyze** research data using suitable statistical methods.	BT4
CO 5	**Evaluate** the research findings to resolve the research problem.	BT5
CO 6	**Develop and present** the research report.	BT6

Detailed Syllabus:

Module	Course Content	Periods
I	**Introduction to Research Methodology** • Meaning, Motivation & Objectives of Research • Classification of Research and Research Approaches • Significance of Research, Research Methods versus Methodology • Importance of Knowing How Research is Done • Research Process and criteria of Good Research • Problems Encountered by Researchers	12
II	**Defining the Research Problem:** • Research Problem and its selection. • Need and Techniques of defining the Problem. **Research Design:** • Meaning, features and need of Research Design • Classification of Research Design • Basic Principles of experimental designs	18

	Sampling Design • Census and Sample Survey, implications of a Sample Design • Steps in sampling design • Criteria of selecting a Sampling Procedure, characteristics of a good Sample Design and its classification **Measurement and Scaling Techniques** • Measurement in Research and measurement scales • Sources of error in measurement • Developing Measurement Tools • Meaning of Scaling and Scale Classifications • Scaling Techniques		
III	**Data Collection Methods** • Collection of Primary Data and Observation Method • Interview Method and Collection of Data through Questionnaires • Collection of Data through Schedules • Collection of Secondary Data • Selection of Appropriate Method for Data Collection • Case Study Method **Processing and Analysis of Data** • Processing Operations • Types of Analysis • Statistics in Research • Measures of Central Tendency, Dispersion, Asymmetry (Skewness), Relationship • Simple Regression Analysis, Multiple Correlation and Regression, Partial Correlation	18	
IV	**Interpretation and Report Writing** • Meaning of Interpretation and its need • Technique of Interpretation and its Precaution • Significance and different steps in Writing Report • Layout of the Research Report and classification • Oral Presentation • Mechanics of Writing a Research Report • Precautions for Writing Research Reports • Bibliography and referencing	12	
Total		60	

Textbooks:
1. Kothari CR & Garg Gaurav (2024). *Research Methodology-Methods and Techniques,* 5th Edition, New Age International(P)Limited, Publishers, New Delhi.
2. Chawla, D.& Sondhi (2015). *Research Methodology-Concepts and Cases,* 2Nd Edition, Noida: Vikash Publishing House.

Reference Books:
1. Verma, S.K. and Wani, M.A. (2001). *Legal Research and Methodology. New Delhi: Indian Law Institute.*
2. Malhotra, N.K.& Dash, S. (2012). *Marketing Research: An applied Orientation.* 6th Edition. Noida: Pearson Publications.
3. *Concise Rules of APA Style.* (2010). American Psychological Association. Language Arts and Discipline.
4. *The Chicago Manual of Style.* (2003). University of Chicago Press

Course: Computer Applications & Research Publication Ethics	Subject Code: CAR995M102
L-T-P-C – 2-1-2-4 **Credit Units: 04**	**Scheme of Evaluation: T&P**

Course Objectives:
The objective of the course is to enable the scholars to understand and apply various IT applications and publication ethics in research.

Course Outcomes:

On successful completion of the course the scholars will be able to:		
SI No	**Course Outcome**	**Blooms Taxonomy Level**
CO 1	**Define** the basic concepts of IT applications and publication ethics in research	BT 1
CO 2	**Interpret** the concepts of publication ethics in research.	BT 2
CO 3	**Apply** appropriate IT tools in the collection and organization of research data by following ethical publication practices	BT 3
CO 4	**Analyze** the research data by adapting suitable IT applications and publication ethics	BT 4
CO 5	**Evaluate** research output in the context of publication ethics	BT 5
CO 6	**Develop** a comprehensive research plan by incorporating various IT tools & applications.	BT 6

Detailed Syllabus:

Module	Course Contents	Periods
I	MS-Word-Formatting, Referencing, Citation; MS-Excel-Data entry, analysis, graphical presentation; and MS-Power Point for presentation-preparation of slides, designs & animation.	15
II	Use of SPSS and other statistical software for data analysis.	12

III	**Introduction to publication Database & Ethics:** • Definition, nature and scope of publication ethics. • Databases and Research metrics (UGC INFONET, INFLIBNET, ERNET, EBSCO, JSTOR, EMERALD etc.) • Indexing databases • Citation databases: web of science, Scopus etc. • Research metrices • Impact Factor of Journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score • Metrics: h-index, g index, i10 index, altimetric **Scientific conduct:** • Ethics with respect to science and research • Intellectual honesty and research integrity • Scientific misconducts: Falsification, Fabrication and Plagiarism • Redundant publications: duplicate and overlapping publications salami Slicing, selective reporting and misrepresentations of data.	18
IV	**Publication Ethics & Practices:** • Definition, Introduction and Importance • Best Practices / Standards setting and guidelines: COPE, WAVE, etc. • Conflicts of Interest • Publication misconduct: Definition, concept, problems that led to unethical behavior and vice versa, types of violation of publication ethics, authorship, and contributorship • Publication misconduct, complaints and appeals • Predatory publishers and journals	15
	Total	60

Textbooks/Reference books:
1. Fundamentals of Computers by E Bala Guruswami (McGraw Hill Publication)
2. Programming in ANSI C By E Bala Guruswami (McGraw Hill Publication)
3. Microsoft Office System 2012 edition (PHI publication)
4. Kothari CR & Garg Gaurav (2024). *Research Methodology- Methods and Techniques,* 5th Edition, New Age International (P) Limited, Publishers, New Delhi.
5. Chawla, D. & Sondhi, N. (2015). *Research Methodology-Concepts and Cases,* 2nd Edition. Noida: Vikash Publishing House.