



**PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE**
Autonomous
Siddhartha Nagar, Vijayawada-520010
Re-accredited at 'A+' by the NAAC

Paper 4: RESEARCH METHODOLOGY& IPR

Offered to : M.Sc.(PHYSICS)	Course Code : 22PG201
Course Type : SEC	Course : RESEARCH METHODOLOGY& IPR
Year of Introduction : 2004	Year of offering : 2023
Year of Revision : 2022	Percentage of Revision: 100 %
Semester : II	Credits : 3
Hours Taught: 60 hrs. per Semester	Max.Time: 3 Hours

Course Description: Research Methodology&IPR course is aimed to develop research bent of mind (spirit of inquiry) and impart research skills to the all Post graduate students. It also encompasses the series of research methodology contents: from problem formulation, to design, to data collection, analysis, reporting and dissemination. This course also covers intellectual property rights (IPR), and intended to equip students with conceptual understandings of current scenario of IPR, and the practical issues encountered in filing patents, trademarks and copyrights.

Course Objectives:

1. To understand some basic concepts of research and its methodologies
2. To develop an understanding of the basic framework of research designs and techniques.
3. To identify various sources of information for literature review and data collection.
4. To ability to write a research Proposal, report and thesis
5. To demonstrate knowledge and understanding of IPR Filing and Rights Course Learning

Course Outcomes: At the end of this course, students should be able to:

CO1: Understand some basic concepts of research and its methodologies

CO2: Identify appropriate research topics

CO3: Select and define appropriate research problem and parameters

CO4: Demonstrate the ability to choose methods appropriate to research aims and objectives

CO5: Write a research report and thesis, File Patents, Trademarks and Copy Rights

CO - PO MATRIX								
22PG201	CO-PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
	CO1	H						
	CO2			L				
	CO3			L				
	CO4					H		
	CO5							M

Syllabus		
Unit	Learning Units	Lecture Hours
I	<p>Foundations of Research & Research Design</p> <p>Meaning of Research – Definitions of Research – Motivation in Research – General Characteristics of Research – Criteria of Good Research – Types of Research – Research Process – Research Methods vs. Methodology – Defining and Formulating the Research Problem – Review of Literature – Approaches to Critical Literature Review – Importance of Literature Review in Identifying Research Gaps and Defining a Problem – Development of Working Hypothesis.</p>	12
II	<p>Research Design, Sampling Concepts, and Data Collection Methods</p> <p>Meaning, Significance and Characteristics of Good Research Design–Types of Research Design: Exploratory, Conclusive Research and Experimental – Sampling Theory: Types of Sampling and Errors in Sampling – Data Collection: Types of Data – Data Collection Methods and Techniques for Primary and Secondary Data.</p>	12
III	<p>Measurement & Scaling Techniques, Hypothesis Formulation and Testing, Overview of Data Analysis and Report Writing</p> <p>Basic measurement scales –Reliability & Validity – Definition and Types of Hypothesis– Hypothesis Formulation and Testing Procedure – Overview of Data Analysis: Methods, Process and Types–Report Writing: Significance of Report Writing, Different Steps in Writing Report, Layout of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing a Research Report Precautions for Writing Research Reports – How to Write a Research Proposal– Research Ethics, Conflict of Interest and Plagiarism.</p>	12

IV	Intellectual Property Rights (IPR) Definition and Nature and Features of Intellectual Property Rights (IPR) –Types of Intellectual Property Rights – Procedure for Grants of Patents –Rights of a Patent – Scope of a Patent Rights-Licensing and Transfer of Technology–Why protection of intellectual property is important? Enforcement of IPR – Infringement of IPR	12
V	Indian and International Scenario and New Developments in IPR IPR Developments in India for the past Five Years – Development of IPR Laws in India – International Cooperation on IPR – New Developments in IPR – Administration of Patent System –International Patent protection – Case Studies in Indian and Global Contexts.	12

Text and Reference Books:

1. Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K., 2002, An introduction to Research Methodology, RBSA Publishers.
2. Cohen, L. Lawrence, M., & Morrison, K. (2005), Research Methods in Education (5th edition). Oxford: Oxford University Press.
3. Kothari, C.R., 1990, Research Methodology: Methods and Techniques, New Age International.
4. Dornyei, Z. (2007). Research Methods in Applied Linguistics. Oxford: Oxford University Press.
5. Anthony, M., Graziano, A.M. and Raulin, M.L., 2009, Research Methods: A Process of Inquiry, Allyn and Bacon. 6. Fink, A., 2009, Conducting Research Literature Reviews: From the Internet to Paper. Sage Publications.
7. Day, R.A., 1992, How to Write and Publish a Scientific Paper, Cambridge University Press.
8. Wadehra, B.L. 2000, Law relating to patents, trade marks, copyright designs and geographical indications. Universal Law Publishing.
9. Coley, S.M. and Scheinberg, C. A., 1990, Proposal Writing, Sage Publications.
10. Carlos, C.M., 2000. Intellectual property rights, the WTO and developing countries: the TRIPS agreement and policy options, Zed Books, New York.
11. Leedy, P.D. and Ormrod, J.E., 2004, Practical Research: Planning and Design, Prentice Hall.
12. Satarkar, S.V., 2000. Intellectual property rights and Copy right. EssEss Publications.