22MCA204: Research Methodology & Intellectual Property Rights (IPR)

Course Name	Design & Analysis of Algorithms		L	T	P	C	CIA	SEE	TM
Course Code	22PG201		4	0	0	4	30	70	100
Year of Introduction: 2023	Year of Offering: 2023	Year of Revision: Nil			Percentage of Revision: NIL				
L-Lecture, T-Tutorial, P-Practical, C-Credits, CIA-Internal Marks, SEE-External Marks, TM-Total Marks									

Course Description and Purpose:
The aim of this course is 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:
To understand some basic concepts of research and its methodologies
To develop an understanding of the basic framework of research process.
To develop an understanding of various research designs and techniques.
To identify various sources of information for literature review and data collection.
Ability to write a research Proposal, report and thesis
To demonstrate knowledge and understanding of IPR Filing and Rights

Course Learning Outcomes:
At the end of this course the students should be able to:
✓ Understand some basic concepts of research and its methodologies
✓ Identify appropriate research topics
✓ Select and define appropriate research problem and parameters
✓ Demonstrate the ability to choose methods appropriate to research aims and objectives
✓ Have adequate knowledge on measurement & scaling techniques
✓ Have basic awareness of data analysis-and hypothesis testing procedures
✓ Prepare a project proposal (to undertake a project)
✓ Write a research report and thesis
✓ File Patents, Trademarks and Copy Rights

Course Content:

UNIT I
Foundations of Research:
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.

UNIT II
Research Design, Sampling Concepts, and Data Collection Methods
Meaning, Significance and Characteristics of Good Research Design – Types of ResearchDesign: 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.

UNIT III
Measurement & Scaling Techniques, Hypothesis Formulation and Testing, Overview of Data Analysis and Report Writing
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.

UNIT IV
Intellectual Property Rights (IPR)
Definition and Nature and Features of Intellectual Property Rights (IPR) – Types of IntellectualProperty 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.

UNIT 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.

PRACTICAL COMPONENTS:
- ✓ Students should identify different research problems with examples and describe the characteristics of researchable problems in their academic area/society/community/organization concerned.
- ✓ Students are to form in groups (a group consists of 4-6 students) and conduct critical literature survey with regard to the identified research problems and prepare a brief literature review coupled with research gaps and working hypothesis.
- ✓ Students are required to identify and develop good research design to address the defined research problems.
- ✓ Students are expected to write the research design on Exploratory and DescriptiveResearch.
- ✓ Students are required to develop practical experience in writing a research proposal byconducting a thorough critical review of any three research proposals (examples).
- ✓ Students are expected to develop templates for technical report writing.
- ✓ Students should conduct a team based mini research project, which is a unified andpractical case on a topic of their choice, with approximately 4-6 students per group.
- ✓ Students are expected to identify types of plagiarism in academic research, and how to avoid plagiarism in research.
- ✓ Students are asked to identify and submit a brief report on Indian patents of Internationalrepute.
- ✓ Students are asked to write on Patent registration procedure, and visit Official website of Intellectual Property India https://ipindia.gov.in to know how to get IPR in India.
- ✓ Students are asked to identity and summarise remedies available against the infringementof intellectual property rights in Indian and global contexts.
- ✓ Students are asked to submit any five examples of ethical issues in copyright and patents.

Reference Text 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 (5thedition). Oxford: Oxford University Press.
3. Kothari, C.R., 1990, Research Methodology: Methods and Techniques, New AgeInternational.
4. Dornyei, Z. (2007). Research Methods in Applied Linguistics. Oxford: Oxford UniversityPress.
5. Anthony, M., Graziano, A.M. and Raulin, M.L., 2009, Research Methods: A Process ofInquiry, 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 geographicalindications. 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. Ess Publications.
13. Important Websites:
➢ www.ipindia.nic.in - Intellectual Property Office, India
➢ www.patentoffice.nic.in – Patent office, India
➢ http://copyright.gov.in/ - Copyright Office, India
➢ ipr.icegate.gov.in – Automated Recordation & Targeting for IPR Protection
➢ http://www.icegate.gov.in- E- Commerce portal of Central Board of Excise and Customs
➢ www.ipab.tn.nic.in - Intellectual Property Appellate Board, India
➢ www.mit.gov.in – Department of Information Technology, India
➢ http://www.mit.gov.in/content/office-semiconductorintegrated-circuits-layout-designregistry
➢ Semiconductor Integrated Circuits Layout-Design Registry (SICLDR)