

<b>Name of Faculty</b>	:	Faculty of Engineering & Technology
<b>Name of Program</b>	:	Master of Technology (M. Tech)
<b>Course Code</b>	:	2MRM01
<b>Course Title</b>	:	Research Methodology & IPR
<b>Type of Course</b>	:	Value Added (VA)
<b>Year of Introduction</b>	:	2023-24

<b>Prerequisite</b>	:	Fluency in Academic Writing and research publishing work
<b>Course Objective</b>	:	The course aims to equip students with the necessary skills and knowledge to conduct high-quality research using appropriate methodologies and to understand the importance of intellectual property rights in various fields. By the end of the course, students will be able to apply research methods effectively and navigate the legal aspects of intellectual property, contributing to their future academic and professional endeavors.
<b>Course Outcomes</b>	:	At the end of this course, students will be able to:
	CO1	To infer technical research documents along with various ethical aspects of research.
	CO2	To determine the research gap by reviewing existing research work
	CO3	To select different research methodologies for technical research work.
	CO4	To write and present a significant technical report/ document.
	CO5	To critique research work in the form of patent and copyright.

### Teaching and Examination Scheme

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
L	T	P		Theory Marks		Practical Marks		Total Marks
			C	SEE	CIA	SEE	CIA	
02	00	00	02	70	30	00	00	100

*Legends: L-Lecture; T-Tutorial/Teacher Guided Theory Practice; P – Practical, C – Credit, SEE – Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.))*

**Course Content**

Unit No.	Topics	Teaching Hours	Weightage
1	<b>Starting Research Process:</b> Types of research, Formulating a research problem, Identify specific requirements for evaluation/review and Identify key areas in your field, Identify the gaps, how to find the gap Formulate the Problem Statement	6	15%
2	<b>Reviewing the literature:</b> The place of the literature review in research, Clarity and focus to research problem. Improving research methodology, broadening your knowledge base in your research area, enabling you to contextualize your findings. Finding Good Literature Decide which sources you will need - Differentiate between journals, conferences, books, magazines and their quality, Identify main ideas in scholarly literature - identify the bias, theoretical position and evidence produced	6	30%
3	<b>Writing a research proposal &amp; report:</b> Objectives, Hypotheses, Study design, Setting, Measurement procedures, Ethical issues. Sampling, Analysis of data, Structure of the report and Problems and limitations, Writing a research report, developing an outline, writing about a variable. Referencing, writing a bibliography and summary.	8	25%
4	<b>Research methodology and practice &amp; IPR:</b> Evaluation and types of evaluation from a focus perspective. Types of evaluation from a philosophical perspective. Undertaking an evaluation. Ethical in evaluation and summary Intellectual Property Patents, Designs, Trade and Copyright - Process of Patenting and Development: Technological research innovation, patenting, development. International Scenario - International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT Patent Rights - Scope of Patent Rights. Licensing and transfer of technology.	10	30%

Suggested Distribution of Theory Marks Using Bloom's Taxonomy						
Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
<b>Weightage</b>	20%	40%	20%	15%	05%	0 %

*NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.*

#### Suggested Learning Websites

Sr. No.	Name of Website
1	<a href="https://nptel.ac.in">https://nptel.ac.in</a>
2	<a href="https://www.scribbr.com/methodology/research-methodology">https://www.scribbr.com/methodology/research-methodology</a>
3	<a href="https://www.socialresearchmethods.net">https://www.socialresearchmethods.net</a>
4	<a href="https://www.ipindia.gov.in">https://www.ipindia.gov.in</a>

#### Reference Books

Sr. No.	Name of Reference Books
1	Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"
2	Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd, 2007.
3	Asimov, "Introduction to Design", Prentice-Hall, 1962.
4	T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008