NIRMA UNIVERSITY

Institute:	**Institute of Technology**
Name of Programme:	**M. Tech. in Electrical Engineering (Electric Vehicular Technology)**
Semester:	**II**
Course Code:	**6EE152**
Course Title:	**Research Methodology and IPR**
Course Type:	(□ Core / □ Value Added Course / □ Department Elective / □ Institute Elective/ □ University Elective/ □ Open Elective / √ **Any other (soft skill)**)
Year of Introduction:	**2022 – 23**

L	T	Practical component				C
		LPW	PW	W	S	
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Course Learning Outcomes (CLOs):

At the end of the course, the students will be able to-

1. appraise data collection methods and tools; and research methodology **(BL2)**
2. organize research related information and plan for research problem formulation **(BL4)**
3. develop research writing skills; and practice research ethics **(BL6)**
4. contrast research outcomes suitable for publications or IPR **(BL5)**
5. Infer the basic IPR needs, protections, law, process and trends in IPR **(BL2)**

Syllabus: **Teaching Hours: 30**

Unit 1: Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. **5**
Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

Unit 2: Effective literature studies approaches, analysis. Plagiarism, Research ethics **4**

Unit 3: Effective technical writing, how to write report, Paper. Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee **8**

Unit 4: Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. **4**
International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

Unit 5: Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications. **4**

Unit 6: New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs. **5**

Self-Study Component:

The self-study content(s) will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

Suggested Readings:

1. Stuart Melville and Wayne Goddard, Research methodology: an introduction for science & engineering students
2. Wayne Goddard and Stuart Melville, Research Methodology: An Introduction
3. Ranjit Kumar, Research Methodology: A Step by Step Guide for beginners
4. Halbert, Resisting Intellectual Property, Taylor & Francis Ltd.
5. Mayall , Industrial Design, McGraw Hill
6. Niebel, Product Design", McGraw Hill
7. Asimov, Introduction to Design, Prentice Hall
8. Robert P. Merges, Peter S. Menell, Mark A. Lemley, Intellectual Property in New
9. Technological Age.
10. T. Ramappa, Intellectual Property Rights Under WTO, S. Chand

L = Lecture, T = Tutorial, P = Practical, C = Credit

w.e.f. academic year 2022-23 and onwards