NIRMA UNIVERSITY

Institute:	Institute of Technology, School of Technology
Name of Programme:	MTech CSE, MTech CSE (Cyber Security), MTech CSE (Data Science)
Course Code:	6CS252CC22
Course Title:	Research Methodology and IPR
Course Type:	Core
Year of Introduction:	2022-23

L	T	Practical Component				C
		LPW	PW	W	S	
2	0	-	-	-	-	2

Course Learning Outcomes (CLO):

At the end of the course, students will be able to –
1. formulate a research problem for a given engineering domain.
2. analyse the available literature for given research problem.
3. develop technical writing and presentation skills.
4. comprehend concepts related to patents, trademark and copyright.

Unit	Contents	Teaching Hours (Total 30)
Unit-I	**Introduction:** Introduction to research problem, sources of finding a research problem, characteristics of a research problem, pitfalls in selecting a research problem, scope and objectives of research problem, approaches of investigation of solutions for research problem	04
Unit-II	**Literature Review:** Effective literature review approaches, literature analysis, avoiding plagiarism, ethics in research, data collection, analysis, interpretation	04
Unit-III	**Technical Writing and Presentation:** Effective technical writing, thesis writing, research proposal writing, research paper writing, presentation skills, tools for technical writing and presentation	04
Unit-IV	**Intellectual Property Rights:** Introduction and significance of intellectual property rights, types of Intellectual Property Rights, copyright and its significance, introduction to patents and its filing, introduction to patent drafting, best practices in national and international patent filing, copyrightable work examples	04
Unit-V	**Patent Rights:** Patents and its basics, patentable items, designs, process of filing patent at national and international level, process of patenting and development, technological research and patents, innovation, patent and copyright international intellectual property, procedure for grants of patents, need of specifications, types of patent applications, provisional and complete specification, patent specifications and its contents, trade and copyright	07

Unit-VI	**New Developments in Intellectual Property Rights (IPR):** Administration of patent system in India, India's stand in the world of IPs, new developments in IPR at national and international level, prosecution (filing) PCT / international filing, national phase filing, scope of patent rights, licensing and transfer of technology, patent information and databases, geographical indications, basic laws related to patent filing, case studies- IPR of Hardware, computer software.	07

Self-Study:

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

Suggested Readings/References:
1. Stuart Melville, Wayne Goddard, Research Methodology: An Introduction for Science and Engineering Students, Juta & Co Ltd.
2. Ranjit Kumar, Research Methodology: A Step-by-Step Guide for Beginners, Pearson.
3. Halbert, Resisting Intellectual Property, Taylor and Francis Ltd.
4. Asimov, Introduction to Design, Prentice Hall.
5. T. Ramappa, Intellectual Property Rights Under WTO: Tasks Before India, S. Chand.