NIRMA UNIVERSITY

Institute of Technology

School of Engineering

Master of Technology - Civil Engineering

(Computer Aided Structural Analysis and Design)

Semester- II

L	T	P	C
2	0	0	2

Course Code	6CL152
Course Name	Research Methodology and IPR

Course Outcomes:

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.

Syllabus: **Teaching hours: 30**

Unit-1: Introduction **Hours: 04**

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.

Unit-2: Literature Review **Hours: 04**

Effective literature review approaches, literature analysis, avoiding plagiarism, ethics in research, data collection, analysis, interpretation, tools for data collection.

Unit-3: Technical Writing and Presentation **Hours: 04**

Effective technical writing, thesis writing, research proposal writing, research paper writing, presentation skills, tools for technical writing and presentation.

Unit-4: Intellectual Property Rights **Hours: 04**

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.

Unit-5: Patent Rights   **Hours: 07**

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.

Unit-6: New Developments in Intellectual Property Rights (IPR)   **Hours: 07**

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.

Self-Study:

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

Suggested Readings:

1. Melville, S. & Goddard, W. *Research Methodology: An Introduction for Science & Engineering Students*, Juta & Co. Ltd.
2. Kumar, R. Research Methodology: *A Step by Step Guide for beginners*, Pearson.
3. Halbert, D. J. *Resisting Intellectual Property*, Taylor & Francis.
4. Mayall, W. H. *Industrial Design*, McGraw Hill.
5. Asimow, M. *Introduction to Design*, Prentice Hall.
6. Merges, R. P., Menell, P. S. & Lemley, M. A. *Intellectual Property in New Technological Age*, Clause 8 Publishing.
7. Ramappa, T. *Intellectual Property Rights under WTO: Tasks before India*, S Chand.

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

w.e.f. academic year 2019-20 and onwards