

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA KAKINADA-533003, Andhra Pradesh, India DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

III Year – II SEMESTER		L	T	P	C
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RESEARCH METHODOLOGY					

Course objectives:

- To understand the objectives and characteristics of a research problem.
- To analyze research related information and to follow research ethics
- To understand the types of intellectual property rights.
- To learn about the scope of patent rights.
- To understand the new developments in IPR.

UNIT - I

Research problem: 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. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

UNIT - II

Literature study: Effective literature studies approaches, analysis Plagiarism, Research ethics, Technical writing: Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee

UNIT - III

Nature of 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.

UNIT - IV

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT - V

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.

Course Outcomes:

At the end of the course, student will be able to

- Understand objectives and characteristics of a research problem
- Analyze research related information and to follow research ethics.
- Understand the types of intellectual property rights.
- Learn about the scope of IPR.
- Understand the new developments in IPR.

Text Books:

- 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, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"



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References Books:

- 1. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd ,2007.
- 2. Mayall, "Industrial Design", McGraw Hill, 1992.
- 3. Niebel, "Product Design", McGraw Hill, 1974.
- 4. Asimov, "Introduction to Design", Prentice Hall, 1962.
- 5. Robert P. Merges, Peter S. Menell, Mark A. Lemley, "Intellectual Property in New Technological Age", 2016.
- 6. T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008