

Course Code: 22UHS711C / 22UHS811C	Research Methodology and IPR	Credits:	03
Hours/Week (L:T:P: S): 3:0:0:0		CIE Marks:	50
Total Hours of Pedagogy (Theory) : 40hrs		SEE Marks:	50
UNIT-I		(10 Hrs.)	
<p>Introduction to Engineering Research Fundamentals of Research: Meaning, objectives, and motivation in engineering research. Types of Engineering Research: Basic, applied, and translational research; identifying and solving Worthwhile problems. Research Ethics: Ethics in engineering research and practice, types of research misconduct, and ethical issues in authorship..</p>			
UNIT-II		(10 Hrs.)	
<p>Literature Review and Citations Technical Reading & Analysis: Methods for reviewing literature, analyzing prior art, and synthesizing new and existing knowledge. Bibliographic Databases: Web of Science, Google, Google Scholar, effective search strategies. Conceptualizing Research: Critical and creative reading, taking notes, reading mathematical models, algorithms, and datasheets. Citations & Acknowledgments: Attribution, citation styles, impact of keywords, citing datasets, and knowledge dissemination.</p>			
UNIT-III		(10 Hrs.)	
<p>Intellectual Property Rights (IPR) & Patents: Introduction to Intellectual Property: Concepts of property and rights, forms of IPR, role in research and economic development, IP governance, and global innovation indicators. Patents: Definition, objectives, criteria for patentability, software/business method patents, infringement, compulsory licensing, and government use of inventions. Patent Process: Prior art search strategies, patent databases (free and paid), drafting specifications and claims, filing requirements, jurisdiction, opposition procedures, and renewal. Filing Requirement of patent: Patent Application Forms. Work flow chart in obtaining Patents, Jurisdiction of Filing Patent Application. Pre-grant & Post-grant Opposition. Forms to be submitted, filing mechanism through Individual patent office and PCT route. Need for a Patent Attorney/Agent Revocation. Term of Patent, Patent renewal and Fee Structure National Bodies Dealing with Patent Affairs. Utility Models</p>			
UNIT-IV		(10 Hrs.)	
<p>Copyrights and Related Rights: Classes of Copyrights. Criteria for Copyright. Ownership of Copyright. Copyrights of the Author. Copyright Infringements. Copyright Infringement and remedies in case of infringement. Fair Use Doctrine. Copyrights and Internet. Non-Copyright Work. Copyright Registration. Judicial Powers of the Registrar of Copyrights. Fee Structure. Validity of Copyright. Copyright Profile of India. Copyright and the word 'Publish'. Transfer of Copyrights to a Publisher. Copyrights and the Word 'Adaptation'. Copyrights and the Word 'Indian Work'. Joint Authorship. Copyright Society. Copyright Board. Copyright Enforcement Advisory Council (CEAC). International Copyright Agreements, Conventions and Treaties. Interesting Copyrights Cases. Trademarks: Eligibility Criteria. Who Can Apply for a Trademark. Acts and Laws. Classification of Trademarks. Registration of a Trademark. Process for Trademarks Registration. Prior Art Search. Validity of Trademark. Trademark Registry. Famous Case Law: Coca-Cola Company vs. Bisleri International Pvt. Ltd. Industrial Designs: Eligibility Criteria. Acts and Laws to Govern Industrial Designs. Design Rights. Enforcement of Design Rights. Non-Protectable Industrial Designs India. Protection Term. Procedure for Registration of Industrial Designs. Prior Art Search. Application for Registration. Duration of the Registration of a Design. Importance of Design Registration.</p>			

Cancellation of the Registered Design. Application Forms. Classification of Industrial Designs. Designs Registration Trend in India. International Treaties. Famous Case Law: Apple Inc. vs. Samsung Electronics Co.

Geographical Indications: Acts, Laws and Rules Pertaining to GI. Ownership of GI. Rights Granted to the Holders. Registered GI in India. Identification of Registered GI. Classes of GI. Non-Registerable GI. Protection of GI. Collective or Certification Marks. Enforcement of GI Rights. Procedure for GI Registration Documents Required for GI Registration. GI Ecosystem in India.

Case Studies on Patents. Case study of Curcuma (Turmeric) Patent, Case study of Neem Patent, Case study of Basmati patent. **IP Organizations In India. Schemes and Programmes.**

Reference Books

1. Dr. Neजार Santosh M, Dr. Bendigeri Harish (2023-24) "Research Methodology and Intellectual Property Rights", ISBN 978-93-5987-928-4,
2. Thiel David V. "Research Methods for Engineers" Cambridge University Press,
3. Acharya N.K Intellectual Property Rights . 6th Edition, Asia Law House.
4. P. Naryan, (2007). "Intellectual Property Law", 3rd Ed, Eastern Law House,
5. Dr. Myneni S.R.,(2019) "Law of Intellectual Property", 9th edition, Asia law House,.
6. Dr. Reddy G.B, (2020) "Intellectual Property Rights and Law", Reprint edition, Gogia Law Agency. Hyderabad,.
7. N.R. Subbaram. S. Viswanathan, (2008). "Hand book Indian Patent Law and, Practice" Printers and publishers Pvt,Ltd,
8. Cornish, "Intellectual Property Rights", Universal publications.
9. Dr.B.L.Wadehra,"Law Relating to Intellectual Property" 5thedition,Universal Law publishing Co, Dehli.
10. **SWAYAM / NPTL/ MOOCS/ We blinks/ Internet sources/ YouTube videos** and other materials / notes

Course Outcomes:

At the completion of the course student will be able to:

CO1: Integrate research methodology in engineering sciences in relevant trades.

CO2: Exhibit reflective thinking in problem solving exercises.

CO3: Identify criteria to fit one's own intellectual work in particular form of IPRs and able to apply statutory provisions and procedure to protect different forms of IPRs at national and international level.

CO4: Develop skill of making search using modern tools and techniques and also student is able to become patent agent by cracking patent agent exam.

Course Outcomes	Programme Outcomes(POs)										
	1	2	3	4	5	6	7	8	9	10	11
CO1	-	2	2	3	2	1	2	3	-	1	2
CO2	-	3	2	3	-	2	2	2	-	-	2
CO3	-	-	-	-	2	3	2	3	-	1	3
CO4	-	-	-	2	3	2	-	1	-	1	-

Course Competency:

"Ability to apply research methodology and reflective thinking in engineering sciences, while effectively utilizing modern tools to protect intellectual creations through appropriate forms of IPR, and demonstrating the skills required to qualify as a patent agent at national and international levels."