

Course Code		:	22UHS711/811C	Research Methodology and IPR	Semester	:	VII/VIII
L:T:P		:	03:0:0		Course Type	:	AEC
Hours/Sem.	Teaching	:	42Hrs		CIE Marks	:	50
	Learning (TW+SL)	:	42Hrs		SEE Marks	:	50
	Exam	:	06Hrs		Total Marks	:	100
	Total Hrs.	:	90Hrs		Credits	:	03

Professional 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.

Course Outcomes:

After 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
- 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

UNIT-I

10 Hrs.

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...

UNIT-II

10 Hrs.

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.	
UNIT-III	10Hrs.
Fundamentals of Intellectual Property Rights and Patents Introduction to Intellectual Property Rights (IPR): Concept, nature, and significance of Intellectual Property. Types of Intellectual Property: Patents, Copyrights, Trademarks, Industrial Designs, Geographical Indications, Trade Secrets, and Plant Varieties. Role of IPR in innovation: research, entrepreneurship, and economic development. International IPR Framework: Overview of WIPO, WTO, TRIPS Agreement, Paris Convention, and Berne Convention. Patents: Meaning, objectives, and characteristics of patents. Criteria for patentability: Novelty, Inventive Step, and Industrial Application and Not prohibited by law Patent search: Importance and databases (InPASS, PATENTSCOPE, Google Patents). Patent filing procedure in India: Provisional and Complete Specifications. Patent examination, publication, opposition, grant, renewal, and infringement.	
UNIT-IV	10 Hrs.
Copyrights, Trademarks, Industrial Designs and IPR Management Copyrights: Meaning, subject matter, ownership, duration, and infringement, Copyright issues in the digital environment and academic research. Trademarks and Industrial Designs: Concept and importance of trademarks. Registration process, infringement, and remedies. Industrial Designs: Registration, protection, and significance. Geographical Indications and Trade Secrets: Concept, registration, and protection of Geographical Indications. Trade secrets and confidential information. IPR Management and Commercialization: Technology Transfer and Licensing. Patent valuation and commercialization. Intellectual Property in Start-ups and Academic Institutions. 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.	
Text Books:	
1. Dr. Nejekar Santosh M, Dr. Bendigeri Harish (2023-24) "Research Methodology and Intellectual Property Rights", ISBN 978-93-5987-928-4,	
Reference Books:	
2. Thiel David V. "Research Methods for Engineers" Cambridge University Press, 3. Acharya N.K Intellectual Property Rights . 6 th Edition, Asia Law House. 4. P. Naryan, (2007). "Intellectual Property Law", 3 rd Ed, Eastern Law House, 5. Dr. Myneni S.R.,(2019) "Law of Intellectual Property", 9 th edition, Asia law House,. 6. Dr. Reddy G.B, (2020) "Intellectual Property Rights and Law", Reprint edition, Gogia Law Agency. Hydrabad,.	

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

Web Links and Video Lectures:

1. https://mooc.utm.my/courses/researchmethodologyforen?utm_source=chatgpt.com
2. https://arxiv.org/abs/physics/0601009?utm_source=chatgpt.com
3. https://scholar.google.com/?utm_source=chatgpt.com
4. https://www.webofscience.com/?utm_source=chatgpt.com
5. https://www.wipo.int/en/web/wipo-academy/programs/ip-elearning?utm_source=chatgpt.com
6. https://ipindia.gov.in/?utm_source=chatgpt.com
7. https://patentscope.wipo.int/?utm_source=chatgpt.com
8. https://patents.google.com/?utm_source=chatgpt.com
9. https://nptel.ac.in/courses/109106148?utm_source=chatgpt.com

Course Outcomes	Program Outcomes(POs)										
	1	2	3	4	5	6	7	8	9	10	11
CO1	-	2 WK2& 7	2 WK3& 8	3 WK4	2 WK5	1 WK7	2 WK8	3 WK9	-	1 WK10	2 WK11
CO2	-	3 WK2& 7	2 WK3& 8	3WK4	-	2 WK7	2 WK8	2 WK9	-	-	2 WK11
CO3	-	-	-	-	2 WK5	3 WK7	2 WK8	3 WK9	-	1 WK10	3 WK11
CO4	-	-	-	2 WK4	3 WK5	2 WK7	-	1 WK9	-	1 WK10	-