Research Methodology & IPR

Course Code: **19HM2101**

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At the end of this course, students will be able to

CO1: Illustrate research problem formulation.

CO2: Analyse research related information and research ethics

CO3: Summarise the present day scenario controlled and monitored by Computer and Information Technology, where the future world will be ruled by dynamic ideas, concept, creativity and innovation.

CO4: Explain how IPR would take such important place in growth of individuals & nation, to summarise the need of information about Intellectual Property Right to be promoted among student community in general & engineering in particular.

CO5: Relate that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to creation of new and better products, and in turn brings about economic growth and social benefits.

Unit I: Research Methodology: An Introduction **(8 Lectures)**

Meaning of research problem, Sources of research problem, Criteria and 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.

Learning Outcomes:

1. Explain the scope and objectives of a research problem (L2)
2. List out criteria and characteristics of a good research problem(L1)
3. Summarize the approaches of investigation of solutions for a research problem (L2)

Unit II: Literature Survey and Ethics **(6 Lectures)**

Effective literature studies approaches, analysis Plagiarism, Research ethics.

Learning Outcomes:

1. Outline the Literature study approaches (L2)
2. Adapt Research ethics in professional life (L6)
3. Explain legal compliances of Plagiarism (L2)

Unit III: Interpretation and Report Writing **(6 Lectures)**

Effective technical writing, how to write a report, Paper Developing a Research Proposal, Format of research proposal, presentation and assessment by a review committee.

Learning Outcomes:

1. Demonstrate technical report writing (L2)
2. Develop research paper writing skills (L3)
3. Develop Power Point Presentation skills (L3)

Unit IV: Intellectual Property Rights and Patents (8 Lectures)

Nature of Intellectual Property: Patents, Designs, Trade and Copyrights. 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

Learning Outcomes:

1. Explain Intellectual Property Rights and differentiate among Patents, Designs, Trade Marks and Copyrights (L2)
2. Outline the process of patenting and development (L2)
3. Explain the procedure for granting patent (L2)

Unit V: Intellectual Patent Rights and Developments (6 Lectures)

Scope of Patent Rights. Licensing and transfer of technology, Patent information and databases, Geographical Indications. 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 / NITs/ IIITs.

Learning Outcomes:

1. Explain patent right and its scope (L2)
2. Make use of Patent information and databases (L3)
3. Discover the new developments in IPR (L4)

Text Books

1. C.R.Kothari, *"Research Methodology"*, 3rd Edition, New Age International, 2017.
2. Ranjit Kumar, *"Research Methodology – A Step by Step for Beginner's"*, 2nd Edition, Pearson, Education, 2016.
3. T. Ramappa, "*Intellectual Property Rights Under WTO"*, 2nd Edition, S Chand, 2015
4. Kompal Bansal & Parshit Bansal, "Fundamentals of IPR for *Beginner's"*, 1st Edition, BS Publications, 2016.

References

1. Mark Saunders, Philip Levis, Adrain Thornbill, "Research Methods for Business Students", 3rd Edition (Reprint), Pearson Education, 2013.
2. KVS Sharma, "Statistics made simple, Do it yourself", 2nd Edition (Reprint), Prentice Hall, 2010.