

**20ME M103****RESEARCH METHODOLOGY AND IPR**

(Mandatory Course)

Instruction	2 L Hours per Week
Duration of SEE	2 Hours
SEE	60 Marks
CIE	40 Marks
Credits	2

**Course Objectives:**

This course aims to:

1. Motivate to choose research as career
2. Formulate the research problem, prepare the research design
3. Identify various sources for literature review and data collection report writing
4. Equip with good methods to analyze the collected data
5. Know about IPR copyrights

**Course Outcomes:**

Upon completion of this course, students will be able to:

1. Define research problem, review and assess the quality of literature from various sources
2. Improve the style and format of writing a report for technical paper/ Journal report, understand and develop various research designs
3. Collect the data by various methods: observation, interview, questionnaires
4. Analyze problem by statistical techniques: ANOVA, F-test, Chi-square
5. Understand apply for patent and copyrights

**UNIT-I**

**Research Methodology:** Research Methodology: Objectives and Motivation of Research, Types of Research, research approaches, Significance of Research, Research Methods versus Methodology, Research Process, Criteria of Good Research, Problems Encountered by Researchers in India, Benefits to the society in general, Defining the Research Problem: Selection of Research Problem, Necessity of Defining the Problem

**UNIT-II**

**Literature Survey Report Writing:** Literature Survey: Importance and purpose of Literature Survey, Sources of Information, Assessment of Quality of Journals and Articles, Information through Internet, Report writing: Meaning of interpretation, layout of research report, Types of reports, Mechanics of writing a report, Research Proposal Preparation: Writing a Research Proposal and Research Report, Writing Research Grant Proposal

**UNIT-III**


**Research Design:** Research Design: Meaning of Research Design, Need of Research Design, Feature of a Good Design, Important Concepts Related to Research Design, Different Research Designs, Basic Principles of Experimental Design, Developing a Research Plan, Steps in sample design, types of sample designs.

**UNIT-IV**

**Data Collection and Analysis:** Data Collection: Methods of data collection, importance of Parametric, non-parametric test, testing of variance of two normal population, use of Chi-square, ANOVA, F-test, z-test

**UNIT-V**

**Patents and Copyright:** Patent: Macro economic impact of the patent system, Patent document, how to protect your inventions, Granting of patent, Rights of a patent, how extensive is patent protection, Copyright: What is copyright, What is covered by copyright? How long does copyright last? Why protect copyright? Related Rights: what are related rights? Enforcement of Intellectual Property Rights: Infringement of intellectual property rights, Case studies of patents and IP Protection



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**Text Books:**

1. C.R Kothari, "Research Methodology, Methods & Technique": New Age International Publishers, 2004
2. R. Ganesan, "Research Methodology for Engineers", MJP Publishers, 2011
3. Y.P. Agarwal, "Statistical Methods: Concepts, Application and Computation", Sterling Pubs., Pvt., Ltd., New Delhi, 2004.

**Suggested Reading:**

1. AjitParulekar and Sarita D' Souza, "Indian Patents Law – Legal & Business Implications": Macmillan India Ltd, 2006
2. B. L.Wadhwa: "Law Relating to Patents, Trade Marks, Copyright, Designs & Geographical Indications": Universal law Publishing Pvt. Ltd., India 2000.
3. P. Narayanan: "Law of Copyright and Industrial Designs": Eastern law House, Delhi 2010



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**20EC A101****VALUE EDUCATION**

(Audit Course)

Instruction	2 L Hours per Week
Duration of SEE	2 Hours
SEE	50 Marks
CIE	--
Credits	Non-Credit

**Course Objectives:**

This course aims to

1. Understand the need and importance of Values for self-development and for National development.
2. Imbibe good human values and Morals
3. Cultivate individual and National character.

**Course outcomes:**

After completion of the Course. Students will be able to

1. Summarize classification of values and values for self-development.
2. Identify the importance of values in personal and professional life.
3. Apply the importance of social values for better career and relationships.
4. Compile the values from holy books for personal and social responsibility.
5. Discuss concept of soul and reincarnation, values Dharma, Karma and Guna.

**UNIT-I**

**Human Values, Ethics and Morals:** Concept of Values, Indian concept of humanism, human values: Values for self-development, Social values, individual attitudes: Work ethics, moral and non- moral behavior, standards and principles based on religion, culture and tradition.

**UNIT-II**

**Value Cultivation, and Self-Management:** Need and Importance of cultivation of values such as Sense-of Duty, Devotion to work, Self-reliance, Confidence, Concentration, Integrity & discipline, and Truthfulness.

**UNIT-III**

**Spiritual Outlook and Social Values:** Personality and Behavior, Scientific attitude and Spiritual (soul) outlook: Cultivation of Social Values Such as Positive Thinking, Punctuality, Love & Kindness, avoiding fault finding in others, Reduction of anger, forgiveness, Dignity of labour, True friendship, Universal brotherhood and religious tolerance.

**UNIT-IV**

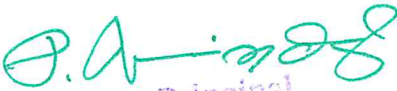
**Values in Holy Books :** Self-management and Good health: **and internal & external Cleanliness**, Holy books versus Blind faith, Character and Competence, Equality, Nonviolence, Humility, Role of Women.

**UNIT-V**

**Dharma, Karma and Guna:** Concept of soul; Science of Reincarnation, Character and Conduct, Concept of Dharma; Cause and Effect based Karma Theory; The qualities of Devine and Devilish: Satwic, Rajasic and Tamasiegunas.

**Text Books:**

1. Chakroborty, S.K. "Values & Ethics for organizations Theory and practice", Oxford University Press, New Delhi, 1998.
2. Jaya DayalGoyandaka, "Srimad Bhagavad Gita", with Sanskrit Text, Word meaning and Prose meaning, Gita Press, Gorakhpur, 2017.

  
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