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| **Sem** | **V** | | | |
| **Course Title:** | **.** | | | |
| **Course Code:** | **23DC5AERMI** | | **Total Hours : 40 hours** | |
| **L-T-P:** | **3-0-0** | **Total Credits:** | | **3** |

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| **Unit No.** | **Topics** | **Hrs** |
| **1** | **Research Methodology: An Introduction** - Meaning of Research, Objectives of Research, Types of Research, Research Approaches, Significance of Research, Research methods vs Methodology, Research and scientific method, Research Process, Criteria of Good Research.  **Define the Research Problem** - What is research problem, Selecting the problem, Necessity of Defining the problem, Technique involved in Defining a Problem  **Research Design** - Meaning of Research Design, Need for Research Design, Features of Good Design, Important concepts Relating to Research Design, Different Research Design. | 8 |
| **2** | **Design of Sample Surveys** - Introduction, Sample Design, Sampling and Non-Sampling Errors, Sample Survey vs Census Survey, Types of Sampling Designs  **Chi-Square Tests** - Test of Difference of more than Two proportions, Test of Independence of Attributes, Test of Goodness of Fit  **Analysis of Variance** - The ANOVA technique, The Basic principle of ANOVA, One way ANOVA, Two way ANOVA, Latin-square Design. | 8 |
| **3** | **Nature of Intellectual property** **IPRs**- Invention and Creativity - Importance and Protection of Intellectual Property Rights (IPRs) – procedure for grant of patents and patenting under PCT-types of patents-technological research and innovation- international cooperation on IP. | 8 |
| **4** | **A brief summary of Patents-Copyrights-Trademarks** patent rights-licensing and transfer of technology-patent databases-case studies on IPR-Geographical indications-new developments in IPR-protection of IPR rights. | 8 |
| **5** | **Interpretation and Report Writing** - Meaning of Interpretation, Techniques of Interpretation, Precautions in Interpretation, Significance of Report Writing, Different steps in Writing Report, Layout of the Research Report, Types of Reports, Oral presentation, Mechanics of writing a research Report, Precautions of Writing Research Report. | 8 |

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| **Prescribed Text Book** | | | | | |
| **Sl. No.** | **Book Title** | **Authors** | **Edition** | **Publisher** | **Year** |
| 1. | Research Methodology: Methods and Techniques | C R Kothari, Gaurav Garg | Multicolor(Fourth) | New Age International Publishers | 2019 |
| 2 | An introduction to Research Methodology | Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K | Fourth | RBSA Publishers | 2002 |
| 3 | Handbook of Intellectual property law and practise | Subbaram NR | First | S Viswanathan Printers and Publishing Private Limited | 1998 |

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| **MOOC Course** | | | | |
| **Sl. No.** | **Course name** | **Course Offered By** | **Year** | **URL** |
| 1. | Understanding Research Methods | Coursera | 2024 | https://www.coursera.org/learn/research-methods |
| 2. | Fundamentals of Research Methodology | Udemy | 2024 | https://www.udemy.com/course/fundamentals-of-research-methodology/ |

**Course Outcomes**

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| **CO1** | Apply appropriate research techniques to conduct studies and present findings. |
| **CO2** | Apply ethical principles in conducting research and intellectual property rights, ensuring the integrity and credibility of scientific inquiry. |
| **CO3** | Analyze various research problems and their solutions critically. |

**CO-PO mapping**

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|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | **3** |  |  |  |  |  |  |  |  |  |  |  |
| **CO2** | **3** |  |  |  |  |  |  | **2** |  |  |  | **3** |
| **CO3** |  | **3** |  |  |  |  |  |  |  |  |  |  |

**Proposed Assessment Plan (for 50 marks of CIE)**

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| --- | --- | --- |
| **Assessment Tool** | **No. of Assessments** | **Marks** |
| **Internals** | **Best of 2** | **40** |
| **QUIZ/AAT** | **2** | **10** |
| **Total** | | **50** |

**SEE Exam Question paper format**

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| **Unit-1** | Mandatory | One Question to be asked for 20 Marks |
| **Unit-2** | Internal Choice | Two Questions to be asked for 20 Marks |
| **Unit-3** | Internal Choice | Two Questions to be asked for 20 Marks |
| **Unit-4** | Mandatory | One Question to be asked for 20 Marks |
| **Unit-5** | Mandatory | One Question to be asked for 20 Marks |

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