

**Course objectives:**

CO1: To familiarize with basics of research, literature survey and the research process.

CO2: Develop understanding on various kinds of research, objectives of doing research, and research designs

CO3: To familiarise how to formulate research problem.

CO4: To understand various ethical issues while conducting research.

**Syllabus**

Unit 1: Meaning of research, Types of research, Research process, Problem definition, Objectives of research, Research questions, Research design, Approaches to research, Quantitative vs. Qualitative approach, Building and validating theoretical models, Exploratory vs. Confirmatory Research, Experimental vs Theoretical Research, Importance of reasoning in research.

Unit 2: Importance of literature survey, Planning a literature search, Identifying key concepts and key words, locating relevant literature, Reliability of a source.

Unit 3: Philosophy and ethics: Introduction to philosophy: definition, nature and scope, concept, branches. Ethics: definition, moral philosophy, nature of moral judgements and reactions.

Unit 4: Scientific conduct, ethics with respect to science and research, Intellectual honesty and research integrity, Scientific misconducts: falsification, fabrication and plagiarism Redundant publications: duplicate and overlapping publications, salami slicing. Selective reporting and misrepresentation of data.

Unit 5: Publication ethics and importance. Best practices/standards setting initiatives and guidance, Conflicts of interest. Publication misconduct, Problems that lead to unethical behaviour and vice versa, Violation of publication ethics, authorship and contributorship. Identification of publication misconduct, complaints, and appeals.

**REFERENCES:**

1. Bird A, "Philosophy of Science", Routledge, 2006.
2. MacIntyre, Alasdair, "A Short History of Ethics", Routledge, 2002.
3. Praveen Chaddah, "Ethics in Competitive Research: Do not get scooped; do not get plagiarized" 2018.
4. Bordens, K. S. and Abbott, B. B., "Research Design and Methods – A Process Approach", 8th Edition, McGraw-Hill, 2011.
5. C. R. Kothari, "Research Methodology – Methods and Techniques", 2nd Edition, New Age International Publishers.
6. C. George Thomas: "Research Methodology and Scientific Writing", Springer Nature, 2015.

**Modes of Evaluation:**

<b>Components</b>	<b>Assignment</b>	<b>Presentation</b>	<b>Written Examination at the end of the semester</b>
Weightage %	40	30	30