Title of the Course	**:**	Research and Publication Ethics for Pharmaceutical Sciences
Course Code	**:**	26CPHP02T
Course offered to	**:**	Pharmaceutical Sciences
Credits	**:**	2

Course Objectives:

1. To impart comprehensive knowledge of research integrity, ethics, and responsible conduct in pharmaceutical and biomedical sciences.
2. To develop an understanding of national and international ethical guidelines, regulatory frameworks, and ethical review processes governing research.
3. To train scholars in publication ethics, plagiarism detection tools, authorship responsibilities, and measures to prevent scientific misconduct.
4. To create awareness of intellectual property rights, patenting processes, copyright issues, and technology transfer in pharmaceutical research.
5. To develop skills for ethical communication, publication, and dissemination of research findings in compliance with global scientific and regulatory standards.

Course Outcomes:

1. Define and explain key concepts of research ethics, integrity, and responsible conduct in pharmaceutical sciences.
2. Apply ethical principles in authorship, peer review, and manuscript preparation to ensure responsible publication practices.
3. Detect, analyze, and prevent plagiarism and publication misconduct using global guidelines (COPE, ICMJE, UGC).
4. Evaluate intellectual property rights, regulatory compliance, and ethical frameworks in pharmaceutical research and publishing.
5. Create ethical and well-structured research proposals, reports, and dissemination strategies aligned with global standards.

Unit 1 Philosophy and Ethics of Research 12

Research ethics: Definition, scope, and importance in pharmaceutical sciences, Academic integrity and responsible conduct of research, Values in research: Honesty, accountability, transparency, respect for subjects, Ethical theories and their relevance to biomedical research, Role of ethics committees and institutional review boards.

Unit 2 Publication Ethics 12

Definition and importance of publication ethics, Authorship issues: Criteria, responsibilities, conflicts, Peer review process: Types, ethics, and challenges, Predatory journals and unethical

publishing practices, Retraction, correction, and errata in scientific publishing

Unit 3 Open Access Publishing 12

Concept and evolution of open access publishing, Types of open access: Gold, Green, Hybrid, Diamond, Benefits and challenges of open access in pharmaceutical sciences, Open access repositories (PubMed Central, DOAJ, institutional repositories), Funding models for open access journals (APCs, institutional support, consortia), Ethical considerations in open access publishing, Case studies: Impact of open access on drug discovery and pharmaceutical innovation

Unit 4 Proposal Writing in Pharmaceutical & Health Sciences 12

Introduction & Importance: Role of proposals in pharmaceutical/health sciences research and funding. Core Components: Title, abstract, background, objectives, literature review, methodology, ethical considerations, budget, references. Writing Process: Identifying research gaps, aligning with funding priorities, drafting and revising. Ethical & Regulatory Aspects: IRB approval, GCP guidelines, compliance. Evaluation & Review: Peer review criteria, acceptance/rejection factors, resubmission strategies. Practical Exercise: Drafting a mini-proposal relevant to pharmaceutical sciences.

Unit 5 Publication Misconduct 12

Definition and scope of publication misconduct, Types of misconduct: Fabrication, falsification, duplication, Salami slicing and redundant publication, Authorship disputes and ghost authorship. Consequences of misconduct: Retraction, blacklisting, damage to reputation. Case studies of misconduct in pharmaceutical sciences. Institutional policies and global guidelines (COPE, ICMJE, UGC regulations) and Preventive strategies: Awareness, training, and use of plagiarism detection tools.

Prescribed Textbook:

1. Kumar R. Research Methodology: A Step-by-Step Guide for Beginners. 5th ed. London: SAGE Publications; 2022.
2. Saunders, C. & Saunders, M. Research Methods for Pharmacy Practice (CRC Press)

Reference Books:

1. Indian Council of Medical Research. Ethical Guidelines for Biomedical Research on Human Participants. New Delhi: ICMR; 2017.
2. World Health Organization. Handbook for Good Clinical Research Practice (GCP): Guidance for Implementation. Geneva: WHO; 2002.
3. Committee on Publication Ethics (COPE). Code of Conduct and Best Practice Guidelines for Journal Editors. London: COPE; 2011.
4. Cooper DR, Schindler PS. Business Research Methods. 12th ed. New York: McGraw-Hill Education; 2014.
5. Day RA, Gastel B. How to Write and Publish a Scientific Paper. 8th ed. Cambridge: Cambridge University Press; 2016.