

Paper 2: RESEARCH AND PUBLICATION ETHICS (RPE)
(Common to all candidates) (30 Hours ; 2 credits)

UNIT 1: Philosophy and Ethics:

Introduction to philosophy: definition, nature and scope, concept, branches.

Ethics: definition, moral philosophy, nature of moral judgments and reactions. (4 hours)

UNIT 2: Scientific Conduct:

Ethics with respect to science and research. Intellectual honest and research integrity. Scientific misconducts: falsification, fabrication, and plagiarism. Redundant publications: duplicate and overlapping publications, salami slicing. Selective reporting and misrepresentation of data. (4 hours)

UNIT 3: Publication Ethics:

Publication ethics: definition, introduction and importance. Best practices/standards setting initiatives and guidelines, Conflicts of interest.

Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice versa, types. Violation of publication ethics, authorship and contributor ship. Identification of publication misconduct, complaints and appeals. Predatory publishers and journals. (7 hours)

UNIT 4: Open Access Publishing:

Open access publications and initiatives. SHERPA/RoMEO online resource to check publisher copyright and self-archiving policies. Software tool to identify predatory publications developed by SPPU. Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc. (4 hours)

UNIT 5: Publication Misconduct:

Group Discussions: Subject specific ethical issues, FFP, authorship. Conflicts of interest. Complaints and appeals: examples and fraud from India and abroad.

Software tools: Use of plagiarism software by Turnitin, Urkund and other open-source software tools. (4 hours)

UNIT 6: Databases and Research Metrics:

Databases: Indexing databases. Citation databases: Web of Science, Scopus, UGC-CARE; Mathematics subject classification, Mathematical Reviews, zbMATH, MathSciNet, ORCID, etc.

Research Metrics: Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score.

Metrics: *h*-index, *g*-index, *i10*-index, altmetrics. (7 hours)

References:

- [1] Alexander Bird, *Philosophy of Science*, Routledge, 2006.
- [2] Alasdair Mac Intyre, *A Short History of Ethics*, Touchstone, London, 1967.
- [3] David B. Resnik, *What is ethics in research & why is it important*, National Institute of Environmental Health Sciences, 2011, 1-10.
<https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>
- [4] Jeffrey Beall, *Predatory publishers are corrupting open access*, Nature, 489(7415), 2012, 179-179.
<https://doi.org/10.1038/489179a>
- [5] Praveen Chaddah, *Ethics in Competitive Research: Do not get scooped; do not get plagiarized*, 2018.
- [6] Radhakrishna L., *Write Mathematics Right: Principles of professional presentation*, Exemplified with Humor and Thrills, Narosa, 2013.
- [7] *On Being a Scientist: A Guide to Responsible Conduct in Research*, Edited by Committee on Science, Engineering and Public Policy, National Academy of Science, National Academy of Engineering, and Institute of Medicine of the National Academies, Washington, DC, 3rd edition, 2009.
- [8] *Ethics in Science Education, Research and Governance*, Edited by K. Muralidhar, Amit Ghosh, A.K. Singhvi, Indian National Science Academy (INSA), New Delhi, 2019.
https://www.insaindia.res.in/pdf/Ethics_Book.pdf