

THEORY

01. PHILOSOPHY AND ETHICS (3 HOURS)

- 1) Introduction to philosophy: Definition, nature and scope, Concept, Branches.
- 2) Ethics: Definition, Moral philosophy, Nature of moral judgements and reactions.

02. SCIENTIFIC CONDUCT (5 HOURS)

- 1) Ethics with respect to science and research.
- 2) Intellectual honesty and research integrity.
- 3) Scientific misconducts: Falsification, Fabrication and Plagiarism (FFP)
- 4) Redundant publications: Duplicate and overlapping publications, Salami Slicing
- 5) Selective reporting and misrepresentation of data

03. PUBLICATION ETHICS (7 HOURS)

- 1) Publication ethics: definition, introduction and importance
- 2) Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
- 3) Conflicts of interest
- 4) Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
- 5) Violation of publication ethics, authorship and contributor-ship
- 6) Identification of publication misconduct, complaints and appeals
- 7) Predatory publishers and journals

PRACTICE

04. OPEN ACCESS PUBLISHING (4 HOURS)

- 1) Open access publications and initiatives
- 2) SHERPA or RoMEO online resource to check publisher copy right and self-archiving policies
- 3) Software tool to identify predatory publications developed by SPPU
- 4) Journal finder or Journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

05. PUBLICATION MISCONDUCT (4 HOURS)

A. Group Discussion (2 Hours)

- 1) Subject specific ethical issues, FFP, Authorship
- 2) Conflicts of interest
- 3) Complaints and appeals: Examples and fraud from India and abroad.

B. Software tools (2 Hours)

Use of Plagiarism software like Turnitin, Urkund, and other open-source software tools.

06. DATABASES AND RESEARCH METRICS (7 HOURS)

A. Databases (4 Hours)

- 1) Indexing databases

- 2) Citation databases: Web of Sciences, Scopus, etc.
- B. Research Metrics (3 Hours)
- 1) Impact Factor of Journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
 - 2) Metrics: h-index, g-index, i10-index, altimetric

References

- Bird, A. (2006). *Philosophy of Science*. Routledge.
- MacIntyre, Alasdair (1967) *A Short History of Ethics*. London.
- P. Chaddah, (2018) *Ethics in Competitive Research: Do not get scaped: do not get plagiarized*, ISBN:978-9387480865
- National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). *On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition*. National Academies Press.
- Resnik, D. B. (2011). What is ethics in research and why is it important. *National Institute of Environmental Health Sciences*, 1-10. Retrieved from <https://www.niehs.gov/research/resources/bioethics/whatis/index.cfm>
- Beall, J. (2012). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179-179. <https://doi.org/10.1038/489179a>
- Indian National Science Academy (INSA), *Ethics in Science Education, Research and Governance* (2019), ISBN:978-81-939482-1-7. [http://www.insaindia.res.in/pdf/Ethics Book.pdf](http://www.insaindia.res.in/pdf/Ethics%20Book.pdf)

Course 3 - Review of Literature and Report

14 Hrs/Week

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| Unit I | Review of published research papers in the area of research |
| Unit II | Review of classical literature |
| Unit III | Review of parameters and statistical tests applicable |

Note: References as decided by the department from time to time