

NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## **Key Indicator - 3.4. Research Publications and Awards**

3.4.1. The Institution ensures implementation of its stated Code of Ethics for research 1. Inclusion of research ethics in the research methodology course work 2. Presence of institutional Ethics committee (Animal, Chemical, Bio-ethics etc.) 3. Plagiarism check through software 4. Research Advisory Committee

Syllabus of the research methodology course work to indicate if research ethics is included

## **Department of Social Work**

## COURSE WORK - I RESEARCH METHODOLOGY COURSE CODE: 21PHDSW01 CREDITS: 4 LEARNING OUTCOMES: i) To have a deep knowledge on the fundamental concepts of various research methods. ii) To learn to define and design research problem and how to use valid scientific methods of measurement and scaling in order to improve and create knowledge. iii) To understand the steps involving in the research process and report writing iv) To study the methods to analyze and interpret quantitative and qualitative data to write and present a valid and ethical research report Unit :I Research Methodology: An Introduction : Meaning of Research - Objectives of Research Motivation -Research Approaches - Significance of Research-Research Process - Criteria of Good Research-Qualities of Researcher. Literature Collection: Web Browsing - Software Tools - Writing Review and Journal Articles- Manuscript Publication. Defining the Research Problem : Research Problem - Selecting the Problem- Components of Research Problem - Technique Involved in Defining a Problem- Purpose of Hypotheses in Research. Research Design: Meaning of Research Design - Need for research Design- Features of Good Design- Important concepts Relating to Research Design - Different Research Designs Sampling Design: Census and Sample Survey - Implications of Sample design -Sampling Design - Criteria of selecting a Sampling Procedure- Characteristics of a good sample design-Different Types of Sample Designs - Random Sample - Random Sample from an Infinite universe Processing and Analysis of Data: Steps in Data Processing- Edining - Coding-Classification- Tabulation- Electronic Data Processing - Some problems in Processing-Elements/ Types of Analysis Probability and Statistical : Probability - Fail time data analysis - Hazard models Conditional Probability - Byes Rule- System Reliability - Measures of Relationship Statistical Analysis - Association of Ambutes | B. APLINGUMAR | Dr. N. RAJAVEL | 15 x 10 pt 10 p : Probability - Fail time data analysis- Hazard models-Dr. B. ARUNGUMAR Assistant Professor of Social Work Associate Dean of IQAC Bristop Heber College (Autonomous) Truchirappail – 620 017 h. west DR. G. METTILDA BUVANES HEAD, DEPARTMENT OF SOCIAL CAUVERY COLLEGE FOR WOMEN (AUTO) TRICHIRAPPALLI - 620 0

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### UNITY

Lugics: Relations and Functions - Propositions - Precedence, Rules for Operators - Laws of and Equivalence - Matrix and Graph - Graph Notations for Relations - Partitions and Covering-Equivalence Relation - Compatibility Relations

Planning a Thesis - General Format - Page and Chapter Format - Foot Notes - Tables and Figure- References and Appendices

#### BOOKS FOR STUDY:

- Kulkari C.R.Ganray Garg. Research Methodology: Methods and Techniques.2nd Edition. New Delhi Age International Publishers, 2019. ISBN: 978-81-224-3623-5 (UNIT I,II,III)
- Saravanavel, P. Research Methodology, Allahabad; Kitab Mahal., 2005.ISBN-81-225-0010-2 (UNIT IV)
- Dr.S.Lawrence Leve et al. Research Methodology Tools And Techniques. 1st edition. Tiruchimpalli: JAZYM Publication, 2017. ISBN- 978-93-87360-04-4 (UNIT IV)
- ElioRence et al. About Computing Science Research Methodology. 2011 https://webdocs.cs.ualberta.ca/-c603/readings/research-methods.pdf. (UNIT V)
- Leon S.Levy. Discrete Structure of Computer Science, New York: Wiley Eastern Ltd., 1980.

#### BOOKS / E-RESOURCES FOR REFERENCE

- L. Arockiam, P.D. Sheba and J. Isac Gnanaraj. Research in a Nutshell. 2nd edition. Tiruchirapulli; St Joseph's College, 2017
- Ethirum Raza Khan and Human Anwar. Research Methods in Computer Science. 1st edition. University Science Press, 2018.ISBN 978-93-83828-24-1
- Study Material on Research Methodology . Podicherry Central University https://Study Material:pondiumi.edu.in/sites/default/files/Research%20 methodology.pdf

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Databases : Indexing Databases- Citation Databases: Web of Science, Scopus.

Research Metrics: Impact Factor of Journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score-Metrics: h-index, g index, Altmetrics

#### Books for Study :

Lillind , A.Philosophy of Science, New York: Routledge 2006. ISNH-9781857285048

 Chaddali, P. Ethics in Competitive Research: Do not get scooped; Do not get Plagintized, Indore: UGC-DAE Consortium for scientific Research, 2019, ISBN: 9789387480865. Resulk D.B., what is Ethics in Research & Why is It Important, National Institute Of Health Sciences Terieved from

https://www.niclo.nih.gov/research/resources/bioethics/whatis/index.cfm.

 Beall., "Predatory Publishers Are Corrupting open Access." Nature 489 (7415), 2012; 179-179.

https://doi.org/10.1038/489179a

- Jeffrey A.Gliner& George A. Morgan. Research Methods in Applied Settings: An Integrated Approach to Design and Analysis. 3rd Edition. New York: Routledge, 2017. ISBN 978-31572-398-2
- Joen E.Sieber and Martin B. Tolich. Planning Ethically Responsible Research. 2nd Edition. Washington: SAGE Publications, 2003. ISBN-978-1-4522-0259-4
- Kanbadur Muralidhar et al., Ethics in Science Education, Research and Governance, New Delhi: Indian Social National Science Academy, 2019. ISBN: 978-81-939482-1-7

### Books For Reference :

- Alii E.Shamboo and David B.Rensik. Responsible Conduct of Research. 3rd Edition. London: Oxford University Press, 2015. ISBN: 978-0199376025
- Stanley, Barbara, H., Joan E.Sieber, and Gray B. Melton,eds, Research Filics: A Psychological Appeach. Lincoln: University of Nebraska Press, 1996. ISBN: 0-8032-4188-7

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Dr. N. RAJAVEL, was mea rell Assessment of Sector Work, Occasional additional University, Enoquerate Compantrus bardinesti-520 823

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### COURSE WORK - II

#### RESEARCH AND PUBLICATION ETHICS

#### COURSE CODE: 21PHDSW02

CREDITS: 2

#### LEARNING OUTCOMES:

- To study the basics of philosophy of science and ethics, research integrity and publication ethics.
- ii) To learn to identify research misconduct and produtory publications

#### Unit 1: PHILOSOPHY AND ETHICS

Introduction to philosophy: Definition- Nature and Scope, Concept and Branches -Ethics: Definition, Moral philosophy, Nature of Moral judgments and Reactions.

#### UNIT II: SCIENTIFIC CONDUCT

Ethics with respect to science and research - Intellectual honesty and Research integrity-Scientific Misconducts: falsification, Fabrication, and Plagiarism (FFP) - Redundant Publications: Duplicate and Overlapping publications- Salanti Slicing- Selective Reporting and Misropresentation of Data.

## UNIT III: PUBLICATION ETHICS

Publication Ethics: Definition, Introduction and Importance-Best Practices/Standards Setting Initiatives and Guidelines; COPE, WAME, etc.—Conflicts of Intrest - Publication Misconduct: Definition, Concept, Problems that leads to unothical behaviour and vise versa, types - Violation of Publication Ethics, Authorship and Contributorship - Identification of Publication Misconduct, Complaints and Appeals - Predatory Publishers and Journals.

## UNIT IV : OPEN ACCESS PUBLISHING

Open Access Publications and Initiatives - SHERPA/ RoMEO Online Resource to Check Publisher Copyright & Self - Archiving Policies - Software Tool to identify predatory Publications developed by SPPU - Journal Finder/ Journal Suggestions Tools viz. JANE, Elsevier Journal Finder, Springer Journal suggested, etc.

#### UNIT V : PUBLICATION MISCONDUCT

A. Group Discussion: Subject Specific Ethical Issues, FFP, Authorship Conflicts of Interest- Complaints and Appeals: Examples and Fraud from India and Abroad. B. Software Tools: Use of Plagrarism Software like Turnitin - Urkund and other open Source Software Tools.

Unit VI : DATABASE AND RESEARCH METRICS

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Dr. N. RAJAVEL, W.E. MRE PER Assistant Professor, Department of Social Work, Bharathdasan Dawersity, Khajamatar Gampus, Tiruchurapputti-620 023

DR. G. METTILDA BUVANESKI HEAD, DEPARTMENT OF SOCIAL W

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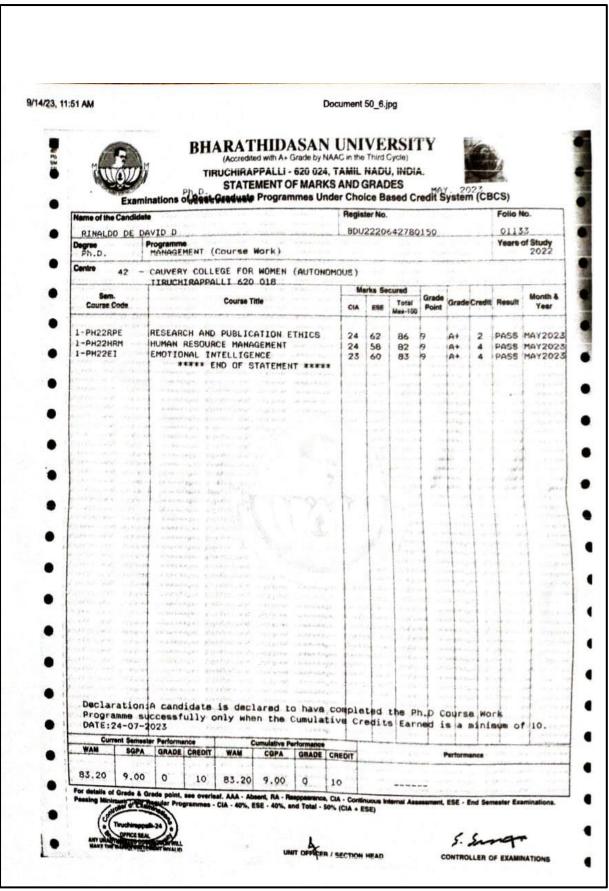
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**NAAC - Cycle IV SSR** 

CRITERION – III

RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

**Department of Business Administration** 

## RESEARCH AND PUBLICATION ETHICS (RPE)

CODE: PH22RPE CREDIT: 2

**HOURS: 3** 

#### UNIT - 1: PHILOSOPHY AND ETHICS

Introduction to Philosophy: definition, nature and Scope, Concept, Branches - Ethics: definition, moral philosophy, nature of moral judgements and reaction.

#### UNIT - 2:SCIENTIFIC CONDUCT

Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication, and Plagiarism(FFP) - Redundant publications: duplicate and overlapping publications, salami slicing - Selective reporting and misrepresentation of data.

#### UNIT - 3: PUBLICATION ETHICS

Publication ethics: definition, introduction and importance - Best practices /Standards setting initiatives and guidelines: COPE. WAME, etc., - Conflicts of interest - Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice versa, types- Violation of publication ethics, authorship and contributorship - Identification of publication misconduct, complaints and appeals - Predatory publishers and journals.

## UNIT - 4:OPEN ACCESS PUBLISHING

Open access publications and initiatives - SHERPA/RoMEO online resource to check publisher copyright & 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.,

## **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 like Turnitin, Urkund and other open source software tools.





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**NAAC - Cycle IV SSR** 

**CRITERION – III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## UNIT - 6: DATABASES AND RESEARCH METRICS

Databases - Indexing databases - Citation databases: Web of Science, Scopus, 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.

#### Reference:

- 1. Bird, A.(2006). Philosophy of Science Routledge
- 2. MacIntyre, Alasdair (1967) A Short History of Ethics. London
- P.Chaddah, (2018) Ethics in Competitive Research: Do not get Scooped; 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 & why is it important. National institute of Environmental Health Science, 1-10 Retrieved from <a href="https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm">https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm</a>. Beall, J: (2012) Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. <a href="https://doi.org/10.1038/489179a">https://doi.org/10.1038/489179a</a>
- Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), ISBN: 978-81-939482-1-7.
   htt://www.insaindia.res.in/pdf/Ethics\_Book.pdf.

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## RESEARCH AND PUBLICATION ETHICS (RPE)

CODE: PH22RPE CREDIT: 2

HOURS: 3

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#### **UNIT - 3: PUBLICATION ETHICS**

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Open access publications and initiatives - SHERPA/RoMEO online resource to check publisher copyright & 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.,

#### **UNIT - 5: PUBLICATION MISCONDUCT**

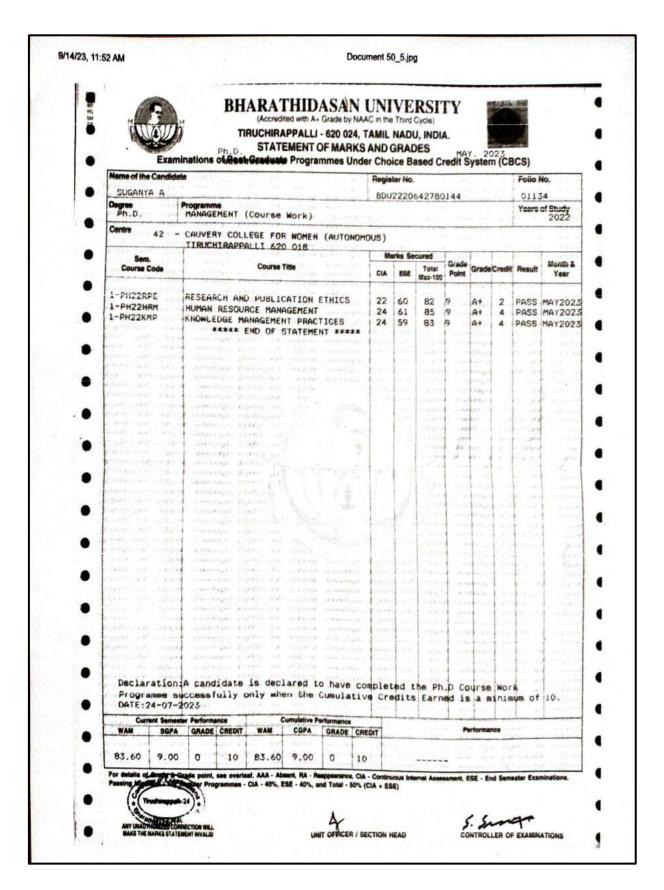
Group Discussions: Subject specific ethical issues, FFP, authorship - Conflicts of interest - Complaints and appeals: Examples and fraud from India and abroad. Software tools: Use of plagiarism software like Turnitin, Urkund and other open source actions software like Turnitin, Urkund and other open source actions software like Turnitin.



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**CRITERION – III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## BUSINESS RESEARCH METHODS

Code: (PH20BRM)

Credit: 4 Hours: 3

#### UNIT 1

Introduction: Nature and Importance of research, The role of business research, aims of social research, research process, pure research vs. applied research, qualitative research vs. quantitative research, exploratory research, descriptive research and experimental research, ethical issues in business research. Research Process — Types of Research—Defining Research Problem — Formulation of Hypothesis — Testing of Hypothesis.

#### UNIT 2

Data Base: Discussion on primary data and secondary data, tools and techniques of collecting data. Methods of collecting data. Sampling design and sampling procedures. Random Vs. Nonrandom sampling techniques, determination of sample size and an appropriate sampling design. Designing of Questionnaire – Measurement and Scaling – Nominal Scale – Ordinal Scale – Interval Scale – Ratio Scale – Guttman Scale – Likert Scale – Schematic Differential Scale.

#### UNIT 3

Survey Research and data analysis: media used to communicate with respondents, personal interviews, telephone interviews, self-administered questionnaires, selection of an appropriate survey research design, the nature of field work, principles of good interviews and field work management. Editing — Coding — Classification of Data — Tables and Graphic Presentation, Preparation and Presentation of Research Report.

#### UNIT 4

Statistical Inference & quality control: Tests of Hypothesis, Introduction to Null hypothesis vs alternative hypothesis, parametric vs. non-parametric tests, procedure for testing of hypothesis, tests of significance for small samples, application, T-test, Chi Square test. Statistical Quality Control Upper quality charts p charts LCL UCL, BAR CHARTS. Attribute charts and industrial applications.

#### UNIT 5

Multivariate Analysis: Nature of multivariate analysis, classifying multivariate techniques, analysis of dependence, analysis of interdependence. Bivariate analysis-tests of differences-t test for comparing two means and z-test for comparing two proportions and ANOVA for complex experimental designs.

#### References:

- 1. Navdeep and Guptha: "Statistical Techniques & Research Methodology", KalyaniPublishers
- 2. WillamG.Zikmund, Adhkari: "Business Research Methods", Cengage Learning, NewDelhi, 2013.
- 3. S.Shajahan: "Research Methods for management", JAICO Publishing House, NewDelhi, 2009.
- 4. UWE FLICK: "Introducing Research Methodology", SAGE, New Delhi, 2012
- 5. Cooper R.Donald and Schindler S. Pamela: "Business Research Methods", 9/e, TataMCGraw Hill, New Delhi.

M.V.Kulkarni: "Research Methodology", Everest Publishing House, New Delhi, 2010.

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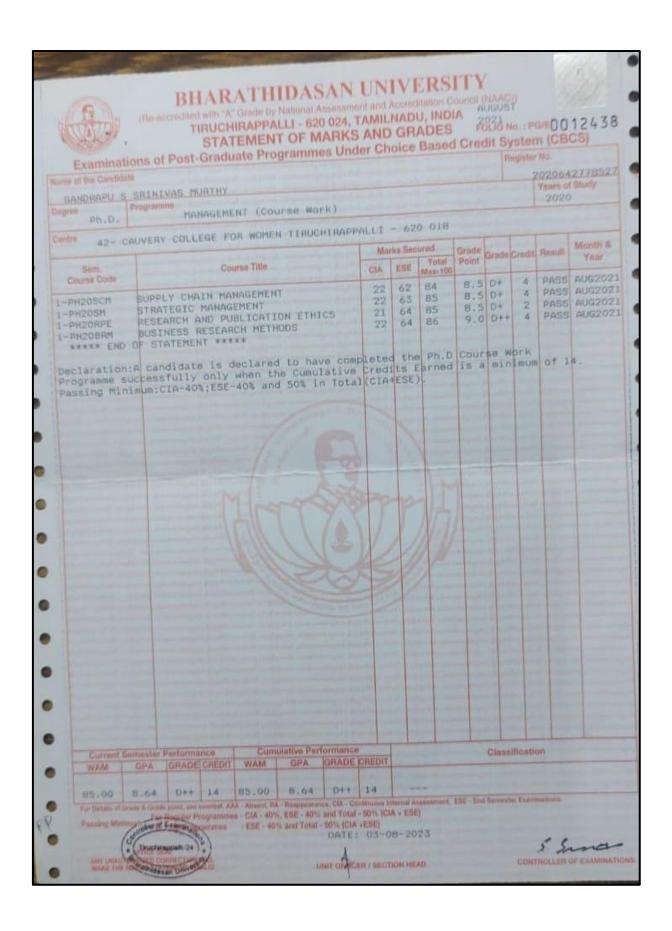




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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### BUSINESS RESEARCH METHODS

Code: (PH22BRM)

Credit:4 Hours: 3

#### UNIT I INTRODUCTION

Business Research - Definition and Significance - the research process - Types of Research -Exploratory and causal Research - Theoretical and empirical Research - Cross -Sectional and time -series Research - Research questions / Problems - Research objectives - Research hypotheses -characteristics - Research in an evolutionary perspective - the role of theory in research.

## UNIT II RESEARCH DESIGN AND MEASUREMENT

Research design - Definition - types of research design - exploratory and causal research design -Descriptive and experimental design - different types of experimental design -Validity of findings -internal and external validity - Variables in Research - Measurement and scaling - Different scales -Construction of instrument - Validity and Reliability of instrument.

#### UNIT III DATA COLLECTION

Types of data - Primary Vs Secondary data - Methods of primary data collection - Survey Vs Observation - Experiments - Construction of questionnaire and instrument - Types of Validity -Sampling plan - Sample size - determinants optimal sample size - sampling techniques - Sampling methods.

#### UNIT IV DATA PREPARATION AND ANALYSIS

Data Preparation - editing - Coding -Data entry - Validity of data - Qualitative Vs Quantitative data analyses - Applications of Bivariate and Multivariate statistical techniques, Factor analysis, Discriminant analysis, Cluster analysis, Multiple regression and Correlation, Multidimensional scaling -Conjoint Analysis - Application of statistical software for data analysis.

## UNIT V REPORT DESIGN, WRITING AND ETHICS IN BUSINESS RESEARCH

Research report - Types - Contents of report - need for executive summary - chapterization contents of chapter - report writing - the role of audience - readability - comprehension tone - final proof - report format - title of the report - ethics in research - Ethics in research - Subjectivity and Objectivity in research.

### REFERENCES:

1. Donald R. Cooper, Pamela S. Schindler and J K Sharma, Business Research methods, 11th Edition, Tata Mc Graw Hill, New Delhi, 2012.

Alan Bryman and Emma Bell, Business Research methods, 3rd Edition, Oxford University Press, New Delhi, 2011.

3. Uma Sekaran and Roger Bougie, Research methods for Business, 5th Edition, Wiley India, New Delhi, 2012.

4. Panneerselvam. R, Research Methodology, 2nd Edition, PHI Learning, 2014.

ASSISTANT PROFESSOR

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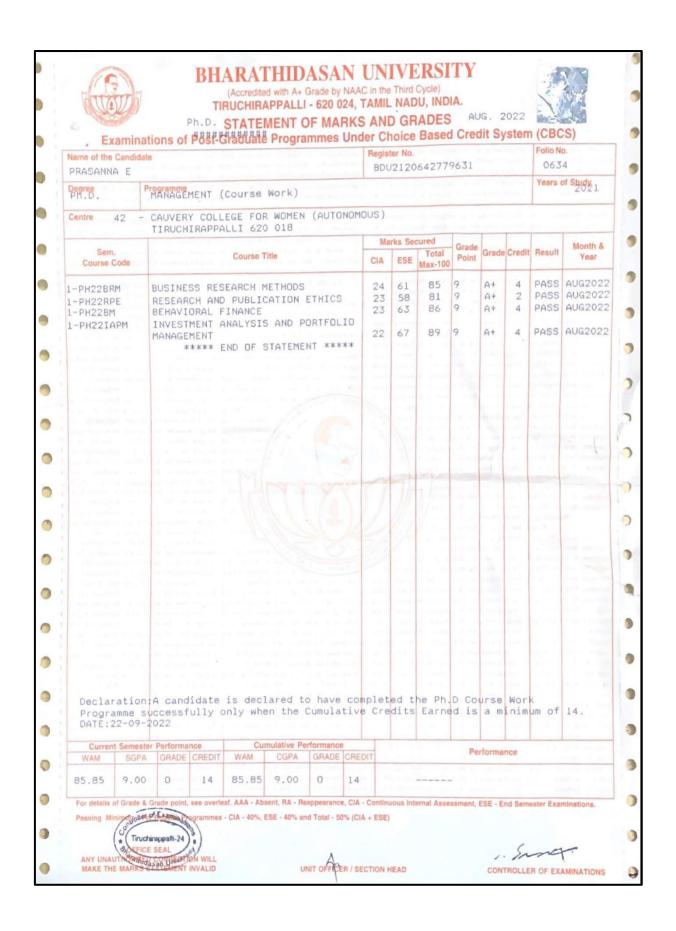
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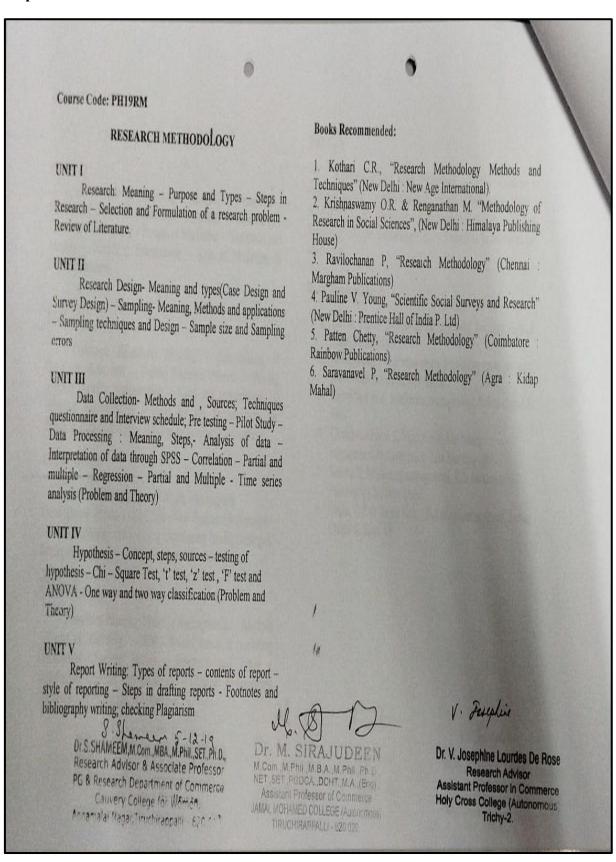
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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## **Department of Commerce**







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CRITERION – III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

# RESEARCH METHODOLOGY

SUB CODE: PH19RM

## Objective:

The primary objective of this course is to develop a research orientation among the scholars and to acquaint them with fundamentals of research methods.

## UNIT-I FOUNDATION OF RESEARCH

Meaning and Nature and Research-Types of Research-Exploratory ,Descriptive, and casual research, Experimental- Formation of Research problems and Hypotheses- Identification of variables- Review of existing Literature and research design.

#### UNIT-II MEASUREMENT AND SAMPLING

Measurement scales- nominal scale, ordinal scale, ratio scale, criteria for good measurement, attitude measurement, likert's scale, comparative rating scale, non comparative rating scale-Ranking and rating scales-sampling: Types, frames, unit, sampled size and sampling errors-methods of sampling-random sampling and non-random sampling.

#### UNIT-III METHODS OF DATA COLLECTION-QUANTITATIVE METHODS

Field study- Experimental methods- Survey and web survey methods- Development of scales/Questionnaire/schedules/Test- Formulation of question and their testing- Reliability and validity.

## UNIT-IV METHODS OF DATA COLLECTION-QUALITATIVE METHODS

Observational methods-focus group discussions-case studies-content analysis-content and narrative

# UNIT-V RESEARCH REPORT

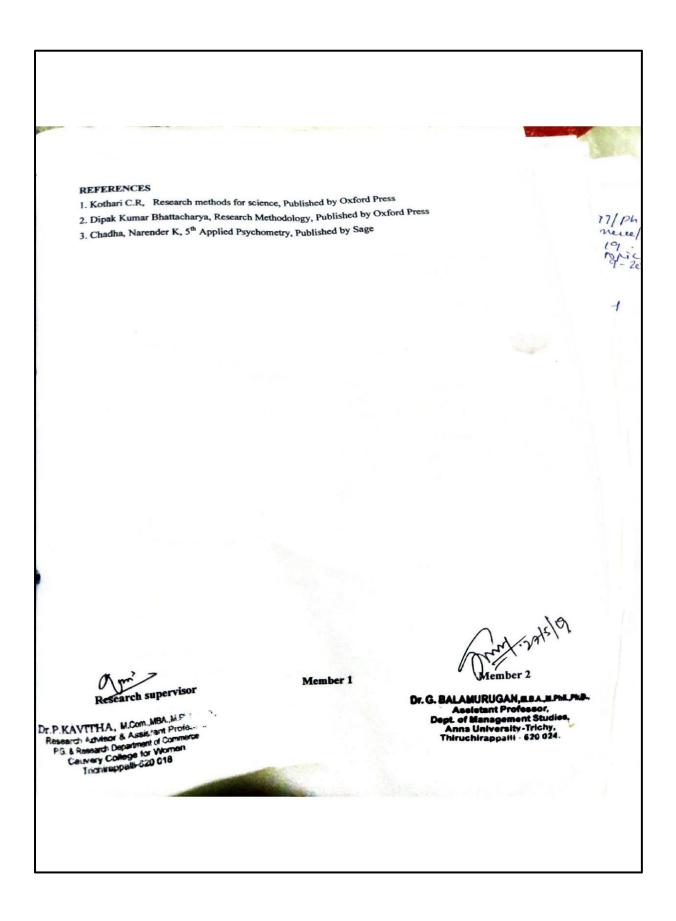
Report writing-Intellectual property reporting-structure of thesis-Testing of plagiarism-Ethical issues in research.



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Tiruchirappalli - 620018, Tamil Nadu, India

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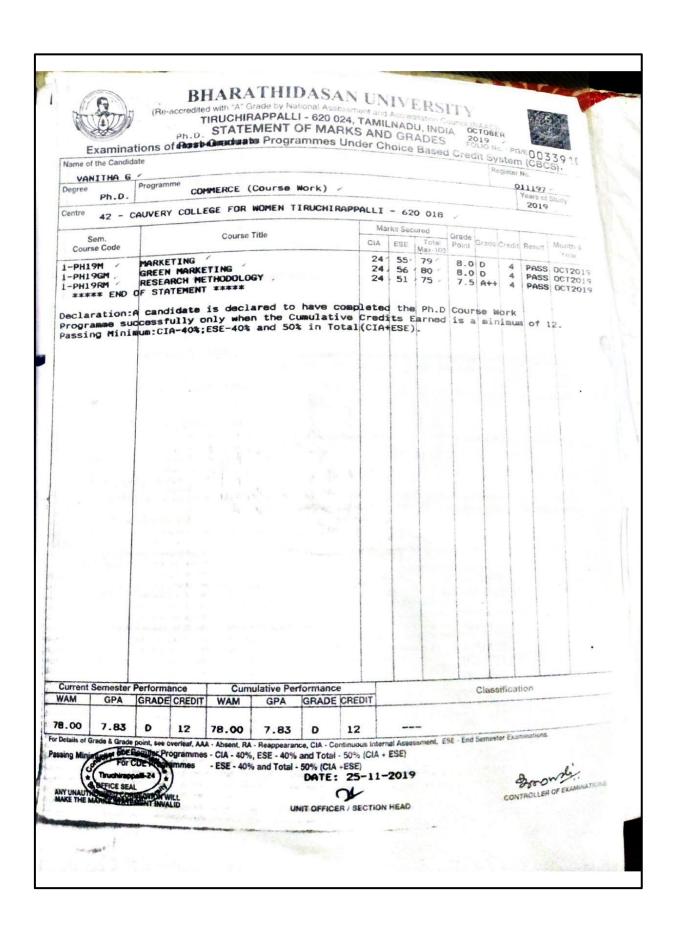




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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## RESEARCH AND PUBLICATION ETHICS (RPE) Course Code: PH23RPE Credits: 2

Hours: 3

UNIT - 1: Philosophy And Ethics

Introduction to Philosophy: definition, nature and Scope, Concept, Branches - Ethics: definition, moral philosophy, nature of moral judgements and reaction.

#### UNIT - 2: Scientific Conduct

Ethics with respect to science and research - Intellectual honesty and research integrity
- Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP) - Redundant
publications: duplicate and overlapping publications, salami slicing - Selective reporting and
misrepresentation of data.

#### UNIT - 3: Publication Ethics

Publication ethics: definition, introduction and importance - Best practices /Standards setting initiatives and guidelines: COPE. WAME, etc., - Conflicts of interest - Publication misconduct: definition, concept, problems that lead to unethical behaviour and vice versa, types- Violation of publication ethics, authorship and contributorship - Identification of publication misconduct, complaints and appeals - Predatory publishers and journals.

#### UNIT - 4: Open Access Publishing

Open access publications and initiatives - SHERPA/RoMEO online resource to check publisher copyright & Self - archiving policies- Software tool to identify predatory publications developed by SPPU - Journal finder /Journal suggestion tools viz. JANE., Elsevierjournal Finder, Springer Journal Suggester, etc.,

#### **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 like Turnitin, Urkund and other open source software tools.

#### UNIT - 6: Databases And Research Metrics

Databases - Indexing databases - Citation databases: Web of Science, Scopus, 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.

#### Reference:

- 1. Bird, A.(2006). Philosophy of Science. Routledge
- 2. MacIntyre, Alasdair (1967) A Short History of Ethics. London
- P.Chaddah, (2018) Ethics in Competitive Research: Do not get Scooped; do not getPlagiarized, ISBN:978-9387480865 National Academy of Sciences,
- National Academy of Engineering and Institute of Medicine. (2009). On Being aScientist: A Guide to responsible conduct in Research: Third Edition, National Academies Press.
- Resnik, D.B.(2011) What is ethics in research & why is it important. National institute of Environmental Health Science, 1-10 Retrieved from <a href="https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm">https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm</a> .Beall, J: (2012) Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. <a href="https://doi.org/10.1038/489179a">https://doi.org/10.1038/489179a</a>

 Indian National Science Academy (INSA), Ethics in Science Education, Research andGovernance (2019), ISBN: 978-81-939482-1-7. htt://www.insaindia.res.in/pdf/Ethics\_Book.pdf.

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Cauvery College For Women (Autonomous)

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Principal Cauvery College For Women (Autonomous)

Annamalai Nagar, Tiruchirappalli - 620 018. Tamilnadu.

Annamalai Nagar, Tiruchirappalli - 620 018, Tamil Nadu, South India.

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Plagiarism -- IPR Filing -Ethical Issues in Research.

#### Text books:

1. Kothari C.R (2005), Research Methods for Science, Published by Oxford Press

2. ROIG (M) (2006) Avoiding plagiarism, self-plagiarism, and other questionable writing

Practices: A guide to ethical writing.

#### References:

- Dipak Kumar Bhattacharya (2006), Research Methodology, Published by Excel Books
- Bryman, Alan & Emma Bell (2007),
   Business Research Methods, Published by
   Oxford Press
- Chadha, Narender K (2016), 5<sup>th</sup> Applied Psychometry, Published by Sage

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Prof.Dr.(Mrs)N.SAVITHRI,M.Com.,M.Phil.,Ph.D.
RESEARCH ADVISOR AND HEAD
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TIRUCHIRAPPALLI - 18.

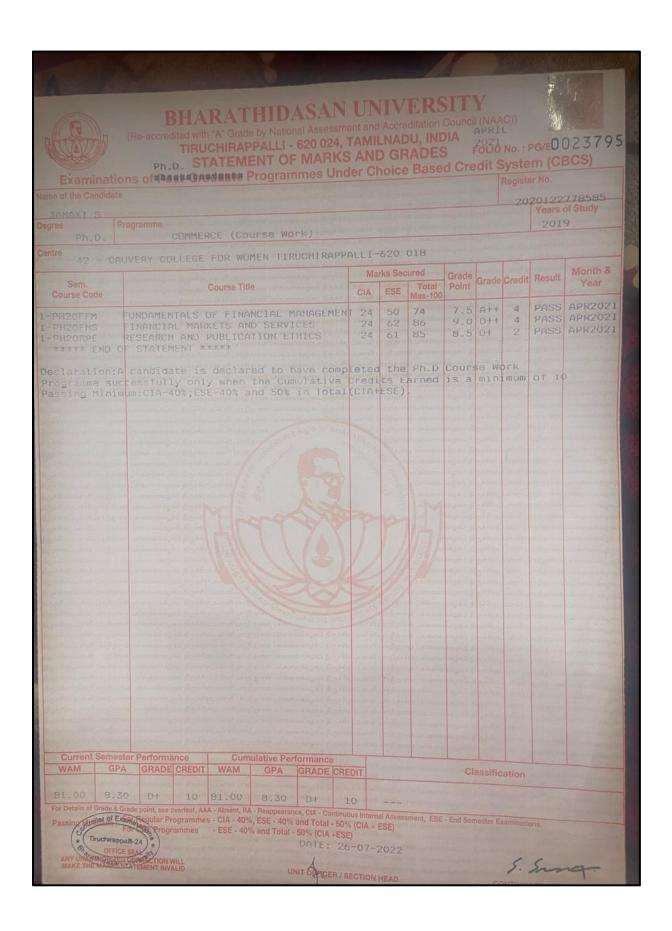




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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### RESEARCH METHODOLOGY

Code: PH18RM

#### Objectives:

The primary objective of this course is to develop a research orientation among the scholars and to acquaint them with fundamentals of research methods.

## Course Outcomes:

- 1. Understand the process of research
- 2. Understand the concepts of sampling and tools for data collection and analysis.
- 3. Learn how to enter the collected data
- 4. Learn complex random samplings designs
- 5. Understand the statistical tools suitable for the research problem
- 6. Exploring the quantitative the qualitative methods.
- 7. Discuss the importance of Report Writing.

## Unit I: Foundation of Research

- 1.1 Meaning and Nature of Research
- 1.2 Types of Research Exploratory, Descriptive, and casual research, Experimental
- 1.3 Formation of Research Problems and Hypotheses
- 1.4 Identification of Variables
- 1.5 Review of existing Literature
- 1.6 Research Design

## Unit II: Measurement and Sampling

- 2.1 Measurement Scales Nominal Scale, Ordinal Scale, Ratio Scale, Criteria for good measurement, Attitude Measurement, Likert's scale, Semantic differential scale, Thurstone scale, Equal appearing interval scale, Comparative rating scale, Non Comparative rating scale.
- 2.2 Ranking and Rating Scales
- 2.3 Sampling- Types, Frames, Unit, Sampled Size and Sampling Errors.
- 2.4 Methods of Sampling Random Sampling and Non- Random Sampling



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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

# Unit III: Methods of Data Collection-Quantitative Methods 3.1 Field Study 3.2 Experimental Methods 3.3 Survey and Web survey methods 3.4 Development of Scales/ Questionnaire/ Schedules/ Test 3.5 Formulation of Questions and their Testing 3.6 Reliability and validity Unit IV: Methods of Data Collection-Qualitative Methods 4.1 Observational Methods 4.2 Focus Group Discussions 4.3 Case studies 4.4 Content analysis 4.5 Content and Narrative 4.6 Ethnography Unit V: Research Report 5.1 Report Writing 5.2 Intellectual Property Reporting 5.3 Structure of Thesis 5.4 Testing of Plagiarism 5.5 IPR Filing 5.6 Ethical Issues in Research

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### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### Text books:

- 1. Kothari C.R (2005), Research Methods for Science, Published by Oxford Press
- 2. ROIG (M) (2006) Avoiding plagiarism, self-plagiarism, and other questionable writing Practices: A guide to ethical writing.

- 1. Dipak Kumar Bhattacharya (2006), Research Methodology, Published by Excel Books
- 2. Bryman, Alan & Emma Bell (2007), Business Research Methods, Published by Oxford Press
- 3. Chadha, Narender K (2016), 5<sup>th</sup> Applied Psychometry, Published by Sage

Research Supervisor

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Trichirappalli-620 018

Dr. R. ARUL, M.Com., M.B.A., M.Phil., PGDCA., Ph.D., RESEARCH ADVISOR
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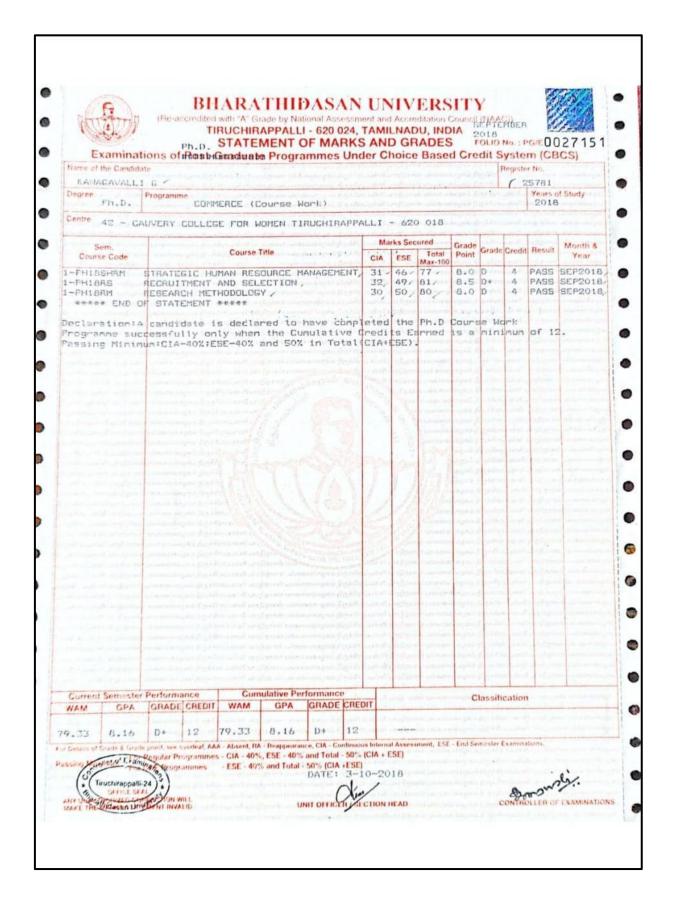
Dr. G. BALAMURUGAN, M.B.A., M.Phil.; Assistant Professor, Dept. of Management Studies, Anna University-Trichy, Thiruchicappalli - 620 024.



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

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NAAC Accreditation III Cycle: A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## **Department of Physics**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY – 18

**CREDITS: 2** EXTERNAL MARKS: 75

COURSE CODE:23PHDRPE1 **INTERNAL MARKS: 25** 

TOTAL MARKS: 100

COURSE TITLE: RESEARCH AND PUBLICATION ETHICS

#### THEORY:

#### Unit I: PHILOSOPHY AND ETHICS

Introduction to philosophy: definition - nature and scope - concept, branches Ethics: definition, moral philosophy, nature of moral judgements and reactions

#### Unit II: SCIENTIFIC CONDUCT

- 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

#### Unit III: PUBLICATION ETHICS

- 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 behaviour 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:

#### Unit IV: OPEN ACCESS PUBLISHING

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

RPE 05; PUBLICATION MISCONDUCT

A. Group Discussions

S. f. 23/11/23 J. 2. NE 2 3 11/23

Email: principal@cauverycollege.ac.in , cauverycollege\_try@rediffmail.com



NAAC Accreditation III Cycle: A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION - III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### **BOOKS/ REFERENCES:**

- 1. Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K., 2002. An introduction to Research Methodology, RBSA Publishers.
- 2. Kothari, C.R., 1990. Research Methodology: Methods and Techniques. New Age International. 418p. 3. Sinha, S.C. and Dhiman, A.K., 2002. Research Methodology, Ess Ess Publications. 2 volumes.
- 3. A Hand Book of Methodology of Research, Rajammall, P. Devadoss and K. Kulandaivel, RMM Vidyalaya press, 1976
- 4. Trochim, W.M.K., 2005. Research Methods: the concise knowledge base, Atomic Dog Publishing, 270p.
- 5. Wadehra, B.L. 2000. Law relating to patents, trademarks, copyright designs and geographical indications. Universal Law Publishing.
- 6. Leedy, P.D. and Ormrod, J.E., 2004 Practical Research: Planning and Design, Prentice Hall.
- 7. Satarkar, S.V., 2000. Intellectual property rights and Copyright. Ess Ess Publications
- 8. Research Methodology, Mukul Gupta, Deepa Gupta PHI Learning Private Ltd., New Delhi, 2011.
- 9. Thesis and Assignment Writing, J. Anderson, Wiley Eastern Ltd., 1997.

10. Sinha, S.C. and Dhiman, A.K., 2002. Research Methodology, Ess Ess Publications. 2 volumes. 4. Trochim, W.M.K., 2005. Research Methods: the concise knowledge base, Atomic Dog Publishing. 270p.

Dr. S. Gowri (Research supervisor)

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ASSOCIATE PROFESSOR
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7.2. Sc > 9 23 14/23 Dr. T. C. Sabari Girisun (DC Member)

Dr. R. Cayathri (DC Member)

Dr T. C. Sabari Giri

Dr. R. GAYATHRI SSISTANT PROFESSOR PARTMENT OF PHYSICS 630 03 e FECAN ્યુત્વ (૧૯૧૦)

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY - 18

**EXTERNAL MARKS: 75 CREDITS: 4** 

COURSE CODE:23PHDRM1 **INTERNAL MARKS: 25** 

COURSE TITLE: RESEARCH METHODOLOGY **TOTAL MARKS:100** 

#### Unit I: Introduction

Definition of Research - Qualities of Researcher - Techniques for Research Identification of the problem - determining mode of attack - literature survey - references -awareness of current status of the art = abstraction of a research paper = possible ways of getting abreast of current literature - Role of scholar and guide.

#### Unit II: Techniques of Scientific Writing

Scientific Writing - definition - organizing a scientific paper - Title - listing of authors and address - abstract - introduction - materials and methods section - results and discussion section - acknowledgement - references - design of effective tables - effective illustrations manuscript - submission - review process - publishing process - reprints - review paper conference report = oral and poster presentation = thesis = usage of English.

#### Unit III: Data Analysis and Interpretation Basic concepts

Definitions on data and error - various types of data and their error - propagation of errors four steps to meaningful experimental results. Basic statistical concepts - best estimate of true value of data - measure of dispersion - confidence level - central limit- significance test - chi square test for goodness of fit - criteria for goodness of fit. Graphical Representation equations - functional relationships - sequential differences - method of extended differences = method of least squares. Analysis and Interpretation using MS-XL and Origin.

#### Unit IV: Research Instruments

Working principles and characterization studies: UV-VISIBLE, IR, FTIR, XRD, SEM, TEM, SPM, Hardness tester, Hall effect, four probe, Ultrasonic interferometer, Dielectric measurement (solid/liquid) & Thermal Analyzer (DSC & DTA).

## Unit V: Applied Mathematical Functions

Integral representations - applications of Fourier series to periodic functions and forced vibrations. Fourier Transform theory: Fourier Transform of a Time Dependent Function - Some Important Theorems - The Convolution theorem - The Gaussian Wave Packet in Quantum Mechanics - Three-dimensional Fourier transform - The use of Fourier transforms in solving differential equations.

1. to 23/4/23. 7.R.M. 7421-23/11/23

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## RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

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

#### B. Software tools

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

## Unit V: DATABASES AND RESEARCH METRICS

#### A. Databases

- 1. Indexing databases
- Citation databases: Web of Science, Scopus, etc.

## **B.** Research Metrics

- 1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
- 2. Metrics: h-index, g index, ilO index, altmetrics.

## REFERENCES:

- 1. Bird, A. (2006). Philosophy of Science. Routledge. Macintyre, Alasdair (1967) A Short History of Ethics London.
- 2. P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped, do not get plagiarized, ISBN:9789387480865
- 3. 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
- 4. Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute 1-10. Retrieved Sciences, Health Environmental https://www.nichs.nih.gov/research/resources/bioethics/whatis/index.cfm
- 5. Beall, 1, (2012), Predatory publishers are corrupting open access. Nature, 489(7415), 179-179, https://doi.org/10.1038/489179a
- 6. Indian National Science Academy (INSA). Ethics in Science Education, Research and ISBN:978-81-939482-1-7. (2019).Governance

http://www.insaindia.res.in/d/Ethics Book.pdf

(Research supervisor)

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J.L.80) 4 23111 23 Dr. T. C. Sabari Girisun

(DC Member)

T. C. Sabari Girisun

Tamil Nedu, India

(DC Member)

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NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

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### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

External Max. Marks: 75

Credits: 2

Internal Max. Marks: 25

**Total Passing Minimum: 50** 

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS), TIRUCHIRAPPALLI – 18

Ph.D., DEGREE - PHYSICS

PAPER I

PAPER TITLE: RESEARCH AND PUBLICATION ETHICS

PAPER.CODE: 22PHDRPE1

Credit:4

Max.Marks:75

Min.Marks:30

Unit I: Philosophy and Ethics

Introduction to Philosophy: definition, nature, scope, concept, branches.

Ethics: Definition, moral philosophy, nature of moral judgements and reactions.

#### Unit II: Scientific Conduct

Ethics with respect to science and Research-Intellectual honesty and Research IntegrityScientific Misconducts: Falsification, Fabrication and Plagiarism (FFP).Redundant Publications: duplicate and overlapping publications, salami slicing-Selective reporting and misrepresentation of data.

#### Unit III: Publication Ethics

Publication ethics: definition, introduction and importance, Best Practices/standards setting initiatives and guidelines: COPE, WAME, etc.Conflicts of Interest, Publication misconducts definition, concept, problems that lead to unethical behavior and vice-versa, types, Violation of publication ethics, authorship and contributor ship, dentification of publication misconduct, complaints and appeals, Predatory publishers and journals.

## Unit IV:Open Access Publishing

Open access publications and initiatives ,SHERPA/RoMEO online resource to check publisher copyright &self-archiving policies.Software tool to identify predatory publications developed by SPPU,Journal finder/journal suggestion tools viz.JANE, Elseiver journal finder, Springer journal suggester, etc.

#### Unit V: Publication Misconduct

**Group Discussions:** Subject specific ethicalissues ,FFP, authorship, Conflicts of Interest. Complaints and appeals: examples and fraud from India and abroad.

Software tools: Use of Plagiarism software like Turntin, Urkund and other open source software tools.

Annamalai Nagar, Tiruchirappalli - 620 018, Tamil Nadu, South India.



NAAC Accreditation III Cycle: A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

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### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## Unit VI:Databases and research metrics

Databases:Indexing databases.Citation Databases:Web of science,Scopus etc.

Research Metrics:Impact factor of Journal as per journal citation report, SNIP, SJR, IPP, Cite Score. Metrics: h-index, g-index, 1 10 index, altmetrics.

- 1. Bird, A(2006). Philosophy of Science, Routledge.
- MacIntyre, Alasdair (1967), A short History of Ethics. London.
- 3. P.Chaddah(2018)Ethics in competitive research;Do not get scooped;do not get plagiarized, ISBN: 978-9387480865
- 4. National Academy of Sciences, Antional Academy of Engineering and Institute of medicine.(2009).on being a scientist:A guide to responsible conduct in research: third Edition. National Academics Press.
- 5. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance(2019), ISBN: 978-81-939482-1-

7.http://www.insindia.res.in/pdf/Ethics\_book.pdf.

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Dr.T. UMADEVI (Doctoral Committee Member)

Dr. T. Uma Devi Assistant Professor PG & Research Department of Physics Thanthai Periyar Government Arts and Ccience College Tiruchirappalli - 620 023

Dr. A. JOSEPHINE PRABHA (Doctoral Committee Member)

Dr.A.JOSEPHINE PRABHA

M.Sc., M Phil. PGDCSA, Ph.D.,
Assistant Professor & Research Advisor
PG and Research Department of Physics
Bishop Heber College (Autonomous)
Tiruchirappalli - 620 017.
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OR WO

College For

(Autonomous) Annamalai Nagar Tiruchirappelli - \$20 018. Tamimadu.

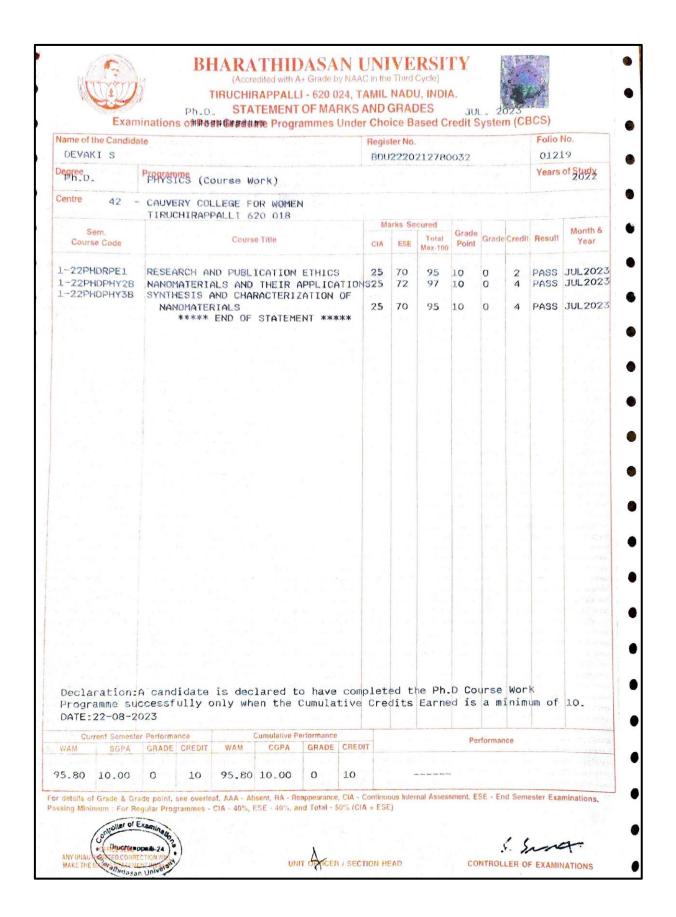




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NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

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CRITERION – III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TIRUCHIRAPPALLI – 18

Ph.D., DEGREE - PHYSICS

PAPER I

Credits: 2

## RESEARCH AND PUBLICATION ETHICS

(SUB. CODE: 22PHDRPE1)

## UNIT 1: PHILOSOPHY AND ETHICS

Introduction to philosophy: definition, nature and scope, concept, branches - Ethics: definition, moral philosophy, nature of moral judgments and reactions.

## **UNIT 2: SCIENTIFIC CONDUCT**

Ethics with respect to science and research - Intellectual honesty and research integrity-Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP) - Redundant publications: duplicate and overlapping publications, Salami slicing - Selective reporting and misrepresentation of data.

## **UNIT 3: PUBLICATION ETHICS**

Publication ethics: definition, introduction and importance - Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. - Conflicts of interest-Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types-Violation of publication ethics, authorship and contributorship - Identification of publication misconduct, complaints and appeals - Predatory publishers and journals.

## UNIT 4: OPEN ACCESS PUBLISHING

Open access publications and initiatives - SHERPA/RoMEO online resource to check publisher copyright & 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.

## 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 like Turnitin, Urkund and other open source software tools.

## UNIT 6: DATABASES AND RESEARCH METRICS

Databases: Indexing databases - Citation databases: Web of Science, Scopus, etc.



NAAC Accreditation III Cycle: A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION - III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Research Metrics: Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score-Metrics: h-index, g index, ilO index, Altmetrics.

#### References

- 1. Bird, A. (2006). Philosophy of Science. Routledge.
- 2. MacIntyre, Alasdair (1967) A Short History of Ethics. London.
- 3. P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978-9387480865
- 4. 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.
- 5. Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute of Environmental Health Sciences, 1-10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm Beall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179.
- 6. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance(2019) , ISBN:978-81-939482-I- 7. httj>://www.insaindia.res.in/pdf/Ethics

(Research Supervisor)

Dr. R. GAYATHRI ASSISTANT PROFESSOR PEPARTMENT OF PHYSICS

WERY COLLEGE FOR WOMEN 

Dr. K.SEI (Doctoral Committee Member)

Dr. K. SELVARA. III

M.Sc., MPhd., PODCA., Plantal Assistant Professor

PG & Research Dept. of Physical Government Arts College

Ariyalur - 621 713, Tamil Nadu

(Doctoral Committee Member)

Dr. S. GOWRI
ASSOCIATE PROFESSOR
PG 4 RESEARCH DEPARTMENT OF PHYSICS
CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
ANNAMALAI NAGAR,
TIRUCHIRAPPALLI - 620 018.

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NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

CRITERION - III

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NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 

## RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

External Max. Marks: 75

SUB. CODE: 22PHDPHY1

Credits: 4

Internal Max. Marks: 25 Total Passing Minimum: 50

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS), TIRUCHIRAPPALLI – 18

Ph.D., DEGREE - PHYSICS

COURSE I: RESEARCH METHODOLOGY

#### **Unit I: Introduction**

Definition of Research – Qualities of Researcher – Techniques for Research Identification of the problem – determining mode of attack – literature survey – references – awareness of current status of the art – abstraction of a research paper – possible ways of getting abreast of current literature – Role of scholar and guide.

## Unit II: Techniques of Scientific Writing

Scientific Writing – definition – organizing a scientific paper – Title – listing of authors and address – abstract – introduction – materials and methods section – results and discussion section – acknowledgement – references – design of effective tables – effective illustrations – manuscript – submission – review process – publishing process – reprints – review paper – conference report – oral and poster presentation – thesis – usage of English.

## Unit III: Data Analysis and Interpretation Basic concepts

Definitions on data and error – various types of data and their error – propagation of errors – four steps to meaningful experimental results. Basic statistical concepts – best estimate of true value of data – measure of dispersion – confidence level – central limit– significance test – chi square test for goodness of fit – criteria for goodness of fit. Graphical Representation – equations – functional relationships – sequential differences – method of extended differences – method of least squares. Analysis and Interpretation using MS-XL and Origin.





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**CRITERION - III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

# Unit IV: Research Instruments

Working principles and characterization studies: UV-VISIBLE, IR, FTIR, XRD, SEM, TEM, SPM, Hardness tester, Hall effect, four probe, Ultrasonic interferometer, Dielectric measurement (solid/liquid) & Thermal Analyzer (DSC & DTA).

## Unit V: Applied Mathematical Functions

Integral representations - applications of Fourier series to periodic functions and forced vibrations. Fourier Transform theory: Fourier Transform of a Time Dependent Function - Some Important Theorems - The Convolution theorem - The Gaussian Wave Packet in Quantum Mechanics - Three-dimensional Fourier transform - The use of Fourier transforms in solving differential equations.

#### REFERENCE

- 1. Research in Education, Best, McGraw Hill, in 1986.
- 2. How to write and publish a scientific paper (4th Edn.), Robert A. Day.
- 3. Instrumentation Measurement Analysis, BC Nakra, KK Chaudhry, Tata McGraw Hill 2004/2e (Relevant Sections from Chapter 2, 21, 22)
- 4. Lecture material collection from Internet.

5. Mathematical Physics, AK Ghatak, IC Goyal & SJ Chua Macmillan. Delhi, 2002, Ch. (secs.) 8(8.2-8.4), 9(9.3 & 9.4), 10(10.3,10.5,10.6,10.8-10.10, 10.14)

(Research Supervisor)

(Doctoral Committee Member) (Doctoral Committee Member)

Assistant Professor, Department of Physics, Cauvery College for women (A), National College (A) Tiruchirappalli-620 018.

Associate Professor, Department of Physics, Tiruchirappalli-620 001.

Associate Professor, Department of Physics, Bharathidasan University Tiruchirappalli-620 024.



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 

### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

External Max. Marks: 75

Credits: 2

SUB. CODE: 22PHDPHY2

Internal Max. Marks: 25

**Total Passing Minimum: 50** 

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS), TIRUCHIRAPPALLI – 18

Ph.D., DEGREE - PHYSICS

COURSE II: RESEARCH AND PUBLICATION ETHICS

#### THEORY

# Unit I: PHILOSOPHY AND ETHICS

Introduction to philosophy: definition - nature and scope - concept, branches Ethics: definition, moral philosophy, nature of moral judgements and reactions

#### Unit II: SCIENTIFICCONDUCT

- 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

#### Unit III: PUBLICATION ETHICS

- 1. Publication ethics: definition, introduction and importance
- 2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
- 3. Conflicts of interest
- Publication misconduct: definition, concept, problems that lead to unethical behaviour 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



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**NAAC - Cycle IV SSR** 

CRITERION – III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### **PRACTICE**

#### Unit IV: OPEN ACCESS PUBLISHING

- 1. Open access publications and initiatives
- SHERPA/RoMEO online resource to check publisher copyright & selfarchiving policies
- 3. Software tool to identify predatory publications developed by SPPU
- Journal finder/ journal suggestion tools viz. JANE, Elsevier Journal Finder, SpringerJournal Suggester, etc.

#### RPE 05: PUBLICATION MISCONDUCT

#### A. Group Discussions

- 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

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

### Unit v: DATABASES AND RESEARCH METRICS

#### A. Databases

- Indexing databases
- 2. Citation databases: Web of Science, Scopus, etc.

#### **B.** Research Metrics

- Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, CiteScore
- 2. Metrics: h-index, g index, ilO index, altmetrics

#### References

- 1. Bird, A. (2006). Philosophy of Science. Routledge.
- 2. MacIntyre, Alasdair (1967) A Short History of Ethics. London.
- P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978-9387480865





NAAC Accreditation III Cycle: A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION - III** 

# RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

- 4. 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.
- 5. Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute of Environmental Health Sciences, 1-10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfrnBeall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. https://doi.org/10.1038/489179a
- 6. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), ISBN:978-81-939482-1-7. httj>://www.insaindia.res.in/pdf/Ethics Book.pdf

(Research Supervisor)

(Doctoral Committee Member) (Doctoral Committee Member)

Assistant Professor, Department of Physics, Cauvery College for women (A), National College (A) Tiruchirappalli-620 018.

Associate Professor, Department of Physics, Tiruchirappalli-620 001.

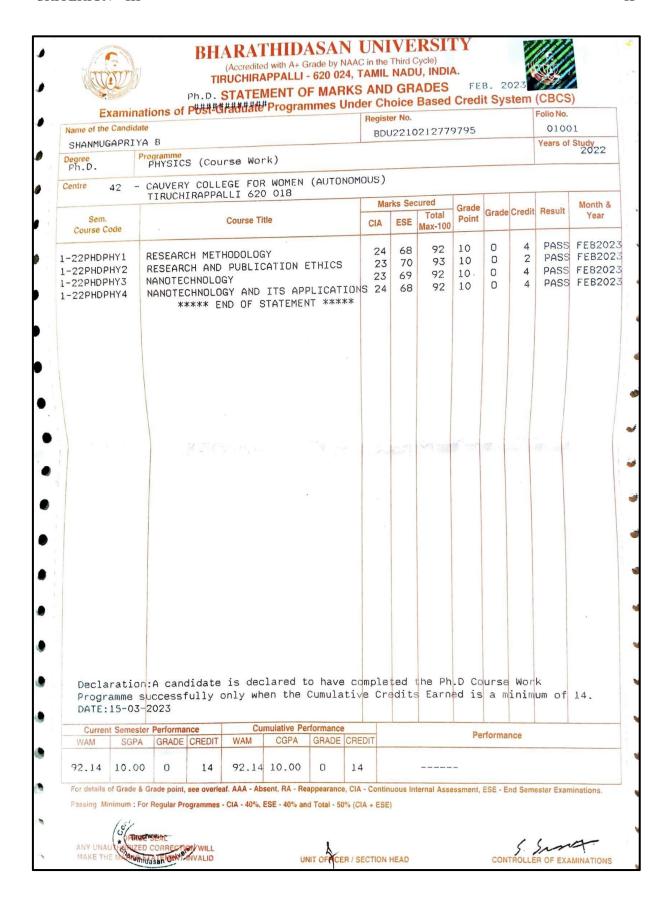
Associate Professor, Department of Physics, Bharathidasan University Tiruchirappalli-620 024.



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 





NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

CRITERION – III

# RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Credits: 2

Max. Marks: 75

SUB. CODE: 22PHDRPE1

Internal Max. Marks: 25 Total Passing Minimum: 50

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS), TIRUCHIRAPPALLI – 18

Ph.D., DEGREE - PHYSICS

**COURSE I: RESEARCH AND PUBLICATION ETHICS** 

#### THEORY

#### Unit I: PHILOSOPHYANDETHICS

Introductiontophilosophy:definition - natureandscope - concept,branches Ethics:definition,moralphilosophy,natureofmoraljudgementsandreactions

#### Unit II: SCIENTIFICCONDUCT

- 1. Ethicswithrespecttoscienceandresearch
- 2. Intellectualhonestyandresearchintegrity
- 3. Scientificmisconducts:Falsification,Fabrication,andPlagiarism(FFP)
- 4. Redundantpublications:duplicateandoverlappingpublications,salamislicing
- 5. Selectivereportingandmisrepresentationofdata

## **Unit III: PUBLICATIONETHICS**

- 1. Publication ethics:definition,introductionandimportance
- 2. Bestpractices/standardssettinginitiativesandguidelines:COPE,WAME,etc.
- 3. Conflictsofinterest
- 4. Publicationmisconduct:definition,concept,problemsthatleadtounethicalbehavio ur and viceversa,types
- 5. Violationofpublicationethics, authorship and contributor ship
- 6. Identification of publication misconduct, complaints and appeals
- 7. Predatorypublishersandjournals

#### PRACTICE

#### Unit IV: OPENACCESSPUBLISHING

- 1. Openaccesspublicationsandinitiatives
- 2. SHERPA/RoMEO online resource to check publisher copyright & self-

NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

CRITERION – III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

- SHERPA/RoMEOonlineresourceto checkpublishercopyright& selfarchivingpolicies
- 3. SoftwaretooltoidentifypredatorypublicationsdevelopedbySPPU
- Journal finder/ journal suggestion tools viz. JANE, Elsevier Journal Finder, SpringerJournalSuggester, etc.

#### RPE05:PUBLICATIONMISCONDUCT

#### A. GroupDiscussions

- 1. Subjectspecificethicalissues,FFP,authorship
- 2. Conflictsofinterest
- 3. Complaints and appeals: examples and fraud from India and abroad

#### B. Software tools

UseofplagiarismsoftwarelikeTurnitin,Urkundandotheropen-sourcesoftwaretools

#### Unit v: DATABASESANDRESEARCHMETRICS

#### A. Databases

- 1. Indexingdatabases
- 2. Citationdatabases: WebofScience, Scopus, etc.

#### B. ResearchMetrics

- ImpactFactorofjournalasperJournalCitationReport,SNIP,SJR,IPP,CiteScore
- 2. Metrics:h-index,gindex,ilOindex,altmetrics

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- 1. Bird, A. (2006). Philosophyof Science. Routledge.
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**NAAC - Cycle IV SSR** 

**CRITERION - III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

https://www.niehs.nih.gov/research/resources/bioethics/whatis /index.cfrnBeall, J. (2012). Predatory publishers are corrupting open access. Nature, 48 9(7415),179-179.https://doi.org/10.1038/489179a

6. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance(2019), ISBN: 978-81-939482-1-7.httj>://www.insaindia.res.in/pdf/EthicsBook.pdf

Dr.A.T.RAVICHANDRAN

Dr.V.BALACHANDRAN

(Research Supervisor)

(Doctoral Committee Member) (Doctoral Committee Member)

Assistant Professor,

Department of Physics,

Cauvery College for women (A), National College (A)

Tiruchirappalli-620 018.

Associate Professor, Department of Physics,

Tiruchirappalli-620 001.

Assistant Professor, Department of physics, A.A.Government arts college, Musiri-621 211.

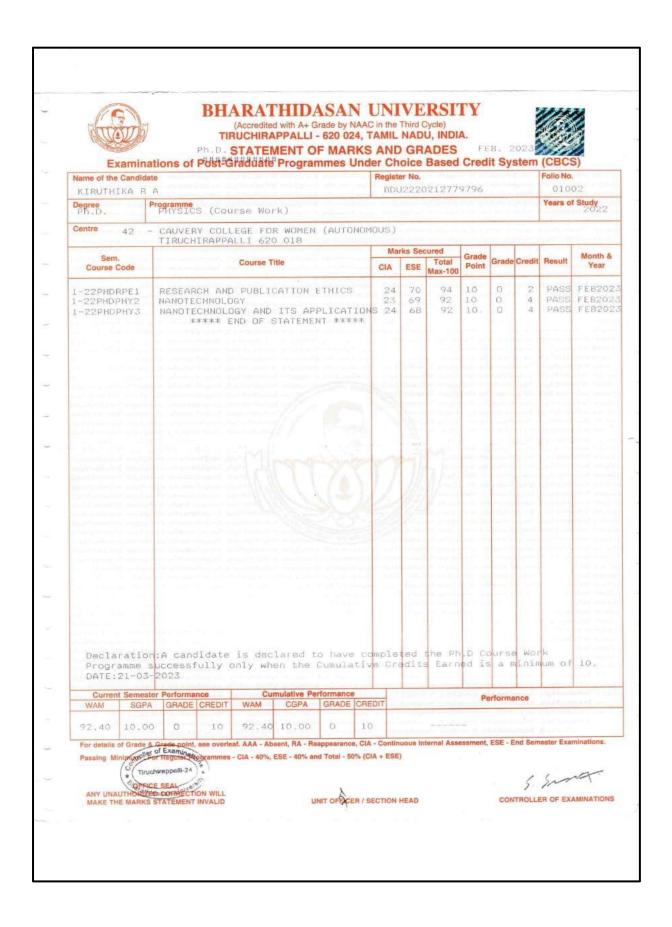
Annamalai Nagar, Tiruchirappalli - 620 018, Tamil Nadu, South India.



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 





NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Max. Marks: 75

Credits: 2

**SUB. CODE: 22PHDRPE1** 

Internal Max. Marks: 25

**Total Passing Minimum: 50** 

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS), TIRUCHIRAPPALLI – 18

Ph.D., DEGREE - PHYSICS

**COURSE I: RESEARCH AND PUBLICATION ETHICS** 

#### THEORY

#### Unit I: PHILOSOPHYANDETHICS

Introductiontophilosophy:definition - natureandscope - concept,branches Ethics:definition,moralphilosophy,natureofmoraljudgementsandreactions

#### Unit II: SCIENTIFICCONDUCT

- 1. Ethicswithrespecttoscienceandresearch
- 2. Intellectualhonestyandresearchintegrity
- 3. Scientificmisconducts:Falsification,Fabrication,andPlagiarism(FFP)
- 4. Redundantpublications:duplicateandoverlappingpublications,salamislicing
- 5. Selectivereportingandmisrepresentationofdata

# Unit III: PUBLICATIONETHICS

- 1. Publication ethics:definition,introductionandimportance
- 2. Bestpractices/standardssettinginitiativesandguidelines:COPE,WAME,etc.
- 3. Conflictsofinterest
- Publicationmisconduct:definition,concept,problemsthatleadtounethicalbehavio ur and viceversa,types
- 5. Violationofpublicationethics, authorship and contributor ship
- 6. Identification of publication misconduct, complaints and appeals
- 7. Predatorypublishersandjournals

#### PRACTICE

### Unit IV: OPENACCESSPUBLISHING

- 1. Openaccesspublicationsandinitiatives
- 2. SHERPA/RoMEO online resource to check publisher copyright & self-





NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 

# RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

policies

- 3. SoftwaretooltoidentifypredatorypublicationsdevelopedbySPPU
- Journal finder/ journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

#### RPE05:PUBLICATIONMISCONDUCT

#### A. GroupDiscussions

- 1. Subjectspecificethicalissues,FFP,authorship
- 2. Conflictsofinterest
- 3. Complaintsandappeals:examplesandfraudfromIndiaandabroad

#### B. Software tools

UseofplagiarismsoftwarelikeTurnitin,Urkundandotheropen-sourcesoftwaretools

#### Unit v: DATABASESANDRESEARCHMETRICS

#### A. Databases

- 1. Indexingdatabases
- 2. Citationdatabases: WebofScience, Scopus, etc.

#### B. ResearchMetrics

- 1. ImpactFactorofjournalasperJournalCitationReport,SNIP,SJR,IPP,CiteScoe
- 2. Metrics: h-index, g-index, ilOindex, altmetrics

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- National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). On BeingaScientist: AGuide toResponsibleConductinResearch: ThirdEdition. NationalAcademiesPress.
- Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute of EnvironmentalHealth Sciences, 1-10. Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis

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6. Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), ISBN:978-81-939482-1-7. httj>://www.insaindia.res.in/pdf/Ethics Book.pdf

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Dr. V. BALACHANDRAN

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Assistant Professor, Department of physics,

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Musiri-621 211.



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

CRITERION – III

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**NAAC - Cycle IV SSR** 

**CRITERION – III** 

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### **Department of Mathematics**

Name: R. SOUNDARIA Reg.No.: BDU2020182778759

Credits:2

MAPH20RPE

#### RESEARCH AND PUBLICATION ETHICS

#### **UNIT I**

#### PHILOSOPHY AND ETHICS:

Introduction to Philosophy - Definition, nature and scope, concept, branches

Ethics - Definition, moral philosophy, nature of moral judgements and reactions

Scientific Conduct - Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP).

#### **UNIT II**

#### **PUBLICATION ETHICS:**

**Publication Ethics:** Definition, introduction and importance – Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. – Conflicts of interest — Violation of publication ethics, authorship and contributorship.

**Redundant publications:** duplicate and overlapping publications, salami slicing- Selective reporting and misrepresentation of data.

#### UNIT III

#### OPEN ACCESS PUBLISHING:

Open access publications and initiatives – SHERPA/RoMEO online resource to check publisher copyright & 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.

#### **UNIT IV**

#### PUBLICATION MISCONDUCT:

**Publication misconduct:** definition, concept, problems that lead to unethical behavior and vice versa, types- Identification of publication misconduct, complaints and appeals – Predatory publishers and journals.

Software tools: Use of plagiarism software like Turnitin, Urkund and other open-source software tools



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

**CRITERION – III** 

### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### **UNIT V**

Databases: Indexing databases - Citation databases: Web of Science, Scopus, 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

#### References:

- Adil E. Shamoo and David B. Resnik , Responsible Conduct of Research, Oxford University Press, 2003
- 2. Bird, A. (2006), Philosophy of Science, Routledge.
- Beall, J. (2012), Predatory Publishers are corrupting open access, Nature, 489(7415), 179-179 <a href="https://doi.org/10.1038/489179a">https://doi.org/10.1038/489179a</a>
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- National Academy of Sciences, National Academy of Engineering and Institute of Medicine, (2209), On Being a Scientist: A Guide to Responsible Conduct in Research, Third Edition, National Academic Press.
- 7. Paul Oliver, The Student's Guide to Research Ethics, Open University Press, 2003
- Resnik, D.B. (2011), What is ethics in research & why is it important, National Institute of Environmental Health Sciences, 1-10, Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm

Dr. K. KALAIARASI, M.Sc., M.Phil.,Ph.D., Research Guide & Assistant Professor PG & Research Department of Mathematics Cauvery College for Women (Autonomous) Trichy - 620 018. Dr. J. MARIA JOSEPH,
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Assistant Professor in Mathematics
St. Joseph's College (Autonomous)
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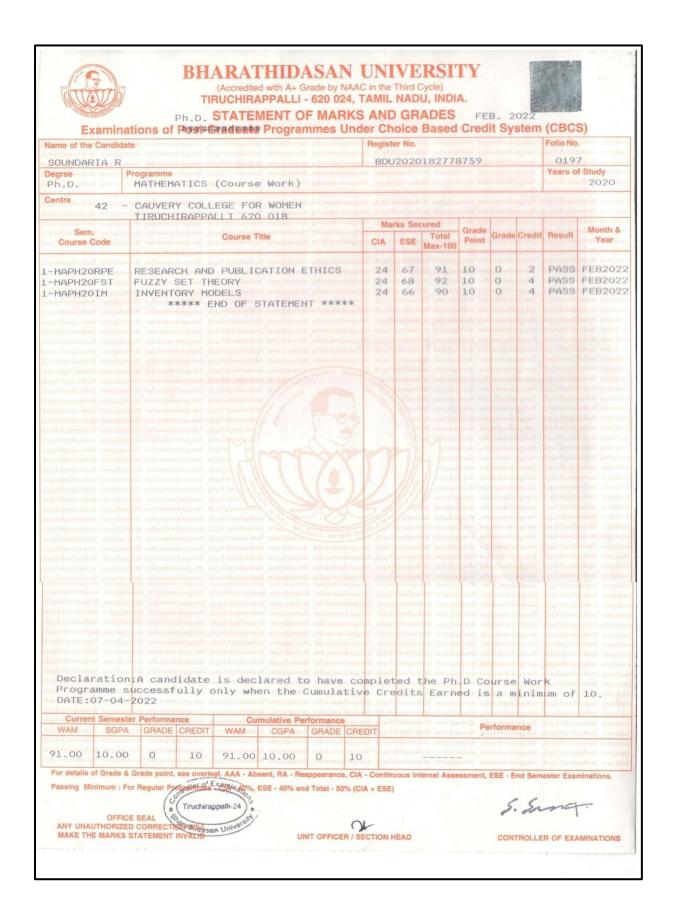
Dr. S. SHUNMUGAPPTY Asst. Professor of Mathema Rajah Serfoji Govt. College (Autonomount HANJAVUR-613 005



NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

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CRITERION – III





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**NAAC - Cycle IV SSR** 

CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Name: N. SINDHUJA

Reg.No.: BDU2210182779719

Credits:4

MAPH22RM

#### RESEARCH METHODOLOGY

#### UNIT I

Meaning-Concept-Nature-Steps-Types and Characteristics of research-Scientific Inquiry Philosophical and Sociological foundations of research-Interdisciplinary approach and its implications in various research area.

#### UNIT II

Qualitative and quantitative methods of research like Historical-case study-ethnography, exposit facto-documentary and content analysis-survey (Normative, descriptive, evaluative etc.) field and laboratory experimental studies-Characteristics of methods and their implications in research area

#### UNIT III

Research proposal and its elements-Formulation of research problem-criteria of sources and definition-Development of objectives and characteristics of objectives-Development hypotheses and applications.

#### **UNIT IV**

Concept of sampling and other concepts related to sampling-Probability and non-probability samples-their characteristics and implications-Tools of data collections, their types, attributes and uses-Redesigning- research tools-like questionnaire-opinionnaire-observation-interviews-scales and tests etc.

#### **UNIT V**

Analysis of qualitative data based on various tools-Analysis of quantitative data and it presentation with tables, graphs etc-Statistical tools and techniques of data analysis-measures of central tendency-dispersion-Decision making with hypothesis testing through parametric and non-parametric tests-Validity and delimitations of research findings.

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# **CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)**

NAAC Accreditation III Cycle : A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 

CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

# REFERENCES 1. Abdolhossini, A. (2012). The effects of cognitive and meta-cognitive methods of teaching mathematics. ProcediaSocial and Behavioral Sciences, 46, 5894-5899. doi:10.1016/j.sbspro.2012.06.535 2. Dinet, J., Chevalier, A., & Tricot, A. (2012). Information search activity: An overview. Revue Européenne de PsychologieAppliquée/European Review of Applied Psychology, 62(2), 49-62. doi:10.1016/j.erap.2012.03.0042. Pauline Vyoung: Scientific Social Surveys and Research. 3. Panneerselvam, R., Research Methodology, Prentice Hall Of India, New Delhi, 2004 4. Kothari: Research Methodology. 5. Festinger. L & D. Katz: Research Methods in Behavioral Science, https://psycnet.apa.org/record/1954-03542-000 6. Sellitz, Et Al: Research Methods in Social Relations, https://www.worldcat.org/title/research-methods-in-social-relations/oclc/489920669 Dr. K. KALAIARASI, M.Sc., M.Phil., Ph.D., Research Guide & Assistant Professor M.Sc., M.Phil., Ph.D., B.Ed., PGDCA, PG & Research Department of Mathematics Assistant Professor of Mathematics Cauvery College for Women (Autonomous) Jamai Mohamed College (Autonomous) Tiruchirappalli - 620 020. Trichy - 620 018.



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**NAAC - Cycle IV SSR** 

CRITERION – III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Name : N. SINDHUJA

Reg.No.: BDU2210182779719

Credits:2

MAPH22RPE

# RESEARCH AND PUBLICATION ETHICS

#### UNIT I

# PHILOSOPHY AND ETHICS:

Introduction to Philosophy - Definition, nature and scope, concept, branches

Ethics - Definition, moral philosophy, nature of moral judgements and reactions

Scientific Conduct - Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP).

#### UNIT II

# PUBLICATION ETHICS:

Publication Ethics: Definition, introduction and importance - Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. - Conflicts of interest - Violation of publication ethics, authorship and contributorship.

Redundant publications: duplicate and overlapping publications, salami slicing- Selective reporting and misrepresentation of data.

#### UNIT III

# OPEN ACCESS PUBLISHING:

Open access publications and initiatives - SHERPA/RoMEO online resource to check publisher copyright & 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.

#### UNIT IV

# PUBLICATION MISCONDUCT:

Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types- Identification of publication misconduct, complaints and appeals -Predatory publishers and journals.

Software tools: Use of plagiarism software like Turnitin, Urkund and other open-source



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CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### UNIT V

Databases: Indexing databases - Citation databases: Web of Science, Scopus, etc.

Research Metrics – Impact Factor of journal as per Journal Citation report, SNIP, SJR, IPP,

Metrics: h-index, g index, i10 index, altmetrics

# References:

- Adil E. Shamoo and David B. Resnik, Responsible Conduct of Research, Oxford University Press, 2003
- 2. Bird, A. (2006), Philosophy of Science, Routledge.
- 3. Beall, J. (2012), Predatory Publishers are corrupting open access, Nature, 489(7415), 179-179 <a href="https://doi.org/10.1038/489179a">https://doi.org/10.1038/489179a</a>
- 4. Chaddah, P., (2018), Ethics in competitive Research: do not get plagiarized, ISBN: 978 9387480865
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- National Academy of Sciences, National Academy of Engineering and Institute of Medicine, (2209), On Being a Scientist: A Guide to Responsible Conduct in Research, Third Edition, National Academic Press.
- 7. Paul Oliver, The Student's Guide to Research Ethics, Open University Press, 2003
- Resnik, D.B. (2011), What is ethics in research & why is it important, National Institute of Environmental Health Sciences, 1-10, Retrieved from <a href="https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm">https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm</a>

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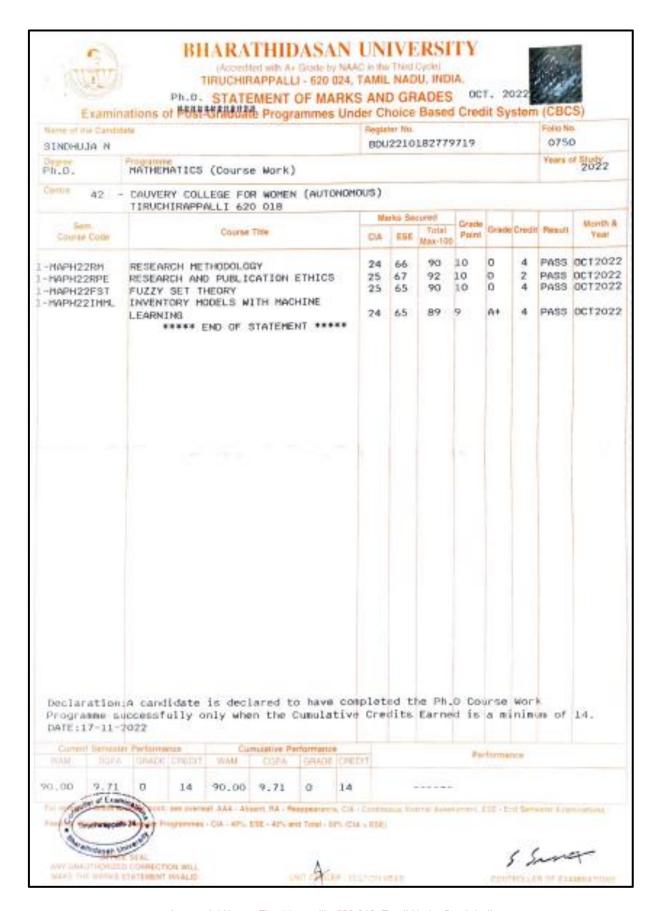
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CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Name: S. SWATHI

Reg.No.: BDU2210182779782

Credits:4

MAPH22RM

# RESEARCH METHODOLOGY

#### UNIT I

Meaning-Concept-Nature-Steps-Types and Characteristics of research-Scientific Inquiry Philosophical and Sociological foundations of research-Interdisciplinary approach and its implications in various research area.

#### UNIT II

Qualitative and quantitative methods of research like Historical-case study-ethnography, exposit facto-documentary and content analysis-survey (Normative, descriptive, evaluative etc.) field and laboratory experimental studies-Characteristics of methods and their implications in research area

#### UNIT III

Research proposal and its elements-Formulation of research problem-criteria of sources and definition-Development of objectives and characteristics of objectives-Development hypotheses and applications.

#### UNIT IV

Concept of sampling and other concepts related to sampling-Probability and non-probability samples-their characteristics and implications-Tools of data collections, their types, attributes and uses-Redesigning- research tools-like questionnaire-opinionnaire-observation-interviews-scales and tests etc.

## UNIT V

Analysis of qualitative data based on various tools-Analysis of quantitative data and it presentation with tables, graphs etc-Statistical tools and techniques of data analysis-measures of central tendency-dispersion-Decision making with hypothesis testing through parametric and non-parametric tests-Validity and delimitations of research findings.

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CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

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- Dinet, J., Chevalier, A., & Tricot, A. (2012). Information search activity: An overview.
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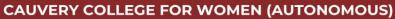
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CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Name: S. SWATHI

Reg.No.: BDU2210182779782

Credits :2

MAPH22RPE

## RESEARCH AND PUBLICATION ETHICS

#### UNIT I

#### PHILOSOPHY AND ETHICS:

Introduction to Philosophy - Definition, nature and scope, concept, branches

Ethics - Definition, moral philosophy, nature of moral judgements and reactions

Scientific Conduct - Ethics with respect to science and research -Intellectual bonesty and research integrity - Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP).

#### UNIT II

#### PUBLICATION ETHICS:

Publication Ethics: Definition, introduction and importance – Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. – Conflicts of interest — Violation of publication ethics, authorship and contributorship.

Redundant publications: duplicate and overlapping publications, salami slicing- Selective reporting and misrepresentation of data.

#### UNIT III

#### OPEN ACCESS PUBLISHING:

Open access publications and initiatives – SHERPA/RoMEO online resource to check publisher copyright & 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.

#### UNIT IV

#### PUBLICATION MISCONDUCT:

Publication misconduct; definition, concept, problems that lead to unethical behavior and vice versa, types- Identification of publication misconduct, complaints and appeals – Predatory publishers and journals.

Software tools: Use of plagiarism software like Turnitin, Urkund and other open-source software tools

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CRITERION - III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## UNIT V

Databases: Indexing databases - Citation databases: Web of Science, Scopus, 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

#### References:

- Adil E. Shamoo and David B. Resnik, Responsible Conduct of Research, Oxford University Press, 2003
- 2. Bird, A. (2006), Philosophy of Science, Routledge.
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- MacIntyre, Alasdair (1967), A short story of Ethics, London.
- National Academy of Sciences, National Academy of Engineering and Institute of Medicine, (2209), On Being a Scientist: A Guide to Responsible Conduct in Research, Third Edition, National Academic Press.
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- Resnik, D.B. (2011), What is ethics in research & why is it important, National Institute of Environmental Health Sciences, 1-10, Retrieved from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm

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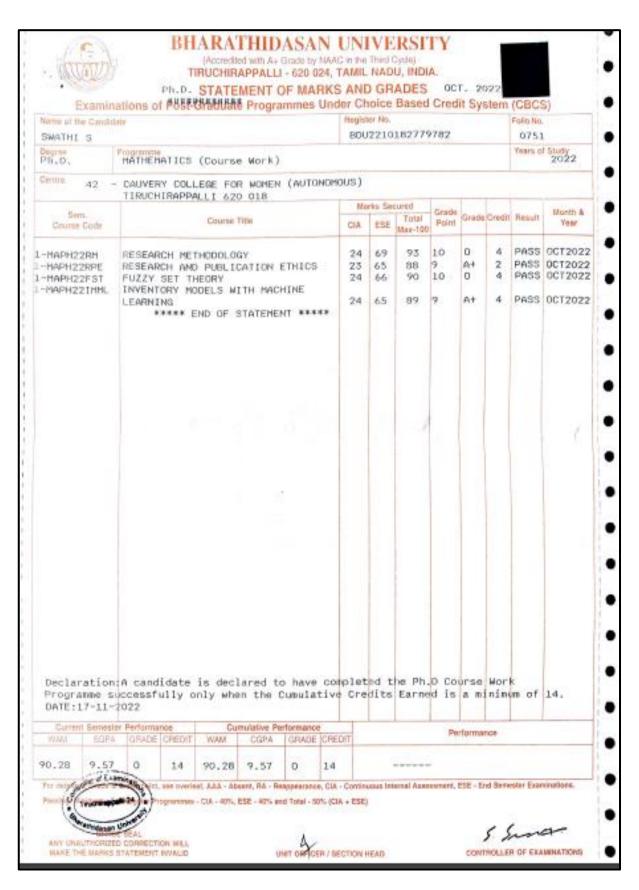
Annamalai Nagar, Tiruchirappalli - 620 018, Tamil Nadu, South India.



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CRITERION – III



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CRITERION – III

#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

# BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI-24

# CENTRE: CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY - 18

Ph.D - Course Work - Syllabus - Paper I - Research and Publication Ethics-CREDITS 2

Course code- 22PHDMAT01

#### UNIT I

# PHILOSOPHY AND ETHICS:

Introduction to Philosophy - Definition, nature and scope, concept, branches

Ethics - Definition, moral philosophy, nature of moral judgements and reactions

Scientific Conduct - Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP).

# UNIT II

#### PUBLICATION ETHICS:

Publication Ethics: Definition, introduction and importance – Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. – Conflicts of interest — Violation of publication ethics, authorship and contributorship.

Redundant publications: duplicate and overlapping publications, salami slicing- Selective reporting and misrepresentation of data.

#### UNIT III

#### OPEN ACCESS PUBLISHING:

Open access publications and initiatives – SHERPA/RoMEO online resource to check publisher copyright & 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.

#### UNIT IV

#### PUBLICATION MISCONDUCT:

Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types- Identification of publication misconduct, complaints and appeals — Predatory publishers and journals.

Software tools: Use of plagiarism software like Turnitin, Urkund and other open-source software tools

Email: principal@cauverycollege.ac.in , cauverycollege\_try@rediffmail.com



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CRITERION – III

## RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## UNIT V

Databases: Indexing databases - Citation databases: Web of Science, Scopus, 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

#### References:

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- Chaddah, P., (2018), Ethics in competitive Research: do not get plagiarized, ISBN: 978

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  of Environmental Health Sciences, 1-10, Retrieved from
  <a href="https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm">https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm</a>

Dr.G.Janaki

Dr.Manju Somanath

Dr. K. Kalajarasi

Research Advisor

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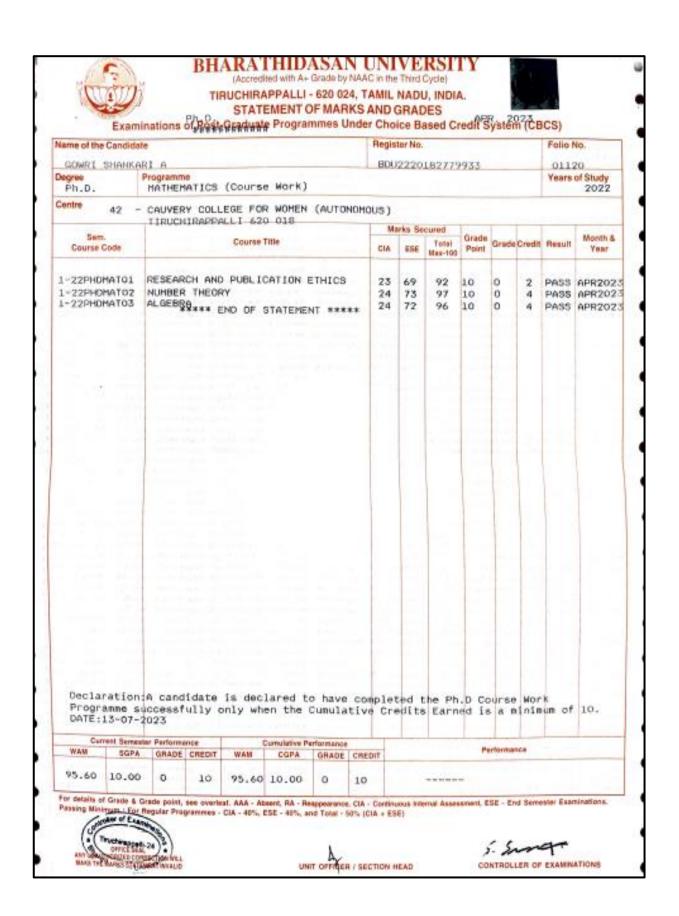
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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

# BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI-24 CENTRE: CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY – 18 Ph.D – Course Work – Syllabus – Paper 1 – Research and Publication Ethics-CREDITS 2 Course code- 22PHDMAT01

#### UNITI

#### PHILOSOPHY AND ETHICS:

Introduction to Philosophy - Definition, nature and scope, concept, branches

Ethics - Definition, moral philosophy, nature of moral judgements and reactions

Scientific Conduct - Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP).

#### UNIT II

#### PUBLICATION ETHICS:

Publication Ethics: Definition, introduction and importance – Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. – Conflicts of interest — Violation of publication ethics, authorship and contributorship.

Redundant publications: duplicate and overlapping publications, salami slicing- Selective reporting and misrepresentation of data.

#### UNIT III

#### OPEN ACCESS PUBLISHING:

Open access publications and initiatives - SHERPA/RoMEO online resource to check publisher copyright & 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.

#### UNIT IV

# PUBLICATION MISCONDUCT:

Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types- Identification of publication misconduct, complaints and appeals - Predatory publishers and journals.

Software tools: Use of plagiarism software like Turnitin, Urkund and other open-source software tools

#### UNIT V

Databases: Indexing databases - Citation databases: Web of Science, Scopus, etc.

Research Metrics - Impact Factor of journal as per Journal Citation report, SNIP, SJR, IPP, Cite Score

Metries: h-index, g index, i10 index, altmetries



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**NAAC - Cycle IV SSR** 

CRITERION - III

### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### References:

- Adil E. Shamoo and David B. Resnik, Responsible Conduct of Research, Oxford University
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- Chaddah, P., (2018), Ethics in competitive Research: do not get plagiarized, ISBN: 978 –
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Dr.Manju Somanath

Dr. V. Pandichelvi

Research Advisor

DC Member

DC Member

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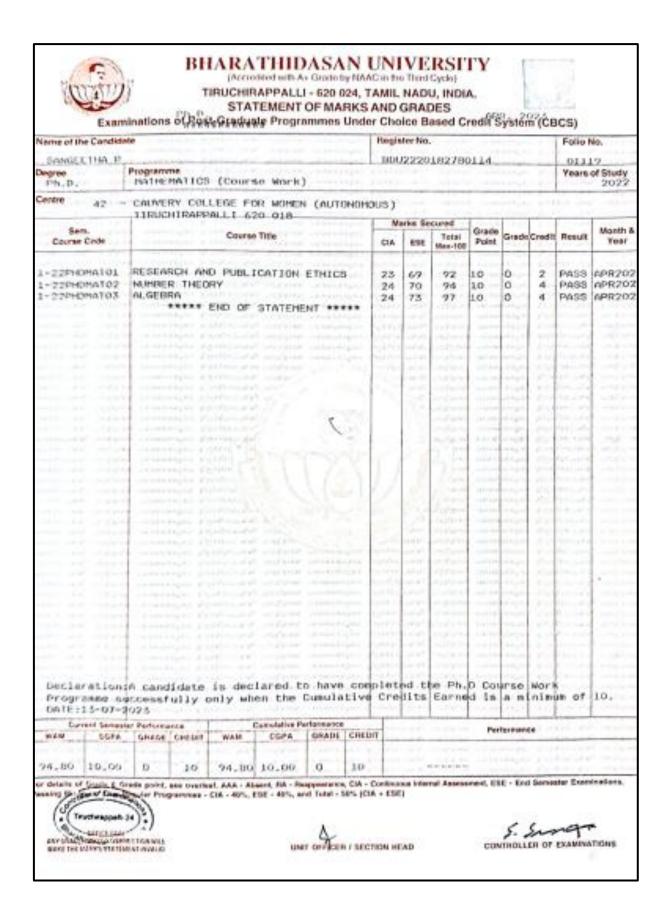
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NAAC Accreditation III Cycle: A Grade (CGPA 3.41 out of 4) Tiruchirappalli - 620018, Tamil Nadu, India

**NAAC - Cycle IV SSR** 



#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### **Department of Computer Science**

CANDIDATE NAME

: R RITA JENIFER

REG. NO.

: BDU2120412779310

RESEARCH ADVISOR: DR. V. SINTHU JANITA

CREDITS

CORE COURSE - I: RESEARCH AND PUBLICATION ETHICS

Philosophy and Ethics: Introduction to philosophy - definition - nature and scope - concept branches. Ethics: Definition - moral philosophy - nature of moral judgements and reactions.

Scientific Conduct: Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication and Plagiarism (FFP) -Redundant publications: duplicate and overlapping publications, salami slicing - Selective reporting and misrepresentation of data.

Publication Ethics: Definition, introduction and importance - Best practices/standards setting initiatives and guidelines: COPE, WAME etc. - Conflicts of interest - Publication misconduct: Definition, concept, problems that lead to unethical behaviour and vice versa, types - Violation of publication ethics, authorship and contributorship - Identification of publication misconduct, complaints and appeals - Predatory publishers and journals.

Unit IV

Open Access Publishing: Open access publications and initiatives - SHERPA/ RoMEO online resource to check publisher copyright & 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.

Unit V

Publication Misconduct: Group Discussion: 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 like Turnitin, Urkund and other open source software tools.

Unit VI

Databases and Research Metrics: Databases: Indexing databases - Citation databases: Web of Science, Scopus 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.

Dr. V. Sinthu Janita

Dr.S. Panneer Arokiaraj

Dr. T. Lucia Agnes Beena DC Member

Research Advisor

DC Member

Dr. T. LUCIA AGNES BEENA

Dr. V.SINTHU JANITA PRAKASH Head, PG & Research Department of Computer Science

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http://www.niehs.nih.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

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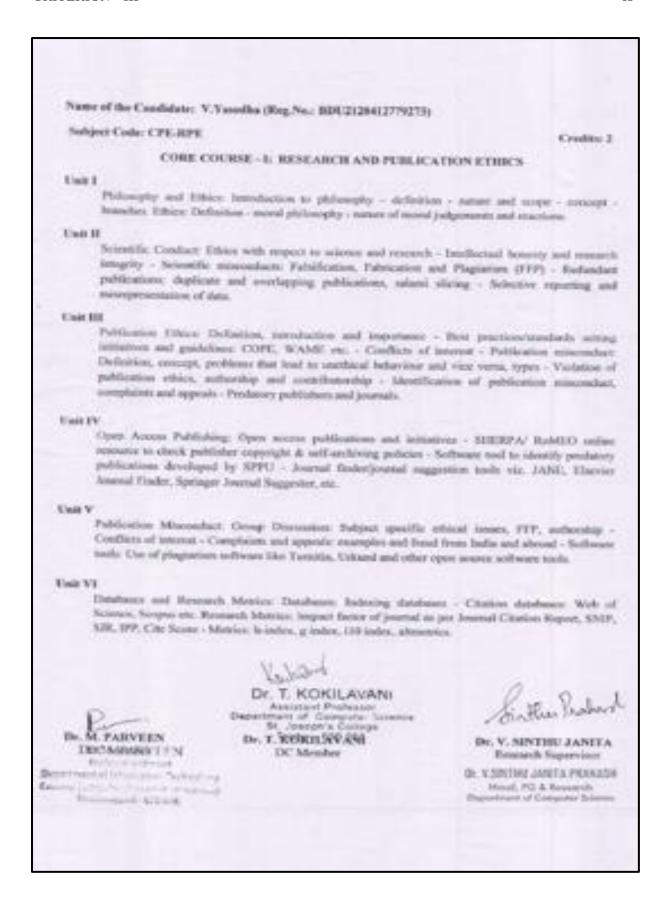
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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Name of the Candidate: R. SRIDEVI (Reg. No:BDU2120412779050)

Subject Code: CPE-RPE

Credits: 2 Internal Marks: 25 External Marks: 75

## CORE COURSE - I: RESEARCH AND PUBLICATION ETHICS

Unit I

Philosophy and Ethics: Introduction to philosophy – definition - nature and scope - concept - branches. Ethics: Definition - moral philosophy = nature of moral judgements and reactions.

Unit II

Scientific Conduct: Ethics with respect to science and research - Intellectual honesty and research integrity - Scientific misconducts: Falsification, Fabrication and Plagiarism (FFP) - Redundant publications: duplicate and overlapping publications, salami slicing - Selective reporting and misrepresentation of data.

Unit III

Publication Ethics: Definition, introduction and importance - Best practices/standards setting initiatives and guidelines: COPE, WAME etc. - Conflicts of interest - Publication misconduct: Definition, concept, problems that lead to unethical behaviour and vice versa, types - Violation of publication ethics, authorship and contributorship - Identification of publication misconduct, complaints and appeals - Predatory publishers and journals.

Unit IV

Open Access Publishing: Open access publications and initiatives - SHERPA/ RoMEO online resource to check publisher copyright & self-archiving policies - Software tool to identify predatory publications developed by SPPU - Journal finder/journal suggestion tools Journal Finder, Springer Journal Suggester, etc.

Unit V

Publication Misconduct: Group Discussion: 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 like Turnitin, Urkund and other open source software tools.

Unit VI

Databases and Research Metrics: Databases: Indexing databases - Citation databases: Web of Science, Scopus 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.

Dr. A. BHUVANESWARI DC Member

Dr. A. BHUVANESWARI Associate Professor Department of Computer Science Cauvery College for Women, Trichy-18 Dr. A. NISHA JEBASEELI DC Member

Dr.A.NISHA JEBASEELI Assistant Professor & Head PG Research Dept.of Computer Science Govt.Arts & Science College Kumulur,Lalgudi 621 712 Dr. V. SINTHU JANITA Research Advisor

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## **CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)**

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

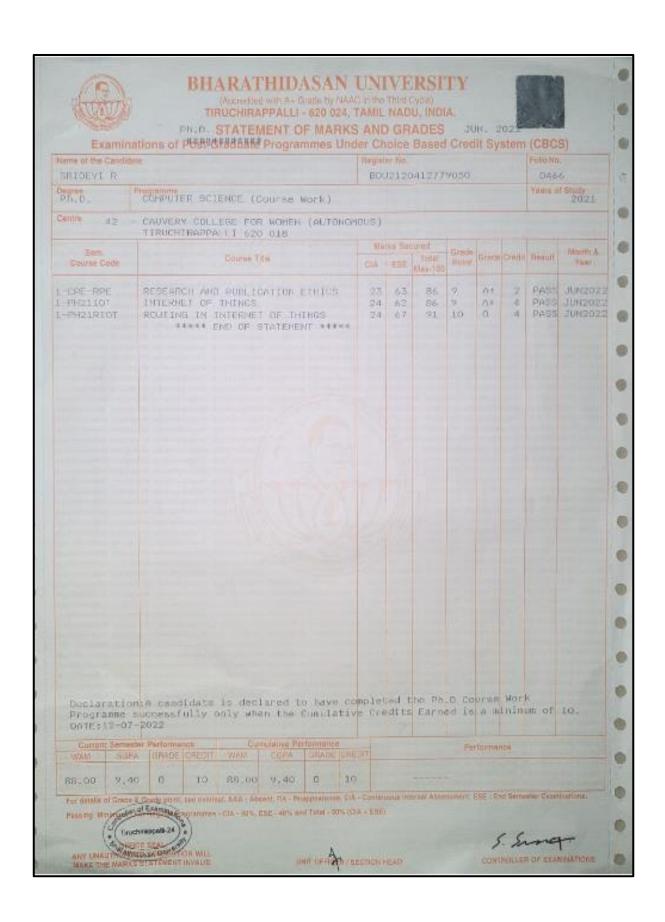
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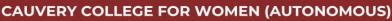


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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

#### DEPARTMENT OF MICROBIOLOGY

#### Course Code:22PHDMBCW1

#### RESEARCH METHODOLOGY

#### **Objectives**

- To gain highlights the various postulates of research problems, research design, writing a thesis and modern statistical methods.
- Detailed study about research problem individually in a perfect scientific method

#### Unit I: Meaning of Research - Function of Research

Meaning of Research - Function of Research - Characteristics of Research - Steps involved in Research - Research in Pure and Applied Sciences - Inter Disciplinary Research. Factors which hinder Research - Significance of Research - Research and scientific methods -Research Process- Criteria of good Research - Problems encountered by Researchers -Literature review.

#### Unit II: Identification of Research Problem

Selecting the Research problem - Necessity of defining the problem - Goals and Criteria for identifying problems for research. Perception of Research problem - Techniques involved in defining the problem -Source of problems - Personal consideration.

#### Unit III: Research Design

Formulation of Research design - Need for Research design - Features of a good design - Important concepts related to Research design. Different research designs - Basic principles of experimental designs - Computer and internet in designs.

#### Unit IV: Interpretation and Report Writing

Meaning and Technique of interpretation - Precautions in interpretation - Significance of report writing - Different steps in writing a report - Layout of a Research report. Types of report - Mechanics of writing a research report - Precautions for writing research report -Conclusion.

#### Unit V: Statistical Techniques and Tools

Introduction of statistics - Functions - Limitations - Measures of central tendency -Arithmetic mean - Median - Mode - Standard deviation - Co-efficient of variation (Discrete serious and continuous serious) - Correlation - Regression - multiple Regression. Sampling distribution - Standard error - Concept of point and interval estimation - Level of significance - Degree of freedom - Analysis of variance - One way and two-way classified data - 'F'-test.

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T.V. Koil, Trichy - 05.

Or. P.F. STEFFI, M.Sc., Ph.D., Assistant Professor, Department of Microbiology

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## Course Code:22PHDMBCW2 Research and Publication Ethics

#### Objectives

- To understand the philosophy of science and ethics, research integrity and publication ethics. To identify research misconduct and predatory publications.
- To understand indexing and citation databases, open access publications, research metrics (citations, h-index, impact Factor, etc.). To understand the usage of plagiarism tools.

Unit-I: Philosophy and Ethics

Introduction to philosophy: definition, nature and scope concept, branches. Ethics: definition, moral philosophy, nature of moral judgments and reactions.

Unit - II: Scientific Conduct

Ethics with respect to science and research-Intellectual honesty and research integrity. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP). Redundant publications: duplicate and overlapping publications, salami slicing. Selective reporting and misrepresentation of data.

**Unit-III: Publication Ethics** 

Publication ethics: definition, introduction and importance. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc. 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 Practice.

Unit-IV: Open Access Publishing (PRACTICE)

Open access publications and initiatives. SHERPA/ROMEO online resource to check publisher copyright & 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.

Unit -V: Publication Misconduct (PRACTICE)

Subject specific ethical issues, FFP, authorship Conflicts of interest Complaints and appeals: examples and fraud from India and abroad. Use of plagiarism software like Turnitin, Urkund and other open-source software tools

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

SUB CODE: 23PHDMBCW1

#### PAPER I

## RESEARCH AND PUBLICATION ETHICS

## UNIT 1: PHILOSOPHY AND ETHICS

Introduction to philosophy: definition, nature and scope, concept, branches-Ethics: definition, moral philosophy, nature of moral judgements and reactions.

#### **UNIT 2: SCIENTIFICCONDUCT**

Ethics with respect to science and research-Intellectual honesty and research integrity-Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)-Redundant publications: duplicate and overlapping publications, salami slicing-Selective reporting and misrepresentation of data.

#### **UNIT 3: PUBLICATION ETHICS**

Publication ethics: definition, introduction and importance-Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.-Conflicts of interest-Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types-Violation of publication ethics, authorship and contributorship-Identification of publication misconduct, complaints and appeals-Predatory publishers and journals.

#### **UNIT 4: OPEN ACCESS PUBLISHING**

Open access publications and initiatives-SHERPA/RoMEO online resource to check publisher copyright & 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.

## **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 like Turnitin, Urkund and other open source software tools.

#### UNIT 6: DATABASES AND RESEARCH METRICS

Databases-Indexing databases-Citation databases: Web of Science, Scopus, etc.-Research Metrics-Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score-Metrics: h-index, g index, ilO index, altmetrics.

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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

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Dr. ARUNA.M.Sc.,M.Phil.,PGDHT.Ph.D.

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#### References

- Bird, A. (2006). Philosophy of Science. Routledge.
- 2. MacIntyre, Alasdair (1967) A Short History of Ethics. London.
- 3. P. Chaddah, (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized, ISBN:978-9387480865
- 4. 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.
- 5. Resnik, D. B. (2011). What is ethics in research & why is it important. National Institute Environmental Health Sciences, 1-10. Retrieved https://www.niehs.nih.gov/research/resources/bioethics/whatis /index.cfrn Beall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. https://doi.org/10.1038/489 | 79a

Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance(2019) , ISBN:978-81-939482-l- 7. httj>://www.insaindia.res.in/pdf/Ethics Book.pdf

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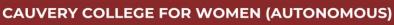
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#### RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

## **Department of Tamil**





முனைவர் பட்ட ஆய்வறிஞர்குழு அறிக்கை பார்வை எண் : BDU2220632779956

"தமிழ்மொழி வளர்ச்சிக்குக் கணினியும் இணையமும்" எனும் தலைப்பில் பகுதிநேர முனைவர் பட்ட ஆய்வை மேற்கொண்டுள்ள செல்வி கு. நிவேதா அவர்களுக்கான முனைவர் பட்ட ஆய்வறிஞர் குழுக் கூட்டம் காவேரி மகளிர் கல்லூரி (தன்னாட்சி), தமிழாய்வுத்துறையில் 06.06.2022 திங்கட்கிழமை அன்று காலை 11.00 மணியளவில் நடைபெற்றது. ஆய்வறிஞர்குழு உறுப்பினர்கள் பேரா. முனைவர் ச. இராமலட்சுமி, தலைவர், தமிழாய்வுத்துறை, காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சிராப்பள்ளி 620018 மற்றும் முனைவர் ஜா.பெஞ்சமின் ஆரோன் டைட்டஸ், உதவிப்பேராசிரியர், தமிழாய்வுத்துறை, தூய வளனார் தன்னாட்சிக் கல்லூரி, திருச்சிராப்பள்ளி 620002, ஆகிய இருவரும் கலந்துக் கொண்டனர்.

"தமிழ்மொழி வளர்ச்சிக்குக் கணினியும் இணையமும்" என்னும் ஆய்வுத் தலைப்புக்குத் தேவையான முதன்மைச் சான்றுகளையும், துணைமைச் சான்றுகளையும் ஆய்வாளர் திறம்பட ஆய்வறிஞர்குழுவின் முன்பாக சமர்ப்பித்தார். ஆகவே ஆய்வாளர் மேற்குறித்த தலைப்பில் தொடர்ந்து ஆய்வு நிகழ்த்தலாம் என்று ஆய்வறிஞர்குழு பல்கலைக்கழகத்திற்கு பரிந்துரை செய்கிறது.

ஆய்வாளர் ஆய்வியல் நிறைஞர் (M.Phil) பட்டத்தை நிறைவு செய்துள்ளதால் பாரதிதாசன் பல்கலைக்கழக முனைவர் பட்ட விதிமுறைகளின்படி கீழ்காணும் மூன்று தாள்களை (Course Work) ஆய்வறிஞர்குழு பரிந்துரை செய்கிறது. கீழ்கண்ட தாள்களை முதுகலையில் ஆய்வாளர் பயிலவில்லை என்றும் சான்றளிக்கப்படுகிறது.

- 1. ஆய்வு மற்றும் வெளியீட்டு அறநெறிகள் (PhTA22PT01)
- 2. கணினியும் தமிழும் (PhTA22PT02)
- 3. இணையமும் தமிழும் (PhTA22PT03)

ஆய்வறிஞர்குழு உறுப்பினர்கள்

4. ANTESTED 255100 000 6/6/2020 முனைவர் ஜா. பெஞ்சமின்ஆரோன் டைட்டஸ் உதவிப்பேராசிரியர், தமிழாய்வுத்துறை,

தூய வளனார் தன்னாட்சிக் கல்லூரி,

திருச்சிராப்பள்ளி 620002

முனைவர் ச. இராமலட்சுமி தலைவர், தமிழாய்வுத்துறை, காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சிராப்பள்ளி - 620018

நெறியாளர், உகவிப்போரசிரியர். தமிழாய்வுத்துறை, காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சிராப்பள்ளி - 620018

முனைவர் ச. இராம் தலைவர், தமிழாய்வுத்துறை, காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சிராப்பள்ளி - 620018

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**NAAC - Cycle IV SSR** 

CRITERION – III

## RESEARCH ETHICS IN THE RESEARCH METHODOLOGY COURSE WORK

Paper Code: PhTA22PT01 Credits: 02

#### RESEARCH AND PUBLICATION ETHICS

#### Objectives:

- · To acquire knowledge on basics of Philosophy of Science and ethichs.
- To Study Identification of Publication miscounduct.
- To learn about the Plgiarism tools.

#### Unit 1: Philosophy and Ethics

- 1. Introduction to Philosophy: definition nature and scope, Concept, brnches.
- 2. Ethics: definition, moral philosophy, nature of moral judgements and reactions.

#### Unit 2: Scientific conduct

- 1. Ethics with respect to science and research.
- 2. Intellectual honesty and research intergrity
- 3. Scienctific misconducts: Falsification, Fabrication and Plagriarism (FFP).
- 4. Redundant Publications: duplicate and overlapping publications, slami.
- 5. Selective reporting and misrepresentation of data

#### **Unit 3: Publication Ethics**

- 1. Publication Ethics: definition, introduction and importance.
- 2. Best practices/ standards settings initiatives and guidelines: COPE, WAME etc.
- 3. Conflicts of interest.
- Publication misconduct:definition, concept, problems that lead to unethical behaviour and vice versa, type.
- 5. Violation of publication ethics, authorship and contributorship.
- 6. Identification of Publication misconduct, complaints and appeals.
- 7. Preadtory publishers and journals.

## Unit 4: Open access publishing

- 1. Open access publications and initiatives.
- SHERPA/RoMEO online resource to check publisher copyright and self archiving policies.
- 3. Software tools to identify predatory publications developed by SPPU.
- Journals Finder/Journal suggestion tools viz JANE, Elsevier Journal finder, springer journal suggester etc.

#### **Unit5: Publication Misconduct**

- A. Group Dicussion
  - 1. Sunject specific ethical issues, FFP, authorship
  - 2. Conflicts of interest.
  - 3. Complaints and appeals: examples and fraud from and abroad.
- B. Software Tools

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

### Unit 6: Database and Research Metrics

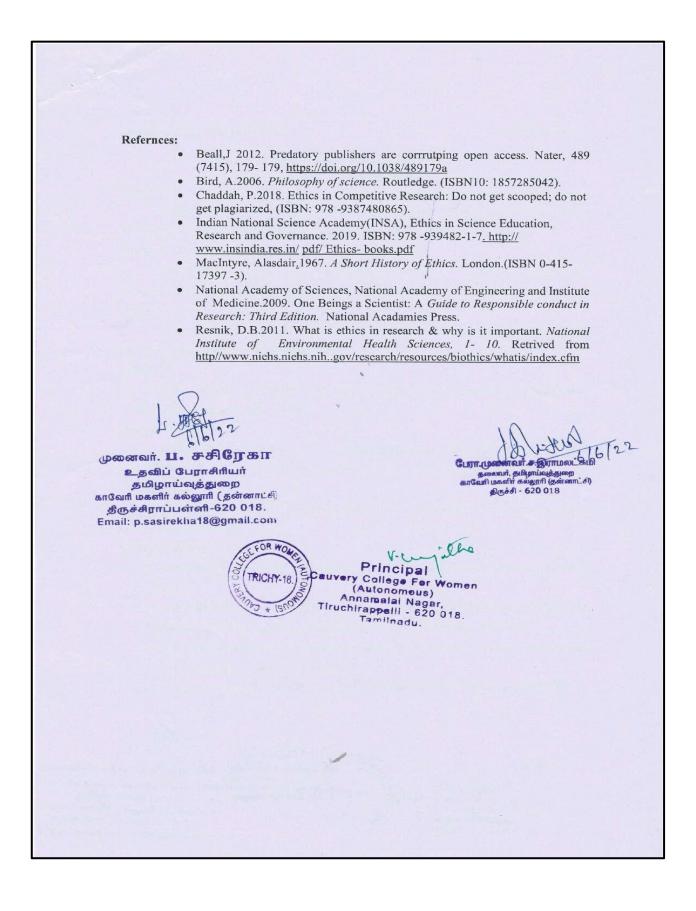
- A. Database
- 1. Indexing databases.
- 2. Citation database: Web of Science, Scope etc.
- B. Research Meterics
- 1. Impact factor of Journal as per Journals citation Report, SNIP, SJR, IPP, Cite Score..
- 2. Meterics: h index, g index, g-h Index, i10 index, h-b index, z-index and altmetrics

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