

**DEPARTMENT OF COMMERCE**  
Bhagat Phool Singh Mahila Vishwavidyalaya Khanpur Kalan  
(Sonapat) Haryana-131305).

Scheme & Syllabi of Pre-Ph.D. (Course work) in Commerce  
(w.e.f July 2022)

Sr. No.	Paper Code	Paper Title	Hours Per Week			Total Credits per week	Max Marks		
			L	P	T		Internal Marks	External Marks	Totals Marks
1	PHDC-2101	Research Methodology	4	0	1	5	20	80	100
2.	PHDC-2103	Quantitative Techniques through Statistical Software	4	2	0	5	---	50 (External Theory) 50 External Practical Marks)	100
3.	PHDC-2105	Research & Publications Ethics	1	2	0	2	10	50	60
<b>Total Credits</b>						12			260

*Dashrath*  
16/9/2022  
Chairperson  
Department of Commerce  
Bhagat Phool Singh Mahila Vishwavidyalaya  
Khanpur Kalan (Sonapat)

**PHDC-2101**

**L-T-P**

**4-1-0**

**Pre-Ph.D. Course Work  
Research Methodology**

**Max. Marks 100**

**Internal Marks 20**

**External Marks 80**

**Time 3 Hours**

**Course Objective:** The main purpose of this paper is to understand the process of research, concepts of sampling and tools for data collection and analysis and process of documentation and research report writing.

**Instructions for Paper Setter/Examiner:**

The examiner shall set nine questions in all covering the whole syllabus. Question No.1 will be compulsory covering all the units and shall carry 8 small questions of two marks each. The rest of the eight questions will be set from all the four units. The examiner will set two questions from each unit out of which the candidate shall attempt four questions selecting one question from each unit. All questions shall carry 16 marks each.

**Course Inputs:**

**Unit-I**

Research: Nature and scope, Formulation of a research problem and research design and its types, Qualitative and Quantitative research, Methods of data collection (Primary and Secondary);

**Unit-II**

Sampling fundamentals : Sample size determination, Sampling frame, Sampling design, Sampling techniques, Sampling and Non sampling errors, Law of large number and Centre limit theorem, Qualities of a good sampling design;

**Unit-III**

Measurement Scales, Scaling techniques, Reliability and Validity, Attitude Thurstone's scaling, scale, Likert's scale, Cumulative scaling; Questionnaire framing, Pre testing and Pilot study;

**Unit - IV**

Hypothesis formulation and Testing: Type I error, Type II error, Level of significance, Critical regions, Degree of Freedom, Parametric (Large Sample Test, Small Sample Test) and Non parametric tests.

**Course Outcomes:** To develop the ability to choose appropriate methods for research aims and objectives, to Understand the benefits and limitations of various research techniques available for data analysis and develop advanced critical thinking skills.

*Bhavna Sharma*  
Dr. Bhavna Sharma  
In Charge, Commerce

*Bhavna Sharma*  
Chairman  
Khanpur Kalan (Sonapatna)

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**Suggested Readings:**

1. Malhotra, Naresh K: Marketing Research an Applied Orientation, 5th edition, Pearson.
2. Cooper and Schindler: Business Research Methods, 8<sup>th</sup> edition, Tata Mc Graw Hill.
3. Boyd & Westfall: Marketing Research, Prentice Methods, Hall
4. Kothari, C. R.: Research Methodology, New Age International Publishers.
5. Shekharan & Uma: Business Research Methods-A Skill- Building Approach, 7th ed., New York, John Willy, 2002.
6. Creswell, John W.: Research Design- Qualitative & Quantitative Methods, New York, John Willy, 2002.

**Pre Ph.D. Course Work**  
**Quantitative Techniques through Statistical Softwares**

**PHDC-2103**

**L-T-P**

**4-0-2**

**Max. Marks: 100**

**Practical\* 50**

**External Theory 50**

**Time: 2 Hours**

**Course Objective:**

The objective of this course is to make the students learn about the application of statistical tools and techniques for decision-making.

**Instructions for Paper Setter/Examiner:**

The examiner shall set nine questions in all covering the whole syllabus. Question No.1 will be compulsory covering all the units and shall carry 5 small questions of two marks each. The rest of the eight questions will be set from all the four units. The examiner will set two questions from each unit out of which the candidate shall attempt four questions selecting one question from each unit. All questions shall carry 10 marks each.

**\*For Practical:**

The practical examination will be conducted by a board of two examiners i.e. one External and one Internal. The external and internal examiners shall be appointed by the chairperson.

**Course Inputs:**

**Unit-I**

Introduction to SPSS, Preparation of data files: Define variables, Data entry, Data coding, Issues in Data Cleaning, Missing values, Recoding, Improper codes, Outliers, Descriptive statistics, Reliability Testing, Validity testing;

**Unit-II**

Parametric techniques: Correlation, T test, One way ANOVA, Two way ANOVA MANOVA, SPANOVA, ANCOVA, Non parametric techniques: Chi-Square test, Mann-Witney U test, Wilcoxon Sign Rank test, Kruskal Wallis test, Friedman test, Spearman's rank-order correlation test.

**Unit-III**

Financial econometrics techniques: Regression (Practical only), Panel Data, Regression through STATA and E Views (Practical only), Multicollinearity, Heteroscedasticity and Auto correlation, Dummy Variable- Logit and Probit Model (Practical only), Time Series Analysis- concept and component (Practical only)

**Unit-IV**

Factor Analysis: Principal Component Analysis (Practical only), Confirmatory Analysis (Practical only), Path Analysis using AMOS (Structured Equation Modeling) (Practical only).

**Course Outcomes:** Students will be able to use statistical tools and techniques in research for better decisions.

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In Charge, Commerce

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Khanpur Kalan (Sonapatna)

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**Suggested Readings:**

1. Gream Willian (2000). "Econometrics Analysis", 5th Edition, Prentice Hall
2. Goldberder, A.S (1998). "Introductory Econometrics", Harvard University Press, Cambridge.
3. Patterrson Kerry.P (2000). "An Introduction to applied Econometrics", Vol.1, Oxford U.K, Blackwell Publishing.
4. Gujarati Damodar (2002). "Basic Econometrics", 4th Edition, McGraw Hill.

*Bhavna Sharma*

**ANNEXURE**

**Course Title:**

- **Research and Publication Ethics (RPE)** Course for awareness about the publication ethics and publication misconducts.

**Course Level:**

- 2 Credit course (30 hrs.)

**Eligibility:**

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

**Fees:**

- As per University Rules

**Faculty:**

- Interdisciplinary Studies

**Qualifications of faculty members of the course:**

- Ph.D. in relevant subject areas having more than 10 years' of teaching experience

**About the course**

**Course Code: GPE-RPE**

**Overview**

- This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

**Pedagogy:**

- Class room teaching, guest lectures, group discussions, and practical sessions.

**Evaluation:**

- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

*Blashuhat*

Chairman  
Department  
Bhagat  
Khanp

## Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	<b>Total</b>	<b>30</b>

## Syllabus in detail

### THEORY

#### • RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)

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

#### • RPE 02: SCIENTIFIC CONDUCT (5hrs.)

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

#### • RPE 03: PUBLICATION ETHICS (7 hrs.)

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

### PRACTICE

#### • RPE 04: OPEN ACCESS PUBLISHING(4 hrs.)

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Kapurthala (Punjab)

1. 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 (4hrs.)**

**A. Group Discussions (2 hrs.)**

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

**B. Software tools (2 hrs.)**

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

• **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

**A. Databases (4 hrs.)**

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

**B. Research Metrics (3 hrs.)**

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics

**References**

- Bird, A. (2006). *Philosophy of Science*. Routledge.
- MacIntyre, Alasdair (1967) *A Short History of Ethics*. London.
- P. Chaddah, (2018) *Ethics in Competitive Research: Do not get 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 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. <https://doi.org/10.1038/489179a>
- Indian National Science Academy (INSA), *Ethics in Science Education, Research and Governance*(2019), ISBN:978-81-939482-1-7. [http://www.insaindia.res.in/pdf/Ethics\\_Book.pdf](http://www.insaindia.res.in/pdf/Ethics_Book.pdf)

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