



Indraprastha College for Women

University of Delhi

Course Name:	B.A(P)
Paper Title:	Research Methodology
Unique Paper Code:	
Semester:	VII
Faculty(s):	Prof Archana Singhal
Year:	2025

Work Plan			
Unit No.	Learning Objective	Lecture No.	Topics to be Covered
I	Research Fundamentals	1	Meaning and significance of research,
		2	requirements and characteristics of research
		3,4,5	types of research – basic, applied, analytical, conceptual, empirical, experimental, non-experimental retrospective, exploratory/descriptive, prospective, qualitative, quantitative, mixed method.
		6,7	Research process, induction and deduction in research
		8	introduction to research tools.
II	Problem Identification	9	Choosing an appropriate problem area
		10	identifying sources of research articles
		11	literature review
		12,13	restating and evaluating the research problem, techniques and methodologies, state of the art
III	Data Analytics	14	Exploring and organizing data sets
		15	pre-processing data

		16	interpreting the data
		17	Choosing appropriate statistics.
		18,19,20	Descriptive statistics - measures of central tendency and variability
		21	Inferential statistics
		22,23	estimating population parameters
		24,25	testing hypotheses.
IV	Presenting research outcomes	26	Essential elements of a research paper
		27	explanation of the research problem
		28	description of methods and data,
		29	data analysis and its interpretation
		30	identification of possible weaknesses of the study,
		31.32	presenting and summarizing the research output,
		33	drawing conclusions
		34, 35	adding bibliography and bibliographic styles.
		36	Process of submission - Where to publish,,
V	Publication	37 ,38	the peer review process- plagiarism,plagiarism checker single blind and double blind.
		39,40	Scientometric analysis,
		41	Professional code of ethics in research, -
		42	intellectual property rights
VI	Research Ethics	43	patents,
		44	copyright and related issues
		45	fraud and misconduct in science.

**Guidelines of Discipline Specific Elective VI/VII
Semester**

(NEP UGCF 2022)

Research Methodology

(Effective from Academic Year 2024-25)

Unit	Topic	Chapters	References	No. of Hours
Research Fundamentals (Only Objective type Questions to be asked in Theory Exam only)	Meaning and significance of research, requirements and characteristics of research, types of research – basic, applied, analytical, conceptual, empirical, experimental, non-experimental, prospective, retrospective, exploratory /descriptive, qualitative, quantitative, mixed method. Research process, induction and deduction in research, introduction to research tools.	Ch 1 (Pg 21-25) (Pg 26-31)* 3.4 1.6	[2] [1] [1]	8
Problem Identification (Evaluation in Practical Component Only)	Choosing an appropriate problem area, identifying sources of research articles, literature review – stating and evaluating the research problem, techniques and methodologies, state of the art.	7.2-7.6, 9.4, 10.2, 10.3	[1]	5

Data Analytics (Maximum weightage for theory exam with emphasis on numerical computation which have been covered in the text)		Ch 8 (Table 8.4 2 parametric: Pearson correlation, Coefficient of determination Nonparametric : Spearman rank order Correlation) Table 8.5 Parametric: Student's t-test, ANOVA Nonparametric : Chi-square (X ²) goodness-of-fit test:	[2]	12
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Presenting research outcomes (Evaluation in Practical Component Only)	Essential elements of a research paper - explanation of the research problem, description of methods and data, data analysis and its interpretation, identification of possible weaknesses of the study, presenting and summarizing the research output, drawing conclusions, adding bibliography and bibliographic styles.	Ch 13 (uptoPg 360)	[2]	10
Publication (Emphasis on numerical computation like impact factor, indexes etc.)	Process of submission - Where to publish, the peer review process- plagiarism, plagiarism checker single blind and double blind. Scientometric analysis,.	9.5, 9.6 11.6 24.1, 24.7	[1]	5
Research Ethics	Professional code of ethics in research, intellectual property rights - patents, copyright and related issues; fraud and misconduct in science.	Ch 23 (23.1,23.2)* (23.3, 23.4)	[1]	5

* Self Study only. Not for Examination.

REFERENCES:

- Thomas, C. G. (2021). *Research Methodology and Scientific Writing, 2nd Ed.* Springer.
- Leedy, P. D., & Ormrod, J. E. (2016). *Practical Research: Planning and Design, 11th Ed.* Pearson.

ADDITIONAL REFERENCES:

- Ghezzi, C. *Being a Researcher: An Informatics Perspective.* Springer
- Locharoenrat, K. (2018). *Research Methodologies for Beginners.* PAN Stanford Publication.
- <https://www.unesco.org/en/articles/what-you-need-know-about-unescos-new-ai-competency-frameworks-students-and-teachers?hub=32618>

Practicals

The following was discussed with respect to the Practical Component:

- The student will prepare a survey/research paper which will be evaluated by the external examiner during Viva Voice (10 marks)
- A research paper (with which the student is not familiar with) and a set of question of 20 marks based on this research paper will be attempted by each student.

Capstone Project: Students must choose an area of interest for research, based on the curriculum (but not limited by it) covered in the program. They should identify a research problem to solve. During the semester the students must document the research journey in the form of a report, which will be evaluated at the end of the semester. The students are encouraged to write a research paper based on the report, under the guidance of the teacher. The practical class for research methodology course should be utilized to perform the following tasks in the research process.

- Search the research papers related to the chosen problem using academic search engines like Google Scholar, Scopus search, Web of Science database, etc.
- o Evaluate the venue of the source of research paper - Journals using citation metrics like CiteScore, SCImago Journal Rank (SJR), Source Normalized Impact per Paper (SNIP) etc., Conferences venues are evaluated using indexing information, Core Ranking etc.
- o Summarize the reviewed papers in a tabular format with columns: Paper Title, Author(s), Year, Key Findings, and Citation Count.
- o Explore reference management tools like Mendley / Zotero / EndNote to organize, store, and manage references.

- Practice data analysis techniques taught in the class and identify a suitable technique required to solve the chosen research problem.
- Write the research report and prepare to write the research paper.
 - Choose a document writing software and prepare the report as per the format given by the teacher.
 - Use the plagiarism check tool to assess the similarity index of the report and ensure that it is less than 10%
 - Explore the journal finder tools available for the publishers and select a suitable journal to submit the manuscript