GANPAT UNIVERSITY										
FACULTY OF MANAGEMENT STUDIES										
Programme	Bachelor of Business Administration					Branch / Spec.		Business Analytics		
Semester	IV					Version		1.0.0.0		
Effective from Academic Year			2025-26			Effective for the Batch Admitted in			July 2024	
Subject Code	BBUA207			Subject Name		Research Techniques for Analytics				
Teaching Scheme						Examination Scheme (Marks)				
(Per week)	Lecture (DT)		Practical (Lab.)		Total			CE	SEE	Total
	L	TU	P	TW						
Credit	03	00	00	00	03	Theory		50	50	100
Hours	03	00	00	00	03	Practical		00	00	00

Pre-requisite:

Fundamental understanding of basic statistics.

Objective:

The course aims to equip students with a comprehensive understanding of research methodologies, enabling them to effectively design studies, collect and analyze data, and communicate findings proficiently.

Learning Outcome/Course Outcome:

On successful completion of the course, the students will be able to:

CO1- Understand the fundamental concepts of research.

CO2- Clearly define research problems and develop appropriate research designs to address them.

CO3- Design sampling strategies and implement appropriate data collection methods for various research contexts.

CO4- Know how to use statistical tests for data analysis, interpret results and write detailed reports.

Mapping of PO-CO and PSO-CO:

Course Outcome (CO) No.	PO-CO Mapping								PSO-CO Mapping					
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	2	1	1	1	1	2	2	3	2	1	2	1	1
CO2	3	2	1	3	1	1	2	2	3	2	1	2	1	1
CO3	3	2	1	3	1	1	2	2	3	2	1	2	1	1
CO4	3	2	1	3	1	1	2	2	3	2	1	2	1	1

Theory Syllabus

Unit	Content	Hrs.
1.	**Introduction to Research and Problem Definition** **Introduction to Research:** Meaning, objectives, and types of research; Research Process; Role of research in business decision-making; Importance of ethics in research and analytics. **Problem Definition:** Formulating Research Problems & Hypotheses: Techniques of defining research problem; Hypotheses development – Concept, Types of statistical hypothesis: Null and alternative hypothesis.	15
2.	**Research Design, Sampling Design and Data Collection** Research Design Frameworks: Exploratory, descriptive and causal research designs. Sampling Techniques: Probability and non-probability sampling methods, Determining sample sizes. Data Collection: Comparison (pros - cons) of primary & secondary data, Designing of research questionnaire. Measurement Scales: Nominal, Ordinal, Interval and Ratio scales.	15
3.	**Data Analysis, Interpretation, and Report Writing** Descriptive Statistics: Summarizing and visualizing data, including measures like mean, variance, standard deviation, skewness, and kurtosis. Reliability and validity of research instrument. Inferential Statistics: Methods for hypothesis testing and drawing conclusions from data like t-tests, ANOVA, regression analysis, chi-square tests, and correlation analyses. Advanced Methods *(Basic only)*: Analysis of time series data using models like Autoregressive Integrated	15

	Moving Average (ARIMA) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH).
	Report Writing: Layout of research report.
	Note: *Practical demonstrations of aforesaid statistical tests will be taught in classroom sessions only.*
	Exam: Theory 100%

Text Book:

	Kothari, C.R. (2004). *Research Methodology: Methods and Techniques* (2nd ed.). New Age International Publishers.

Reference Books:

	Bajpai, N. (2011). *Business Research Methods*. Pearson Education India.
	Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge.
	Cooper, D. R., & Schindler, P. S. (2013). *Business Research Methods* (12th edition). McGraw-Hill Education.
	Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (6th edition). SAGE Publications.
	Goode, W. J., & Hatt, P. K. (1952). *Methods in Social Investigation*.
	Krishnaswamy, O. R. (2010). *Methodology of Research in Social Sciences*. Himalaya Publishing House.
	Malhotra, N. K. (2010). *Marketing Research: An Applied Orientation* (6th ed.). Pearson Global Edition.
	Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation* (4th edition). Jossey-Bass.
	Sharma, K. R. (2002). *Research Methodology*. National Publishing House.

Online Resource:

	https://onlinecourses.swayam2.ac.in/cec25_mg04/preview (Business Research Methods-By Dr G Parameshwari)