Research Methodology and Statistical Analysis

Units	Content
1	**Unit 1: Research Process** Research :Meaning, nature, types - pure, and applied Literature Search Formulation of research problem and hypotheses Research Design Review of Literature Research proposal Academic integrity/ethics in research Introduction to anti-plagiarism software
2	**Unit 2: Research Methods and Sampling** Historical, Descriptive including survey, case study, content analysis, bibliometrics and webometrics, Experimental methods-Evidence based Librarianship, Delphi method Sampling : Meaning, Types – purposive, probability and mixed, Techniques – random sampling, systematic sampling cluster sampling and area sampling
3	**Unit 3: Data Collection, Analysis and Presentation** Methods of Data Collection Data collection tools: features, merits & limitations, development and validation Tools: Observation checklists, questionnaires, interview schedules, Online tools Data Analysis : Measures of Central Tendency, Dispersion, Skewness, Co-relation

	Data Presentation : Tabulation, Graphical etc
	Testing of Hypothesis : Parametric Test and Non Parametric Test
	Data Processing and analysis using statistical software
	Interpretation
4	**Unit 4: Bibliometrics and Report Writing**
	Bibliometrics : Origin, Concept and Meaning
	Bibliometrics Distribution : Bradford's Law, Lotka's Law and Zipf's Law
	Citation Analysis
	Report Writing: Research Report Layout, Formats, content style and documentation,
	Citation style manuals- APA, Chicago, MLA, IEEE
	Referencing software: Zotero, Endnote, Mendeley