SIKKIM SARDAR PATEL UNIVERSITY, NAMCHI, SOUTH SIKKIM, INDIA

(Established and approved by the State Legislature of Government of Sikkim by Act 14 of 2023)

SYLLABUS FOR COURSE WORK

Course Code: CW-LR

Paper-I: Literature Review (2 credits, 30 hours)

Unit 1: Introduction (6 hrs.)

Definition and purpose of a literature review, Importance of literature reviews in academic research, Different types of literature reviews (systematic, narrative, integrative, etc.), Identifying Research Gaps.

Unit 2: Search Strategies and Information Retrieval (6 hrs.)

Effective use of academic databases, Boolean operators and search terms, Managing citations and bibliographic tools, Developing skills to critically evaluate research papers, Assessing the reliability and validity of studies, Identifying biases and limitations in research, Critical Reading and Evaluation, Synthesis of Information.

Unit 3: Writing a Literature Review (6 hrs.)

Structure and organization of a literature review, Writing strategies and styles, Incorporating summaries, analyses, and critiques of relevant literature.

Unit 4: Citation Styles and Referencing (6 hrs.)

Learning and practicing different citation styles (APA, MLA, Chicago, etc.), Proper referencing and citation of sources, Utilizing software tools for literature review management (e.g., EndNote, Zotero), Incorporating technology for systematic literature reviews.

Unit 5: Ethical Considerations & Presentation Skills (6 hrs.)

Avoiding plagiarism and maintaining academic integrity, Ethical use of sources and proper attribution, Collaborative Writing and Peer Review, Communicating findings from the literature review effectively, Creating visually appealing and informative presentations, Incorporating new findings into an ongoing literature review.

Course Code: CW-CA

Paper-II: Computer Applications (4 credits, 60 hours)

Unit 1: Introduction (3 hrs.)

Classification of computers, computer memory, types of software's: application of system software's operating systems and types, single user, multi user, multi-tasking single tasking, application of computer for business and research.

Unit 2: Data Communication and Networks (3 hrs.)

Data communication concepts, local area network, wide area network, internet, intranet, extranet, website. Email, search engines-enterprise E communication and E collaboration, MS Office and its application, File handing in window, various versions of MS Office.

Unit 3: MS-Word (12 hrs.)

Introduction and Usage of Microsoft Word in Research

Unit 4: MS-Excel (15 hrs.)

Introduction and Usage of Microsoft Excel in Research

Unit 5: MS-Powerpoint (12 hrs.)

Introduction and Usage of Microsoft Powerpoint in Research

Unit 6: SPSS (12 hrs.)

Introduction to SPSS: Definition, objectives and features, data analysis using SPSS: Data entry creating variables, switching to data labels, data analysis: Frequencies, recording into different variables, cross tabulations and layers.

Unit 7: Application of Internet in Research (3 hrs.)

INFLIBNET, Use of Internet, sights (DOAJ), Use of E Journals, Use of E- library, use of EBSCO HOST online database of Academic Libraries.

Course Code: CW-RM

Paper-III: Research Methodology (4 credits, 60 hours)

Unit 1: Introduction (12 hrs.)

Definition of Research, Qualities of Researcher, Components of Research Problem, Various Steps in Scientific Research, Types of Research; Hypotheses Research Purposes - Research Design - Survey Research - Case Study Research.

Unit 2: Data Collection (12 hrs.)

Sources of Data: Primary Data, Secondary Data; Procedure Questionnaire - Sampling Merits and Demerits - Experiments - Kinds - Procedure; Control Observation - Merits - Demerits - Kinds - Procedure - Sampling Errors - Type-I Error - Type-II Error.

Unit 3: Statistical Analysis (12 hrs.)

Introduction to Statistics - Probability Theories - Conditional Probability, Poisson Distribution, Binomial Distribution and Properties of Normal Distributions, Point and Interval Estimates of Means and Proportions; Hypothesis Tests, One Sample Test - Two Sample Tests / Chi-Square Test, Association of Attributes - t-Test - Standard deviation - Co-efficient of variations - Index Number, Time Series Analysis, Decision Tree.

Unit 4: Statistical Application (12 hrs.)

Correlation and Regression Analysis - Analysis of Variance, Completely Randomized Design, Randomized Complete Block Design, Latin Square Design - Partial and Multiple Correlation - Discriminate Analysis - Cluster Analysis - Factor Analysis and Conjoint Analysis - Multifactor Evaluation, Two-factor Evaluation Approaches.

Unit 5: Research Reports (12 hrs.)

Structure and Components of Research Report, Types of Report, Good Research Report, Pictures and Graphs, Introduction to SPSS.

Course Code: CW-QM

Paper-IV: Quantitative Methods (4 credits, 60 hours)

Unit 1: Introduction (3 hrs.)

Meaning & Introduction of Data, Variable, Sample, Inferential Statistics, Quantitative Methods.

Unit 2: Data Collection & Presentation (3 hrs.)

Measurement Scales, Data Gathering, Samples, Sampling & Errors, Arranging data to convey meaning – Tables, Graphs and Frequency Distribution, Measures of Central Tendency and Dispersion, Data Presentations.

Unit 3: Probability & Sampling Distribution (8 hrs.)

Probability – Probability Distributions, Binomial, Poisson and Normal, Central Limit Theorem, Standard Error of Mean, Sampling Distribution of Proportions.

Unit 4: Hypothesis Testing (18 hrs.)

One sample Tests, One Tailed Test, Two Sample Tests, Two Tailed Tests, ANOVA, t-Test, Chi-square Test, F-Test, Z-Test, Factor Analysis

Unit 5: Regression, Multiple Regression & Correlation Analysis (12 hrs.)

Scatter Diagram, Linear Regression Equation, Errors and Estimates, Correlation Analysis, Measures of Variation, Coefficient of Determination, Test of Significance of Regression Analysis.

Unit 6: Non-parametric Estimates (10 hrs.)

Run Tests for Randomness, The Sign Test, Mann-Whitney U-Test, The Kruskal-Wallis H-Test.

Unit 7: Time Series Analysis (3 hrs.)

Smoothing Techniques, Trend Analysis, Cyclic Effects, Seasonal Variations & Adjustments.

Unit 8: Statistical Decision Making & Quality Control (3 hrs.)

Decision Making and Trees, Analysis of Decisions, Dimensions of Quality, Control Charts

Course Code: CW-RPE

Paper-V: Research and Publication Ethics (2 credits, 30 hours)

Unit 1: 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

Unit 2: Scientific Conduct (5 hrs.)

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 3: 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

Unit 4: Open Access Publishing (4 hrs.)

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.

Unit 5: Publication Misconduct (4 hrs.)

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.)

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

Unit 6: Databases and Research Metrics (7 hrs.)

A. Databases (4 hrs.)

1. Indexing databases

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

B. Research Metrics (3 hrs.)

1. Imapact Factor of journal as per Journal citation Report, SNIP, SJR, IPP, Cite Score

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

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