# RAFFLES UNIVERSITY

**Japanese Zone, NH-48, Neemrana-301705**

## Ph.D. Course Work Syllabus

## Research Methodology Including Quantitative Methods and Computer Application
### Paper Code-(Ph.D-101)

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|---|---|
| **Contact Hours: 4 Hrs/ week** | **Continuous Assessment: 40 Marks** |
| **Credit: 4** | **End Term Exam: 60 Marks** |

**Unit –I**

**Definition of research**: Research -Definition; Concept of Construct, Postulate, Proposition, Thesis, Hypothesis, Law, Principle. Definition and Dimension of a Theory, Functions and Characteristics; Types of Theory: General Theory and Particular/ Empirical Theory. Cases and their Limitations; Causal Relations. Philosophy and validity of research. Objective of research.

**Characteristics of research**: Various functions that describe characteristics of research such as systematic, valid, verifiable, empirical and critical approach.

**Types of research**: Pure and applied research. Descriptive and explanatory research. Qualitative and quantitative approaches.

**Research procedure**: Formulating the Research Problem, Literature Review, Developing the objectives, preparing the research design including sample Design, Sample size.

**Considerations in selecting research problem**: Relevance, interest, available data, choice of data, Analysis of data, Generalization and interpretation of analysis.

**Outcome of research**: Preparation of the Report on conclusions reached. Testing validity of research outcomes. Suggestions and recommendations, identifying future scope.

**Unit-II**

**Internet introduction**, evaluating internet resources: Authority, Accuracy and objectivity. Drier note on e-books and visual library. UGC INFONET, INFLIBNET and ERNET. What is Plagiarism and how to avoid it?

**Computer Applications in research**: Introduction to spreadsheet application, features and functions, using formulas and functions, data storing, features for statistical data analysis, generating charts/ graph and other features. Tools used may be Microsoft Excel, Open office or similar tool. Introduction to presentation tool, features and functions, creating presentation, customizing presentation, showing presentation. Tools used may be Microsoft Power Point, Open Office or similar tool. Introduction to

Internet based searches, use of advanced search techniques. Presentation, Interpretation And. Report: Writing .Computer applications in research-t Software-SPSS, E-Views, MS-Excel etc

**Probability Distribution and Hypothesis Testing**: Theoretical: binomial, poison, F" 14 normal, exponential, hyper geometric, uniform distributions. Type I and II error, testing of mean, proportion, tests for equality of mean and variances of two populations, confidence interval, Z test and X2 test for goodness of fit, ANOVA (one via classification, Non parametric tests. t-test, U test M E;

**Correlation and Regression Analysis**: Karl Pearson's and Rank Correlation 10 coefficient, simple linear regression: least squares method, Linear Program solution simplex method, dual, and sensitivity analysis and assessment problems. H m J

**Suggested Readings:**

1. Kothari, C.R., Research methodology, New Age International (P) Ltd, Publishers, New Delhi.
2. Panncersclvam, R., Research methodology, PHI Learning Pvt. Ltd, New Delhi. Veldc, Mandy van der, Jansen, Paul and Anderson, Neil, Guide to management research methods, Blackwell Publishing Ltd.
3. Bhattacharyya, Dipak Kumar, Research methodology, Excel Books, New Delhi.
4. Donald R. Cooper and Pamela S. Schindler, Business Research Methods, Tate Mo Graw Hill, New Delhi
5. Richard 1. Levin and David S. Rubin, Statistics for Management, PHI, New Delhi. 9. SP. Gupta, Statistical Methods, 8 Chand & Company
6. Gujarati 85 Sangctha, Basic Econometrics, Tats Me 1 6 _ 0 6 _ 2 O ' 7 1 4 I 26