

**SHRI VENKATESHWARA UNIVERSITY**  
**NH-24, RAJABPUR, GAJRAULA, UTTAR**  
**PRADESH**

(w.e.f. 2021-2022)

**Ph.D. Course Work Syllabus**

**Paper: – 101- Research Methodology**

**MM. Marks-100**

**(Credit-04)**

**L-T-P**

**3-1-0**

**Unit I**

Introduction: 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 - CaseStudy Research.

**Unit II**

Data Collection: - 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 III**

Research Reports: Structure and Components of Research Report, Types of Report, Good Research Report, Pictures and Graphs.

**Unit IV**

Quantitative Methods : Meaning and definition of quantitative method, Arranging data to convey meaning – Tables, Graphs and Frequency, Distribution, Measures of Central Tendency and Dispersion, Simple and Multiple regression and correlation, Association of Attributes, Probability – probability Distributions, Binomial, Poisson and Normal, Linear Programming - Formulation and Graphical solution to two, variables – Assignment Problems, Transportation problems, Queuing Theory – Single Server And Multi-Server

**Unit V**

Markov chains with Simulation Techniques – Monte Carlo Simulation, Game theory – 2x2 zero sum game with dominance – pure strategy and mixed strategy, Decision Theory – 5 criteria of decision making, Chi-square, Discriminant Analysis, Factor Analysis, Cluster Analysis, Multidimensional Scaling, ‘T’ Test, ‘F’ Test, ‘Z’ Test

**Paper: - 102-Computer Applications**

**MM. Marks-100**

**(Credit-04)**

**L-T-P**

**3-1-0**

### **Unit I**

Introduction: 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 II**

Data Communication and networks: Data communication concepts, local area network, wide area network, internet, intranet, extranet, website. Email, search engines-enterprise E communication and E collaboration

### **Unit III**

MS Office and its application: File handling in window, various versions of MS Office, M S-Word: Text formatting, Mail merge, Macro, M S-Excel: Features, various formulas and functions M.S. Power Point: Creating presentations and adding effects.

### **Unit IV**

SPSS: 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 V**

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

**Paper: - 103-Review of Research Work**  
**(Credit-04)**

**MM. Marks-100**

**L-T-P**

**3-1-0**

### **Unit I**

Examining the methods of evaluating and interpreting published Research, Developing skills needed to research available literature for information relevant to a given topic, Exploring the principles and techniques of topic/project development and testing.

### **Unit II**

Examining the methods of evaluating and interpreting data collected in the research process, developing an understanding of the various statistical methods that can be used to analyze data.

### **Unit III**

Demonstrating the ability to use statistical analysis tools and apply them in decision making activities, demonstrating the ability to create a template document that can be used to complete your research project or thesis.

### **Unit IV**

Paper writing and report generation : Basic concept of Paper / Thesis writing and report generation, writing Research Abstract, Introduction, review of literature, Result, Conclusion, Concepts of Bibliography and References; significance of report writing, steps of report writing, Types of Research reports. Methods of preparation and presentation of the report. Formats of publication in research general.

### **Study Plan:**

The course work classes are mandatory to attend. The assignment should be submitted time to time. Evaluation of examinations will be held in the end of course work.