ST.JOSEPH'S COLLEGEFORWOMEN (A), VISAKHAPATNAM VIII SEMESTER STATISTICS TIME: 4 Hrs/Week ST 8205(3) STATISTICAL TECHNIQUES FOR RESEARCH METHODOLOGY SYLLABUS Max. Marks:S100

OBJECTIVES:

- 1. Understand the fundamental principles of statistics and their relevance to research methodology.
- 2. Explore various types of data and their appropriate statistical analyses.
- 3. Learn to select and apply statistical techniques suitable for different research designs and objectives.
- 4. Gain proficiency in using statistical software for data analysis.
- 5. Interpret statistical results accurately and draw valid conclusions based on research findings.

Learning Outcomes:

After learning this course, the student will be able:

- 1. Demonstrate a solid understanding of basic statistical concepts, including probability, distributions, and hypothesis testing.
- 2. Apply appropriate statistical methods to analyze various types of data, such as categorical, continuous, and ordinal data.
- 3. Select and justify statistical techniques based on research objectives, study design, and data characteristics.
- 4. Utilize statistical software proficiently to conduct data analysis and generate relevant output.
- 5. Interpret statistical results accurately and effectively communicate findings to diverse audiences.
- 6. Identify and address potential biases, confounding variables, and limitations in statistical analyses.

COURSE:

UNIT I

Introduction: Meaning, objection and motivation in research, types of research, research approach, significance of research. Research problems: definition, selection and necessity of research problems.

UNIT II

Survey Methodology and Data Collection, inference and error in surveys, the target populations, sampling frames and coverage error, methods of data collection, nonresponse, questions and answers in surveys.

UNIT III

Processing, Data Analysis and Interpretation: Review of various techniques for data analysis covered in core statistics papers, techniques of interpretation, precaution in interpretation.

UNIT IV

Develop a questionnaire, collect survey data pertaining to a research problem (such as gender discriminations in private v/s government sector, unemployment rates, removal of subsidy, impact on service class v/s unorganized sectors), interpret the results and draw inferences.

UNIT V

Formats of Reports: introduction, parts of a report, cover and title page, introductory pages, text, reference section, typing instructions, copy reading, proof reading. Presentation of a report: introduction, communication dimensions, presentation package, audio-visual aids, presenter's poise.

Books Recommended

- 1. Kothari, C.R. (2009): Research Methodology: Methods and Techniques, 2nd Revised Edition reprint, New Age International Publishers.
- 2. Kumar, R (2011): Research Methodology: A Step by Step Guide for Beginners, SAGE publications