ONLINE WORKSHOP
ON
STATISTICAL TECHNIQUES FOR RESEARCH METHODOLOGY

(For Research Scholars and Faculties)

During
18-22 December 2023 (Total 5 days)

Last date of registration: 12 December 2023

For seat availability, please call (9869242240 or 9969928144) before registration

Conducted by:

SQC & OR Unit

Indian Statistical Institute,
Room No 320, 3rd Floor Old C G O Building
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Introduction:

Applied research is a systematic and purposeful investigation aimed in solving practical problems, improving processes or advancing knowledge in specific fields or industries. This research is concerned with the direct application of existing knowledge to real-world issues. Statistical techniques in research methodology play a fundamental role in design, analysis and interpretation of research studies. These techniques involve the use of mathematical and statistical methods to collect, organize, summarize, analyze and draw meaningful conclusion from the data. Statistical methods are essential to making informed decisions, drawing reliable inferences, and ensuring the validity and generalizability of research findings. To keep pace with the recent advancements in any discipline, one has to be well versed with the latest developments in statistical analysis. Keeping in view the importance of statistics in research methodology, workshop aims to provide knowledge on statistical techniques to the research scholars. This workshop is planned for the research scholar pursuing research in various engineering and management stream.

Objectives:

After attending this workshop, participants will
- Know the importance of statistics in research
- Learn, how to frame a research hypothesis, design a data collection plan, and comprehend the role and relevance of the tools for data analysis and inference
- Know, how to use of software packages like R-studio in data analysis.

Coverage:
- Introduction to research methodology and statistical techniques
- Concept and classification of data
- Descriptive Statistics
- Sampling strategies
- Concept of Probability and Probability Distribution
- Concept and modeling of variation using Probability distribution
- Hypothesis Testing like t-test, F-test, ANOVA, ANCOVA
- Categorical data analysis using contingency tables, odds and odds ratio
- Predictive modeling using Simple, Multiple linear and Logistic regressions
- Multivariate (PCA, Factor and Cluster) analysis.

Target Participants:

Research Scholars and Faculty Members preferably from Engineering and Management streams from any University/Institute and Scientists from Research organizations are eligible to enroll.

Venue/Timing:

The online sessions will be conducted through Zoom platform. Participants should download the zoom app from internet and sign up before attending the program. A detail communication

regrading Zoom/ R and R studio will be sent to all the registered candidates. The classes will be scheduled from 09:30 to 18:00 hrs. every day with usual breaks.

Faculties:

Faculties from SQC & OR Division will take all the sessions.

Course Fees:

- *Rs. 5000/- + 18% GST/- (Rupees five thousand nine hundred only, inclusive of GST) for faculties/scientist of academic/ research institutes (Valid id proof is required).*
- *Rs. 3000/- + 18% GST/- (Rupees three thousand five hundred and forty only, inclusive of GST) for full time research scholar. (Valid id proof is required).*

Registration:

Interested candidate may register online by December 12, 2023. While registering, valid id proof needs to be uploaded. Registration is purely on a "first come first allotted" basis

Indian Statistical Institute

1. The Indian Statistical Institute is a quasi-central organization under the Ministry of Statistics & Programme Implementation (MOSPI).
2. It is declared by an Act of Parliament as an Institute of National Importance.
3. Over the years the Institute has grown as a multi-disciplinary organization. It functions as a university empowered to award degrees up to Ph.D.; as a corporation in undertaking large scale projects; as a Firm of Consultants to industries to improve Quality, Reliability and Efficiency and as a Meeting place.

SQC & OR Division

1. The pioneer and leader in blending statistical theory with practice and institutionalizing the continuous improvement process into a sustaining system.
2. To strengthen national economy through continual search for excellence in Quality.
3. To disseminate the basic concepts and techniques for Quality Improvement by organizing Training programs, Workshops and In-house programs.
4. To develop highly skilled professionals capable of self-actualization.
5. To help industries in their efforts to cope up with the growing challenge of global competition through implementation of quality system based on ISO-9000 series, ISO-14000, QS-9000 standards, Six Sigma & World Class Manufacturing.
6. To continually develop and improve methodologies through applied research efforts to attain International Standards in services provided.
7. To provide solutions to the problems pertaining to the entire gamut of complex Business Decision Processes with the aid of Statistics and Operations Research