CENTRE FOR SOCIAL STUDIES, SURAT.

Research Methodology Course on "Quantitative Research Methods" for Ph.D./PDF Scholars (Offline Mode)

11th to 20th December 2023

(Sponsored by the Indian Council for Social Science Research, New Delhi)

Background

The Centre for Social Studies (CSS), Surat is organizing a national level ten-day Research Methodology Course on **"Quantitative Research Methods"** for scholars and teachers currently enrolled and pursuing Ph.D. or PDF in social sciences at various universities as well as research institutions. The basic objectives of this course are to (1) Orient the participants about the use of quantitative methods in social science research; (2) Demonstrate which statistical tool is required for what situation or data and why and (3) Train participants on how to run a particular statistical tool as well as how to make presentation and interpretation of outputs obtained. Scholars from disciplines like Economics, Sociology, Social Work, Political Science, Management, Education, Psychology, Population Studies, Rural Studies, etc., using quantitative methods in their research studies can apply for this course.

The course is expected to benefit participants in terms of improved conceptual clarity, data analysis skills through the application of the proper quantitative method and practical knowledge to undertake and produce evidence-based quality research to make suggestions and recommendations for policy interventions and advocacy process.

About 30 candidates will be selected from across the country as per the ICSSR guideline. The participants will be given free boarding and lodging. Sleeper-class train fare (to and fro) by the shortest route will be reimbursed to outstation participants. Resource persons will be invited from higher education institutions, universities, and other ICSSR institutes within and outside the State of Gujarat.

The Course Content

The proposed training program will cover the following topics during the ten days.
(1)   Importance of quantitative research in social sciences.
(2)   Sampling strategies in survey research.

(3) Types of data and measurement scale of variables, summarizing data (Descriptive statistics and Graphical presentation of the data).

(4) Testing normality of the data, reliability analysis.

(5) Hypotheses formulation, types of hypothesis (Null and alternative hypothesis), two-tailed and one-tailed tests of hypothesis.

(6) Comparing means using the t-statistic (One sample *t*-test, independent samples *t*-test and dependent (paired) samples *t*-test).

(7) Analysis of variance (ANOVA): One-way and Two-way ANOVA Main effects and Interaction effects, Post-Hoc test (unplanned comparison), Contrast analysis (planned comparison).

(8) Analysis of covariance (ANCOVA).

(9) Non-parametric statistics: Chi-square test (χ^2 test of independence), Wilcoxon signed rank test, Mann-Whitney test and Kruskal-Wallis test.

(10) Bi-variate Correlation Analysis, Biserial and point-biserial correlations, Partial correlation, Properties of Correlation Coefficient.

(11) Bi-variate and multi-variate regression analysis: The method of least squares concept of error term (Residual), Assessing the goodness of fit [the concept of Total Sum of Squares (SS_T), Residual Sum of Square (SS_R) & the Model sum of square (SS_M), R and R^2. Adjusted R square, Logic of R in bi-variate and multivariate regression model, Unstandardized and standardized coefficient, Assessing individual predictors, Standard error of the estimate.

(12) Methods of regression (Hierarchical, Forced entry and Stepwise methods), Problems of multicollinearity in regression analysis, testing assumptions of regression [Linearity of the regression model, Constant Error Variance (Homoscedasticity), Independence of Error, Normality of Error, Measuring Autocorrelation (The Durbin-Watson Statistic)].

(13) Logistic Regression: Background and principles behind Logistic regression, assessing the model (the log-likelihood statistic), assessing the contribution of predictors (the Wald statistic), The odds ratio: Exp (β), dealing with categorical predictors, how to report Logistic regression.

(14) Multinomial Logistic regression analysis and Probit Model.

(15) Construction of Indices: *Human Development Index, Multidimensional Poverty Index* and *the Concentration Index*.

(16) Multivariate Analysis: Factor Analysis, Cluster Analysis Discriminate analysis and Conjoint Analysis

Besides the above, the proposed training program also includes the presentation of two research cases, a hands-on computer (practice session) for participants, and library work.

Guidelines for the Participants

- The applicants must be currently enrolled in a Ph.D. or Post-Doctoral program or working as an Assistant Professor/Lecturer or having an equivalent position in any recognized university/college in the Social Science discipline and pursuing a Ph.D.

- The filled-in application (**format enclosed**) along with the candidate's CV, an abstract of the research proposal in about 300 words, a copy of the caste certificate (if any), and the Ph.D. or Post-Doctoral registration certificate duly forwarded by his/her Research Supervisor and/or employer should reach us (**offline or online mode**) latest by **November 15, 2023.**

- For further information or to download the application form, see our website: www.css.ac.in or write to us at: webinar@css.as.in

- Shortlisted candidates will be intimated by **November 20, 2023**.

- Certificate will be issued to participants after full attendance in the course.

<u>**Course Co-ordinator**</u>

GAGAN BIHARI SAHU (Course Director)
Mobile No. 9409552365
e-mail: gagan@css.ac.in

<u>**Address for Submitting Application**</u>

By email: webinar@css.ac.in

By post: The Course Director (RMC)
Centre for Social Studies
Veer Narmad South Gujarat University Campus,
Udhna-Magdalla Road, Surat, Gujarat – 395 007
(O) 0261-2977172/174

CENTRE FOR SOCIAL STUDIES

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APPLICATION FORM

Research Methodology Course on "Quantitative Research Methods"
for Ph.D./PDF Scholars (Offline Mode)
(11th to 20th December 2023)

1. Name   : _____

2. Gender (M/F)   : _____

3. Social Category *(Put a tick*   :
    mark) Attach certificate (if any)   SC / ST / OBC / General / Minority Group

4. Date of Birth   : _____

5. Institute/ University/ College   : _____

6. Educational Qualification   : _____

7. Discipline   : _____

8. Topics of Research (Ph.D.)   :

    _____

    _____

    _____

    _____

    _____

9. Ph.D. Registration No.   : _____
    (Attach certificate)   _____

10. Status of Research Work   : (i) Preparing Synopsis (ii) Reviewing Literature
    (Put a tick mark)   (iii) Preparing Tool (iv) Collecting Data (v)
                                                                    Analysing Data (vi) Writing Report (vii) Thesis
                                                                    submitted

11. Have you attended similar course   : Yes (   )   No (   )
    earlier

11.1 If YES, provide details: : _____

12. Mailing Address   : _____
                                                                    _____
                                                                    _____
                                                                    _____

    Telephone No. / Mobile No.   : _____

    E-mail   : _____

13. Recommendation by Head of the   : _____
    Institution/ College / Supervisor   _____

Accommodation Required: Yes (   ),   No (   )

Date: _____
                                                                    Signature of the Applicant

                                                                    _____
                                                                    Signature and Seal
                                                                    Head of the Institution/College/Supervisor