



## ORGANIZING WEBINAR

40 HOURS – WORKSHOP  
ON  
A Complete “RESEARCH  
METHODOLOGY AND DATA  
ANALYSIS Using

“SPSS & AMOS”

Training Programme

For  
Faculties and Research Scholar  
On

13/05/2020 to 20/05/2020  
(10.00 AM to 4.00 PM)

MODE OF CLASS

Online through  
CISCO WEBEX  
(Or)  
ZOOM CLOUD MEET

Last Date for Registration....

11/05/2020



## ABOUT OUR PROGRAMME

In today's world it is most difficult to avoid the term 'research'. It is because of the continuous efforts of the researcher that we are experiencing a giant leap in this century. Most of the users of statistics, as a decision making tool, feel themselves handicapped in selection of an appropriate statistical tool, understanding the theoretical concept and interpretation of results in a meaningful way. It is really difficult for a person who is not well versed with research methodology and the core philosophy of statistics. A research is initiated to have some practical consequences. This workshop has been designed to provide clear guidelines on how to undertake research as well as highlights the realities of undertaking research, including more common pitfalls.

## WHO CAN BE FDP PARTICIPANTS?

The FDP is designed for Scientists & Corporate Executives, Faculty of Arts & Science, Research Scholar, Engineering, Medical Practitioner, working in Hospital, Management Schools, Universities, colleges, Professional Institutes, Staff Training Colleges, Training Centers of Industrial Organizations, and Staff Training Institutes of Central and State Governments, which teach arts and Science, Management and allied subjects, like economics, statistics, computer applications, commerce, banking, organizational behaviour, business policy, sociology, marketing, and labour relations.

Contact:

**Prof. T.Rajeswari**

**Course Director, Primax Academy**

**Nagadevanahalli, Bangalore.**

**email: primaxacademy2018@gmail.com**

**Ph: 8971725451**

For Registration through Google form...

<https://forms.gle/LiwAwzkWKW8NEEkYA>

## TOPICS TO BE COVERED

● Introduction to research, Research Process, Identification of Problem, Identification of variables and Construction of questionnaire, Types of Research, Basic Statistics, Need for hypothesis in research.

### ● Population & Sampling designs, Sample size determination.

- Parameter and Statistic
- Organizing data
- Sampling Techniques
- Determine sample size
- Stages in Data Analysis
- Procedure for Testing of Hypothesis
- Formulation Hypothesis
- Formulation of Problem
- Preparation of Questionnaires
- Research Design
- Concept of P value
- Parametric and Non-parametric test
- Interpretation

### ● Steps in analyzing data with SPSS

- What is SPSS
- Enter your data into a data file
- Importing, Data entry in SPSS
- Provide labels for input file & Data Definition
- Handling missing data, outliers, in appropriate codes etc.
- Transform the data into suitable form
- Prepare Descriptive Statistics
- Overview of different levels of measurement scales
- Prepare graph the data
- Reliability Analysis & Pilot study and reliability checking using Cronbach Alpha.

### ● SPSS Data

Define Variable Property, Copy Data property, New Custom Attribute, Define Dates, Define Multiple response set, Validation, Identify duplicate Cases, Identify unusual cases, Sort Case, Sort variables, Transpose, Merge File, Copy Data set, Split file, Select Case.

### ● SPSS Transform

Compute variable, Count value, recording into same variable, recording into different variables, Automatic recode, Visual & Optimal Binning, Rank Cases, Date & Time wizard, Create Time Series, Replace Missing Values.

### ● Advance Excel (Basic All Statistics Functions)

- Basic Mathematical Functions
- Statistical functions & Graphs
- Accounting Functions
- Financial Functions

### ● SPSS Analysis

- Data entry, data manipulation and data cleaning.
- Descriptive & Frequency statistics, Chi-square test, Correspondence Analysis.
- Assumptions checking: Linearity, homogeneity, multi-collinearity and normality.
- One Sample t-Test, Independent Sample t-Test, Paired t-Test, One-way ANOVA.
- Factorial ANOVA, ANCOVA, MANOVA, MANCOVA.
- Correlation: Pearson correlation and Partial correlation, Distance Correlation.
- Simple Regression, Multiple Regression, Step-wise Regression.
- Binary Logistic Regression, Multinomial Regression, Log Linear Regression and Canonical correlation.
- Factor Analysis, Cluster Analysis, Discriminant Analysis, Multidimensional Scaling (Mapping Tools), Hierarchical Clustering Means Clustering.
- Non-Parametric tests (Test for Normality, Mann Whitney U test, Krushkal Wallis test, Wilcoxon test, Friedman Test, Run Test etc.)
- Time series
- All types of Graphs – Bar Diagram- Pie Diagram- Scatter Dot- Histogram – Box Plot
- ROC Curve

### ● Utilities:

Variable – OMS Control Panel – Data File Comment – Define Variable Set- Use Variable Set – Spelling – Run Script

### ● Structural Equation Model (SEM) using AMOS

- Introduction about AMOS ( From Basic )
- Model Fit Summary
- Goodness of Fit Index (GFI)
- Adjusted Goodness of Fit Index (AGFI)
- Normated Fit Index ( NFI)
- Comparative Fit Index ( CFI)
- RMR, RMSEA

### ● Confirmatory Factor Analysis (CFA) using AMOS based on One Factor

- Modification Indices, Model Fit Summary
- Average Variance Extracted (AVE)
- Construct Reliability (CR)
- Convergent Validity
- Discriminant Validity, Linear Model,
- Compound Model, ARIMA Model

(Note: The course include Materials, Demo Software, E-Certificate)

Seats: The maximum intake for the Course shall Be 50 seats (first-cum-first serve basis)

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