

# Faculty Development Program On

# Data Analytics Using R-Programming

Organized by :



ASC Degree College Department of M.Com Bengaluru, Karnataka, India

In Association with



## **PRIMAX FOUNDATION**

(Registered Under Karnataka Societies Registration Act 1960 Reg. No.JNR-S211-2015-16, IT Exemption 12A & 80G) MSME Reg. No.: UDYAM-KR-03-0144791 Bengaluru, Karnataka, India



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23-04-2022

6.00 PM to 8.30 PM

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**For Registration** 

Registration Fee

#### About ASC Degree College, Bengaluru.

ASC Degree College, a contrivance of a team of academicians, had its inception in 2009. The institution, affliated to Bangalore University, has been doing remarkable service in the field of education for the past decade. A humble beginning with 50 students, the college has grown phenomenally and presently houses more than 1000 students. The institution offers graduate programs in Commerce, Management, Computer Applications and Post Graduate program in Commerce. Striving towards excellence, is a dedicated team of highly qualified, experienced and well-informed teachers. Apprized with new teaching methodologies and personal touch, this team inspires the young minds to excel. Besides providing ample opportunities for career development, the college equally focuses on extra-curricular activities. The college infrastructure offers an ambience most suitable for the pursuit of Learning and Development.

#### About Primax Foundation, Bengaluru.

Primax Foundation® was established in the year 2015 and it was registered under the Karnataka Societies Reg. Act 1960 (Reg. No JNR-211-2015-16) Primax Foundation is established with towering ideals of imparting quality and non-profitable services to the society through Journals, Seminars, Workshops, Educational Training & Skill Development, Study Circles, Initiating Research Activities etc., Primax Foundation is an upcoming Training and Development Center in Bangalore offering a variety of need based training programs, through on-and-off campus modes. In addition, its intention is to upgrade the quality of research work among the faculty members involved in Science & Humanities, Commerce, Management Education and the allied fields to ensure that all the research work undertaken, is gainfully put to use by the industry, society and corporate world.

#### **About R Programming**

R is open-source and freely available. The R language is widely used among statisticians and data miners for developing statistical software and data analysis. R possesses an extensive catalog of statistical and graphical methods. It includes machine learning algorithm, linear regression, time series, statistical inference to name a few. It compiles and runs on UNIX platforms and other systems including Linux, Windows and macOS. R is not only entrusted by academic, but many large companies also use R programming language, including Uber, Google, Airbnb, Facebook and so on.

#### **Objective of FDP :**

- Learn the basics of R- Progarmming
- Extract and visualize the data.
- Understand various statistical techniques using R.
- Carry out predictions and discuss the importance of variables in a dataset.
- Hands on training on various data analytics techniques.

#### **Target Audience:**

- Faculty, Research Scholar from all academic streams.
- Under-Graduate, Post-Graduate students from all discipline.



#### **Resource Persons**



Dr. M. Ramakrishan Assistant Professor P.G & Research

Dept. of Mathematics RKM Vivekananda College, Chennai, Tamil Nadu, India.



Prof. Manik Sharma Assistant Professor Department of Computer Science and Applications DAV University, Jalandhar, India.

### Day Wise Schedule of the Course

Day	Program Content
Day I Introduction and Preliminaries	History of R Programming Language, INSTALLING R and R Studio, Why R, Packages, R and Statistics, R and other software & Using R Getting started with R Handling of R R as a Calculator & Data Structure & Vectors, Matrices, Arrays, Data frames, Factors and Lists
Day - II Research Methodology	Research and its approaches, Research Methods versus Methodology, Types of Sampling, Sample Measurement, Research Guidelines for Constructing questionnaire. <b>Basic Data Management</b> Data input – Entering data from the keyboard, importing data from Excel, SPSS, SAS, STATA, Creating new variable, Recoding variables, Renaming Variables, Missing Values, Sorting Data & Merging datasets Subsetting datasets.
Day III- Statistics in Research	Functions of Statistics, Frequency and contingency tables, Descriptive Measures, Diagrammatic and Graphic Presentation & Descriptive Analysis using R. <b>Statistical Inference Theory</b> Parameter and Statistic, Testing of Hypothesis, Tests of significance of means for large Samples, Testing of Proportions & Sample Size Determination.
Day- IV Parametric Tests in Statistical Analysis	Student's 't' Distribution, t-test for Difference of Means, Paired t-test for Difference of Means, Analysis of Variance (ANOVA- One Way and Two-Way ANOVA) & Karl Pearson Correlation Coefficient. <b>Nonparametric Tests in Statistical Analysis</b> The Wilcoxon signed rank sum test, Wilcoxon Signed Rank Test for Dependent Data, Mann Whitney U Test (Wilcoxon Rank Sum Test), Kruskal-Wallis One-Way Analysis of Variance, Friedman Test with repeated Measures, Spearman Rank Correlation Coefficient & Chi-square Test.
Day-V Linear Regression	Checking the Reliability of a Scale Cronbach's alpha Simple Linear Regression & Multiple Linear Regressions. Generalized Linear Models Structure of Generalized Linear Models, Logistic regression & Poisson Regression.
Day-VI Factor Analysis	Factor Analysis   Kaiser-Meyer-Olkin Measure, Bartlett's test of sphericity   Principal Component Analysis (PCA), Exploratory Factor Analysis (EFA), Construct Reliability,   Discriminant Validity.   Structural Equation Modelling   Path Analysis, Confirmatory Factor Analysis and Structural Model.
Important Note:	

- The maximum intake 40 Seats. The Fee Includes Materials, E-Certificate. No Video recording.
- Participants needs to have their laptop with mouse along with internet during online session.
- Free Demo R-software will be downloaded by clicking the following link.

(https://www.rstudio.com/products/rstudio/download/)

#### Program Coordinator

#### Prof. T. Rajeswari

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