DEVA MATHA COLLEGE KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam

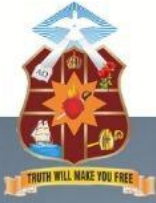**TRUTH WILL MAKE YOU FREE**

SYLLABUS

OF

ADD-ON COURSE

IN

Data Analytics Using R

Academic Year: 2022-23

Title: Data Analytics Using R

Instructional Hours: 30 Hours
Duration: 3 Months
Intake in a batch: 70-80 Students
Eligibility: Graduation
Mode of Instruction: Blended mode (Online and Offline)

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ADD-ON COURSE FOR THE YEAR 2022-23

R (Free Software) is one of the major software for the statistical analysis of data. Main objectives of this course are:

- To provide basic knowledge in Statistical investigation
- To experience working knowledge in R software with the objective of imparting awareness in data analysis using R
- To get benefitted the students from all streams including Science, Social science, literature, and Commerce and Management disciplines
- To practice the knowledge gained in their necessary project work of Degree Programme.

Module 1: Basic Statistics
        Introduction to Statistics, Statistical Investigation, Scales of measurement, Data Collection, Drafting Questionnaire, Presentation - Charts & Diagrams, Basics of Descriptive Statistics- Central Tendency, Dispersion, Skewness and Kurtosis, Correlation and Regression

(5 hours)

Module 2: Statistical Analysis Using R-I
        Working knowledge in Excel, Entering Data in Excel, Importing data from Excel worksheet to R, Basics of R and RStudio, Install R and RStudio, Install and import library/packages in R, Data types in R   **(3 hours)**

Module 3: Statistical Analysis Using R-II
        Analysis using R - Assessing relationships between continuous variables through plots - Measuring Central Tendency, Dispersion, Skewness and Kurtosis - Assessing relationships between continuous variables through correlation and Regression, Testing of Hypothesis, Case studies in R

(7 Hours)

Module 4: Project Work-Report Writing
        Exercising the knowledge acquired by conducting a Project study with primary data collected through questionnaire method, Preparation of Report, Publishing research articles on statistical analysis of primary data (for advanced learners)

(15 hours)

Course Outcomes

- The students will be enabled to undertake data analysis tasks required in preparing project reports and dissertations using statistical techniques.
- The students can undertake research projects, field surveys, data compilation, graphical displays etc.
- The participants are tailored with demands for data analysts in the global analytics market.

Mode of Evaluation

Attendance, Project Work, and Examination

Assessment Procedure

Attendance – 30 Marks, Project Work – 20 Marks, Written Examination – 50 Marks, Total – 100 Marks

Grading

80-100%   - A Grade

60-79%   - B Grade

40-59%   - C Grade

Below 40% - Grade- Not passed

*Separate Minimum required to get passed per individual elements– 50

References

1. Tilman M. Davies, The Book of R: A First Course in R Programming and Statistics, No Starch Press, San Francisco.

2. Eric Pimpler, Data Visualization and Exploration with R: A Practical Guide to Using R, RStudio and Tidyverse for Data Visualization Exploration and Data Science Applications, CreateSpace Independent Publishing Platform, Scotts Valley, California.

3. Rstudio Help