



**MINISTRY OF EDUCATION**  
**PANDIT MADAN MOHAN MALAVIYA NATIONAL**  
**MISSION ON TEACHERS AND TEACHING**



**TEACHING LEARNING CENTRE**  
**RAMANUJAN COLLEGE**

**(Accredited Grade 'A' by NAAC)**  
**UNIVERSITY OF DELHI**

**ONLINE ONE - WEEK**  
**FACULTY DEVELOPMENT**  
**PROGRAMME ON**

**DATA ANALYSIS**  
**USING R**

**15-21 JUNE 2021**

**Call for**  
**Registration**  
**and**  
**Participation**



# DATA ANALYSIS USING R

The Ministry of Education (erstwhile, Ministry of Human Resource Development) launched the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) in 2014. One of the main objectives of this mission is to facilitate teacher training by constituting Teaching Learning Centers in various institutions of higher education in our country. The Teaching Learning Centers (TLCs) are mandated to promote on a continuous basis the learning of new pedagogical practices, methodology of forming discipline-specific curricula and creating new learning materials (including e-content) for use by the teachers in colleges and postgraduate departments. It is envisioned that the TLCs will accelerate the teaching-learning process by encouraging independent critical and creative thinking and facilitating research for subject specific growth. The TLCs will assist the faculty in capacity building for curriculum designing, scientific assessment and evaluation and the development of innovative academic programs to strengthen the inclusive nature of higher education. The TLCs are also encouraged to reach out to teachers teaching in regionally disadvantaged locations. The Pandit Madan Mohan Malaviya National Mission emphasizes the need to change the role and workings of a teacher from a mere disseminator of information and knowledge to the one who helps students to develop critical, analytical skills, capabilities to generate information, the ability to reason and to empower themselves through open sources and globally oriented digitalized self-learning processes. The focus is not only on 'what is taught' but also importantly, to 'the way it is taught,' in an effort to develop and enhance individual education, that will eventually go on to define the manner in which the future generations will work and live. The Teaching Learning Centers offer Faculty Induction Programs (FIPs)

for newly recruited faculty and Faculty Development Programs (FDPs) for teachers with experience who wish to update their field of knowledge, expertise and skill with the latest available research, resources and technology. In the FDPs, special emphasis is given to inter and cross-disciplinary methodologies of study.

Currently, the teaching fraternity is missing their lively and interactive classrooms due to COVID-19 Pandemic. To address the present situation, the University Grants Commission (UGC) has intensified its efforts to have a strong virtual engagement with the students through email/WhatsApp and hosting lectures using Google Class Room and other video-conferencing platforms. Keeping in view the immense benefits and reach of online courses in the present academic set-up, the Teaching Learning Centre Ramanujan College, University of Delhi is offering a One-week Faculty Development Programme on "Data Analysis using R" for faculty members and research scholars

### CONCEPT NOTE

Data analysis is one of the most crucial steps in doing research. The tools and methods used are significant not only in finding stochastic relationships in mathematical format, but also helps in explaining the relationships among variables. These procedures are used to explain and predict the levels of variables in interest as well as to test hypotheses about their relationships, and the results are often used as evidence in a wide range of policy settings. One of the applications used for this purpose is R.

R is a free and open-source software used by researchers and practitioners in various disciplines for computing and quantitative analysis of complex data structures. Using this as a reference point, the present Faculty Development Programme attempts to introduce the participants with the application of modern statistical tools and

techniques using R to the problems arising in their research projects. The course will be useful for improving quantitative skills of teaching faculty and research scholars in both sciences and social sciences. It will also equip the participants across disciplines to work in a new environment by providing them with knowledge about the tools, methods, and theoretical issues, applicable to pragmatic and humanistic questions.

## THEMATICS

- Introduction to the basics of R
- Handling of different data types
- Data Analysis and Data Cleaning
- Sampling Distribution and Inference - I
- Inferential Statistics for Parametric comparison of means (t-tests, ANOVA)
- Correlation and Regression Analysis
- Multivariate Analysis
- Data Visualisation

## EXPECTED LEARNING OUTCOME

After the completion of programme, participants will be equipped with:

- Better understanding on identifying a research problem
- Fundamental concepts associated with the programme
- Comprehending new trends and techniques in using appropriate statistical and computational tools for interdisciplinary research
- Effectively analyze and present data and research outcomes
- Write effective research papers and thereby, improve their quality of research

## RAMANUJAN COLLEGE

Ramanujan College is a University of Delhi college, located in the well-known area of Kalkaji, near Nehru Place, in South Delhi. Ramanujan College has highly qualified, dedicated, and committed faculty members. The college runs 16 courses in different subjects in Humanities, Commerce and Science streams. It is also the study centre for the students of the Non-Collegiate Women's Education Board, University of Delhi, and the Indira Gandhi National Open University. The college also runs several professional courses. The teachers of Ramanujan College are highly motivated and have original, published academic and creative work, including journals and other print media articles and educational film making to their credit. Ramanujan College is a premier institution of the University of Delhi and has been accredited grade "A" by the National Assessment and Accreditation Council (NAAC). We at Ramanujan College emphasize the holistic development of personality, meaningful exposure to real-world, and inculcating practical skills amongst our students apart from ensuring academic excellence.



### Enrichment Spectrum at the Teaching Learning Centre (TLC), Ramanujan College

- Emphasis on creating self-learning space for students
- Hands-on assignments and live projects
- Expert guidance on live projects
- Follow-up tasks
- Provision of study content (wherever required)
- Developing appropriate attitudinal orientation
- A learning experience for personality enrichment
- Augmentation of professional capabilities
- Co-creation and mutual contribution between participants and facilitators
- Access to global resources
- Adaptation skills for the dynamic contemporary environment

## REGISTRATION PROCESS AND PAYMENT DETAILS

### ELIGIBILITY

Faculty members (regular/adhoc/temporary) in teaching profession are eligible to apply for this Faculty Development Programme.

All those who meet the eligibility criterion are required to register and pay a **Non-Refundable fee of INR 950/-** by visiting [rcmoocs.in](http://rcmoocs.in)

### REGISTRATION DEADLINE: 14 June 2021

After successful registration & payment, the participants will receive a confirmation via email. Please keep checking the spam folder of the email as the bulk email sent may end up in the spam folder.

An official group has been made for communication with the participants on "Telegram." You are therefore requested to install the Telegram App either from the Play Store or App Store. The link to join the official group will be provided in the confirmation mail.

### IMPORTANT:

- Registration is mandatory for participation.
- Attempting and submitting all the quizzes and assignments are mandatory, and each participant should score a **minimum of 50% in total** to avail of the programme completion certificate.
- Graded certificates on the basis of performance will be awarded to the participants.
- As part of the Ministry of Education's requirement under the PMMMNMTT scheme, all participants need to submit online feedback for each session.
- Failing to meet any of the above conditions will result in denial of a certificate of completion to the participants.
- **No Objection Certificate (NOC) or Leave is NOT REQUIRED to participate in the Programme**

For further information, write to us at:  
[danalysisr@ramanujan.du.ac.in](mailto:danalysisr@ramanujan.du.ac.in)

# TEACHING LEARNING CENTRE, RAMANUJAN COLLEGE

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