



# RAMANUJAN COLLEGE

(Accredited Grade 'A' by NAAC)

UNIVERSITY OF DELHI

ONE-WEEK  
FACULTY  
DEVELOPMENT  
PROGRAMME

on

ICT  
INTEGRATED  
RESEARCH IN  
MATHEMATICAL  
SCIENCES

24– 30  
SEPTEMBER 2018

CALL FOR  
REGISTRATION  
AND PARTICIPATION



Organized by

Ramanujan Centre for Applied Mathematics and Research  
Ramanujan College

and

Teaching Learning Centre  
Ramanujan College

(under the MHRD scheme of Pandit Madan Mohan Malaviya  
National Mission on Teachers and Teaching)



Government of India  
Ministry of Human Resource  
Development

# ONE-WEEK FACULTY DEVELOPMENT PROGRAMME

## ICT INTEGRATED RESEARCH IN MATHEMATICAL SCIENCES

24– 30 SEPTEMBER 2018

### INTRODUCTION

The Ministry of Human Resource Development (MHRD) launched the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) in 2017. One of the main objectives of this mission is to facilitate teacher training by constituting Teaching Learning Centres in various institutions of higher education in our country. In the 9th PAB meeting of PMMMNTT held on July 12, 2017, the proposal for setting up of the Teaching Learning Centre (TLC) at Ramanujan College, University of Delhi was approved. Ramanujan College is the second college of the University of Delhi to be awarded the TLC. The vision of TLC is to provide young teachers with the tools for their development as effective and efficient teachers who are responsive to the needs of the learners in both local and global contexts. Our TLC is mandated to promote on a continuous basis the learning of new pedagogical practices, methodology of forming discipline-specific curricula and creating new learning materials for use by the teachers in colleges and universities.

The Ramanujan College, University of Delhi established Ramanujan Centre for Applied Mathematics and Research in July 2012 to continue the Legacy of Srinivasa Ramanujan, the greatest mathematician our country ever had. This centre aims to expose students as well as teachers to various areas in mathematical sciences other than those prescribed in the syllabus.

The TLC and Ramanujan Centre for Applied Mathematics and Research at Ramanujan College, University of Delhi is offering a Faculty Development Programme in “ICT Integrated Research in Mathematical Sciences” for the teachers of higher education in the country from the 24th to 30th of September 2018.

**Important Note:** As per the UGC Notification (The Gazette of India) dated 18th July 2018 regarding the Career Advancement Scheme (CAS) for Colleges teachers, for the promotion of Assistant Professor (Academic Level 10) to Assistant Professor (Senior Scale/Academic Level 11), it is mandatory to have completed:

- (1) One Refresher / Research Methodology Course; *OR*
- (2) Any two of the following: Workshop, Syllabus Up-gradation Workshop, Training Teaching-Learning-Evaluation, Technology Programmes and **Faculty Development Programmes of at least one week (5 days) duration**; *OR*
- (3) One MOOCs course (with e-certification) or development of e-contents in four-quadrants / MOOC's course during the assessment period.

## CONCEPT NOTE

Mathematical Sciences formulate a discipline of study that includes not just Mathematics but also other related areas like Statistics and Computer Science. The field is brewing day by day with holistic research and knowledge generation by the academia. One of the primary reasons for this much needed development is the rapidly advancing technology that has brought an immense difference in the way study and research is undertaken. Information and Communication Technology (ICT) has revolutionized the functioning of every single system in our society making our lives better, easier and somewhat simpler. This revolution has also largely affected two important aspects of human development: research and study. Gone are the times when a Sales Manager had to maintain his grocery, expenditure and sales records on paper and manually analyze them. There are databases to hold such information and computational techniques to mine significant predictions from such records.

This is the era of technology and we as teachers need to develop our competency to adopt to this because we do not only affect our lives but also touch those of our students.

The concept behind this Faculty Development Programme is to inculcate skills in the teaching fraternity that relate to usage of ICT for comprehensive research. The main focus in these days would be hands-on practical sessions on software that have inbuilt features to address challenges and opportunities in the field of research, and to help conduct their study in an accurate and meaningful way. The impetus would be on Mathematical models and their numerical/analytical solution using MATLAB, handling data and its analysis using tools like R, SPSS and further applying machine learning algorithms to deduce predictions. Another thrust area is the usage of the type-setting system LaTeX to produce quality technical and scientific documentation as it is equally important to present the research outcome.

The knowledge gained through this would present a plethora of opportunities for efficient analytical and critical analysis.



## OBJECTIVES

The Faculty Development Programme intends to fulfill the following objectives:

- Developing the core competency of the participants in the area of research.
- Enabling them to select appropriate research methods and tools for conducting mathematical and empirical research.
- Skill-based training in LaTeX to help in preparing documents like research papers and thesis.
- Adapting them with tools like MATLAB that integrate computation, visualization, and programming in an easy-to-use environment where problems and solutions are expressed in familiar mathematical notation.
- Familiarizing them with the available softwares like R and SPSS that meet their requirements for data analysis and enable them to implement a wide variety of statistical and graphical techniques, including linear and nonlinear modeling, classical statistical tests, time-series analysis, classification and clustering etc.
- Developing proficiency in some machine learning techniques built on Python/TensorFlow/R to be able to make analytical predictions from the available data set.

## 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 fifteen courses in different subjects in Humanities, Commerce and Science streams. It is also the study centre for the students of the School of Open Learning, University of Delhi, the Non- Collegiate Women's Education Board, University of Delhi and the Indira Gandhi National Open University. Ramanujan College has also been selected by the MHRD as a National Resource Centre. The College also runs a number of professional courses. The teachers of Ramanujan College are highly motivated and have original, published academic and creative work, including journal and other print media articles and educational filmmaking 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). The college has also been ranked 26 in the National Institute Ranking Framework (NIRF 2018). We at Ramanujan College emphasize on 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 RAMANUJAN COLLEGE

- Emphasis to create 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
- 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

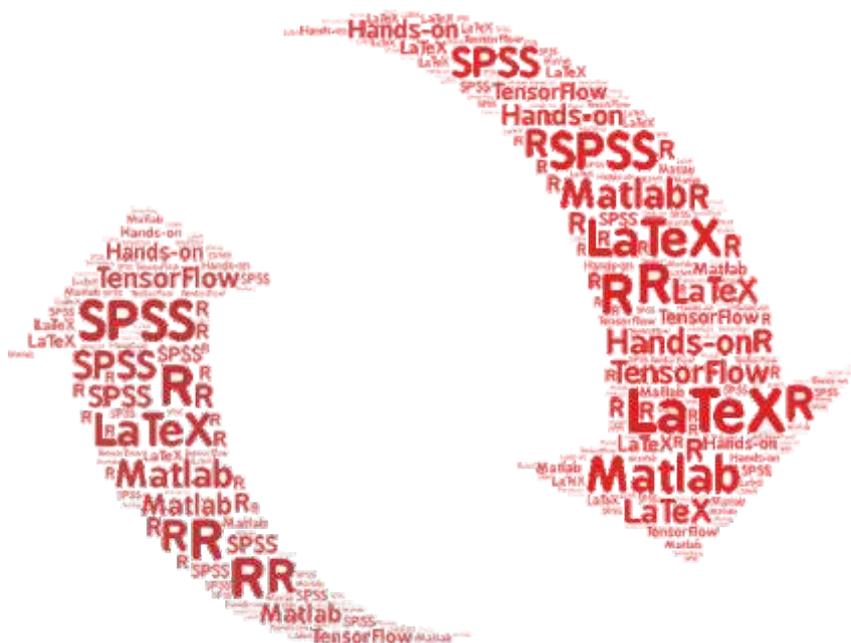
## ELIGIBILITY AND REGISTRATION DETAILS

- The FDP is open to Faculty members (regular/adhoc/temporary) from any Indian University/College. However, preference will be given to young teachers and to out-station teachers working in remote parts of the country.
- All the participants are requested to register online by visiting [www.tlc.rcdu.in](http://www.tlc.rcdu.in) or [www.rcdu.in](http://www.rcdu.in) on or before 10<sup>th</sup> September 2018 by browsing the following link: <https://goo.gl/forms/mXZGpNqf3DPJoL7C2>
- Registration for all the participants is mandatory. Only limited seats are available. Selected participants would be informed by 15<sup>th</sup> September 2018.
- TLC Ramanujan College will provide the participants with the travel expenses (air fare or 2-ac train travel, whichever is cheaper).
- Boarding/lodging facility will be provided on request on twin sharing basis from 23<sup>rd</sup> to 30<sup>th</sup> September 2018.

For further queries, please mail at: [tlc@ramanujan.du.ac.in](mailto:tlc@ramanujan.du.ac.in)

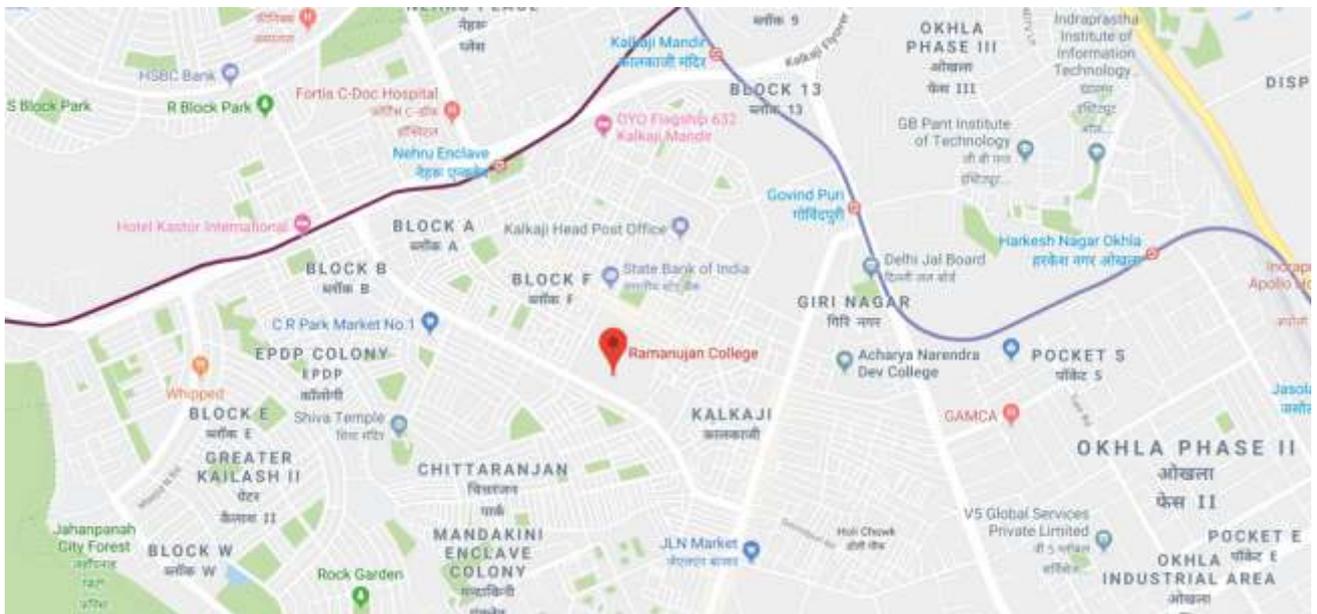
Kindly note that:

1. As the FDP is being organised under the prestigious PMMMNMTT scheme of MHRD, we at TLC, Ramanujan College give prime importance to willing and serious participants who are eager to learn. In this context, it should be noted that certificates will be awarded to only those participants who will be present and engaged during each session of the FDP. Therefore, it is compulsory for participants to attend all sessions in order to receive certificate of participation.
2. Attendance will be taken at any time and any number of times during the sessions.
3. Participants are requested to be punctual for all the sessions and strictly adhere to the date and time for all submissions.
4. All participants have to send in online feedback for each session.
5. Bring your valid ID card for confirmation with the hotel.
6. Bring the printout of the payment receipt to be deposited to the registration desk on the first day of the FDP.
7. Those participants travelling by air should carry the printed tickets and boarding passes for the inward journey and mail us through courier or post the boarding pass for onward journey, failing which the reimbursement may not be done. Those participants coming by train should produce the print out of the ticket (inward & onward) journey to the FDP team for smooth reimbursement. Local conveyance will not be paid.



## VENUE

Ramanujan College, University of Delhi, Kalkaji, New Delhi -110019



The college is located in south Delhi near the well-known commercial hub of Nehru Place and the residential areas of Chittaranjan Park, Kalkaji and Greater Kailash. It is well connected with public transport and the Delhi Metro. The nearest metro station being the Nehru Enclave Metro Station on the Magenta Line.

## DETAILS OF PROGRAMME FEES

For Participants Seeking Accommodation: ₹ 3500/- (Non-refundable)

For Other Participants: ₹ 2000/- (Non-refundable)

**Step 1:** Online Payment of the Registration Fee through NEFT/RTGS to the following account:

Account Name: Principal, Ramanujan College

Account Number: 0156000100585618

Bank & Branch: Punjab National Bank, Kalkaji

IFSC: PUNB0015600

MICR Code: 110024052

**Step 2:** Online Filling of the Registration Form giving the personal and transaction details at the web link: <https://goo.gl/forms/mXZGpNqf3DPJoL7C2>

The programme fee will be refunded, in case the participant is not selected. However, the programme fee of selected participants will not be refunded.

# ORGANISING BOARD OF THE FACULTY DEVELOPMENT PROGRAMME

DIRECTOR, TEACHING LEARNING CENTRE, RAMANUJAN COLLEGE

DR. S. P. AGGARWAL (PRINCIPAL)

## ASSISTANT DIRECTORS

DR. SUMIT NAGPAL, Assistant Professor, Department of Mathematics

DR. NIKHIL KUMAR RAJPUT, Assistant Professor, Department of Computer Science

DR. VIBHASH KUMAR, Assistant Professor, Department of Commerce and Management Studies

## CONVENER, FACULTY DEVELOPMENT PROGRAMME

DR. AMIT KUMAR SINGH, Director, Ramanujan Centre for Applied Mathematics and Research

## ORGANISING TEAM

Department of Computer Science

Department of Mathematics

Department of Statistics

## FOR MORE INFORMATION CONTACT

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## Teaching Learning Centre

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