



TEACHING LEARNING CENTRE

Ramanujan College

(Accredited Grade 'A++' by NAAC)

University of Delhi

under the aegis of

**Pandit Madan Mohan Malaviya National
Mission on Teachers and Teaching
MINISTRY OF EDUCATION**

is organising an

Online Two-week Refresher Course in

PHYSICS

28 July - 11 August 2022

**Call for Registration
& Participation**

RAMANUJAN COLLEGE

Ramanujan College, a constituent College of the University of Delhi was established in 1958 as an evening college. The College has been accredited Grade “A++” by the National Assessment and Accreditation Council (NAAC) in its Second Cycle.

At present, Ramanujan College offers sixteen undergraduate programmes in different disciplines. Besides this, the college has been awarded the DDU KAUSHAL (Deen Dayal Upadhyay - Knowledge Acquisition and Upgradation of Skilled Human Abilities and Livelihood) Kendra (2016) by UGC and Teaching Learning Centre (2017) by Ministry of Education. The College also offers short-term diploma, certificate, and executive development programmes on contemporary and skill-oriented themes to complement the regular graduation courses. It is also the Study Centre of School of Open Learning (SOL), Non-Collegiate Women Education Board (NCWEB) and Indira Gandhi National Open University (IGNOU) for various courses.

In 2018, the College conducted a Course on Human Rights, Environment and Ethics through its National Resource Centre (NRC), under the Annual Refresher Programme in Teaching (ARPIT) scheme of MoE. The College has also entered into Memorandum of Understanding(s) with foreign universities. It is also working for collaboration with other higher education institutions located in remote areas of the country, under the Vidya Vistar Scheme of the University of Delhi.

In pursuit of its vision: “Discover, Empower, Transform: Building A Better World”, Ramanujan College is working towards the recommendations of the National Education Policy (NEP) 2020. The objective is to make the College a centre for interdisciplinary studies and research with a future focus on blended learning.

TEACHING LEARNING CENTRE RAMANUJAN COLLEGE

Teaching Learning Centre (TLC) is mandated by the Ministry of Education (MoE) to organise Faculty Development Programmes (FDPs), Faculty Orientation and Induction Programmes (FIPs), discipline specific and interdisciplinary Refresher Courses, conferences, workshops, through offline and online modes. These programmes are based on in-depth subject knowledge, quantitative and qualitative research methodologies, and on an interdisciplinary approach as is envisaged in the National Education Policy (NEP), 2020.

The TLC, Ramanujan College has been set up with the aim of "Reaching the Unreached" teachers in terms of regional diversity and geographically remote areas of the country. It has successfully conducted more than hundred learner-centric programmes since October 2017 and trained over one lakh teachers across the country in various discipline specific and interdisciplinary programmes.

In the TLC Programmes distinguished and internationally acclaimed resource persons deliver lectures and conduct sessions on wide ranging disciplines/topics of relevance in the contemporary and ever evolving global scenario to benefit the teaching fraternity, corporates and researchers. The sessions are also uploaded for larger audiences on the official YouTube Channel of the College.

Ramanujan College is a pioneer in offering offline/online courses for faculty members of higher education institutions and research scholars through the customised Learning Management System (LMS), designed by the College's Research Development and Services Cell. It is predominantly participant-friendly and incorporates evaluation methods and comprehensive feedback systems to judge learning outcomes. The LMS is hosted on CLOUD with high scalability and reliability. The College has installed its own Cloud Infrastructure to host its servers for research and data analysis.

Enrichment Spectrum at the TLC, Ramanujan College

- Transforming teachers into knowledge-creators
- Emphasis on creating self-learning space for participants
- Interaction with eminent scholars and academicians
- Four Quadrant Approach (e-tutorial, e-content, Self-Assessment and Web Resources).
- Regular follow-up with the participants through Google Classroom/ Telegram/ Discussion Forum.
- Adaptation skills for the dynamic contemporary environment
- Augmentation of professional capabilities and research-based knowledge
- Inter and cross-disciplinary methodologies of study
- Co-creation and mutual contribution between participants and facilitators
- Formation of knowledge capital
- Online certificates using the Blockchain Technology to ensure authenticity and verifiability

CONCEPT NOTE

Physics is a core field of research with enormous applications in basic and applied sciences. Concepts of physics are dispersed from the heart of atoms' nuclei to giants of the celestial world. The understanding of fundamentals of various potential fields of physics and critical analysis of concurrent research has a pivotal role for individuals working in the area of physics for lab-to-industry implementations. The study of different fields of theoretical and experimental physics assists in the development of the scientific temper for conducting outstanding research work that may significantly contribute to developing new concepts, technologies and for enhancing the existing ideas. Such concurrent knowledge also helps in developing innovative teaching pedagogy.

This refresher course has been designed to address the needs of theory, experimentations, and industrial applications. The proposed training program would help researchers, faculties in formulating appropriate strategies to face the upcoming challenges.

THEMATICS

- **Liquid Crystals**
- **Space Physics**
- **Plasma Physics**
- **Nanomaterials**
- **Atmospheric and Space Sciences**
- **Quantum Physics**
- **Thin Films**
- **Solar Cells, Solar Photo thermal**
- **and Photovoltaic devices**
- **Spectroscopy**
- **Fluorescence spectroscopy**
- **Molecular Spectroscopy**
- **Fiber Optics**
- **Applications in Medical Physics**
- **Nuclear and Particle Physics**
- **Condensed Matter Physics/Materials Science**
Superconductors
- **Mathematical Physics- Theoretical studies and**
Simulation techniques

EXPECTED LEARNING OUTCOMES

After successful completion of the online course, the participants will be able to:

- Gain better understanding on how to identify a research problem and design a valid research project to answer specific research questions
- Get hands-on training in the usage of several open source tools that can assist them in their research endeavors
- Write effective research papers and thesis in the journal designated formats using online tools
- Know the process of finding good quality journals for research and publishing

REGISTRATION AND PAYMENT PROCESS

ELIGIBILITY

Faculty members (regular/adhoc/temporary) and research scholars from Physics and allied disciplines are eligible to apply for this programme.

All those who meet the eligibility criterion are required to register and pay a **Non-Refundable fee of INR 1450/- by visiting**

rcmoocs.in

REGISTRATION DEADLINE: 27 July 2022

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 is mandatory, and each participant should score atleast 50% aggregate to be eligible for the 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.
- **No Objection Certificate (NOC) or Leave is NOT REQUIRED to participate in the Programme**
- Failing to meet any of the above conditions will result in the denial of completion certificate.

For further information, write to us at:

physics@ramanujan.du.ac.in

or contact us through WhatsApp:

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+91 - 7011527088

ORGANISING BOARD OF THE REFRESHER COURSE

DIRECTOR (Teaching Learning Centre, Ramanujan College)

Prof. S.P. Aggarwal

Principal, Ramanujan College, University of Delhi

ORGANISING TEAM

Dr. Nikhil Kumar Rajput

Mr. Vipin Kumar Rathi

Dr. Ashish Shukla

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