

ρ_L, t, φ_R

 $\pi/2$

 Z_0

Im(z)

z = 1'impedance matched

h

z = 0short circuit



TEACHING LEARNING CENTRE RAMANUJAN COLLEGE (Accredited Grade 'A' by NAAC)

UNIVERSITY OF DELHI

in collaboration with

S.S. JAIN SUBODH P.G. (AUTONOMOUS) COLLEGE JAIPUR

under the aegis of

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

is organising an

ONLINE TWO-WEEK INTER-DISCIPLINARY REFRESHER COURSE

ADVANCED RESEARCH METHODOLOGY: BEST PRACTICES

27 November - 11 December 2021

CALL FOR REGISTRATION AND PARTICIPATION

RAMANUJAN COLLEGE

Ramanujan College is a constituent College of the University of Delhi (DU). It is inspired by the life and work of Srinivasa Aiyangar Ramanujan, one of the world's greatest mathematicians. The College has been accredited Grade "A" by the National Assessment and Accreditation Council (NAAC) in its First Cycle. It is located in the well-known area of Kalkaji, near Nehru Place, in South Delhi.

The College was established in 1958 as an evening college for boys with just five programmes. Since 2010, Ramanujan College has been expanding and now with the latest addition of B.Sc. Environmental Sciences (Hons) in 2020, it at present offers sixteen undergraduate programmes in different disciplines. This achievement, in alignment to the recommendations of the National Education Policy (NEP) 2020, makes the College a centre for interdisciplinary studies and research with a future focus on blended learning. It has gradually grown into a self-sufficient and self-reliant institution owing to its academic vigour and intellectual capital.

Ramanujan College was awarded the Deen Dayal Upadhyay – Knowledge Acquisition and Upgradation of Skilled Human Abilities and Livelihood (DDU KAUSHAL) Kendra in 2016 by the UGC, under which two vocational courses were started in Banking Operations and Software Development.

The College has 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 Ministry of Education (MoE). This Course was uploaded on MoE's Massive Open Online Course (MOOC) platform SWAYAM and many participants registered for it.

Ramanujan College offers various short-term diploma, certificate, and executive development programmes on contemporary and skilloriented themes. These are conceived and designed by faculty members in consultation with external experts. The courses get exceptional response from the students and are conducted throughout the academic session. They are open to alumni and students of all the colleges. Some of these courses support the curriculum, some prepare the students for higher studies and also accelerate the professional growth.

The College is 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. As an initiative towards students and teachers exchange programmes, the College has 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.

The prestigious Teaching Learning Centre was awarded to Ramanujan College in 2017 by the Ministry of Education, under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) scheme.

In pursuit of its vision: "Discover, Empower, Transform: Building A Better World", Ramanujan College is today perceived as one of the best colleges in the country.



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 indepth 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

S.S. JAIN SUBODH P.G. (AUTONOMOUS) COLLEGE

S.S. Jain Subodh P.G. (Autonomous) College, Jaipur was established under the auspices of S.S. Jain Subodh Shiksha Samiti in 1954 with an aim to provide value based higher education and to contribute towards holistic development of the society.

Subodh Shiksha Samiti was established in 1918 and has completed 100 years of its successful journey in 2018. Starting from a primary school, the philanthropic visionaries slowly nurtured the sapling into a grand Banyan tree with 18 institutions with 32,000 students under its shade providing education at different levels and in different streams. Standing true to the vision of its founders S.S. Jain Subodh PG (Autonomous) College is dedicated towards creation of a society infused with moral values, social consciousness and devotion.

S.S. Jain Subodh PG College has achieved several milestones since its inception and continues its journey of success with incessant growth and development in academics as well as co-curricular activities. The college has been re-accredited with "A++" grade with **3.82 CGPA** by **NAAC-UGC in 2017-18** which is highest in the country till date. The institution has been recognised as college with "Star Status" by DBT Government of India, New Delhi. The State Government has declared it as "Model College" and it is been conferred the status of "College with Potential for Excellence" twice by UGC and thereafter has been awarded status of "College of Excellence" by UGC. The excellence and credibility of the institution is maintained by positioning itself among top 200 colleges of India in NIRF Ranking-2019, 2020 and awarded with 81st Rank in "India Rankings 2021: College" by NIRF-Ministry of Education, Government of India. The famous Education World Magazine awarded 18th rank at all India level to the institution in 2021. It received Higher Education Grand Jury Award 2021-22 - Best Campus Design Excellence, all India rank 3rd by Education World Magazine. The Week Magazine again conferred all India rank 28th to the institution in the Faculty of Science and all India rank 24th in the Faculty of Commerce and rank 33rd in the Faculty of Arts. India Today also conferred rank 30th for BCA, rank 34th for BBA, 43rd rank for Science and 47th rank for Commerce and 44th rank for the Faculty of Arts. It has also been placed at the first position in Rajasthan in a National level survey on The Best College in India -2020.



With a noble vision statement of **Amrut Nu Vidhya** the institution has continuously been striving ahead for the creation of stronger nation with its youth as its brand ambassador world over.

CONCEPT NOTE

Research is a form of systematic enquiry to delve deeper into a subject and produce socially relevant results in different forms like a product, research paper, patent or thesis. There are varied forms of research; each characterized by different methodologies. Research methodology holds prime importance as it outlines the course of the research endeavor and its final outcome. The process of research and the associated tasks need to be conceptualized appropriately to bring in the much needed quality in the research. Every task involved, like collection of data, searching literature review, deriving a mathematical or computational solution or presentation of the results, requires a concrete and systematic approach. Formulation of such an approach requires immense deliberation in terms of the tools and techniques to be deployed as well.

This Online Refresher Course is diligently planned around developing the foundational knowledge needed to step into the arena of research. The programme is an effort towards exploring different dimensions and paradigms of research. The modules intend to enhance the ability of the participants to undertake independent research in a planned manner, identify appropriate and significant literature review, design questionnaires, collect and analyze data, perform simulations and, to assist them in writing research papers for good quality journals. The participants will be trained to use several open source tools that are useful in accomplishing their research outcomes. The primary tools covered are those that would aid a researcher in a systematic background knowledge probe, data visualization, and effective presentation of results, writing research paper, preparation of reports and thesis, and prevention against plagiarism. The course also aims to train the participants in different software applications and facilitate the application of these software in their teaching-learning methods and research endeavor. The programme will also focus on providing a comprehensive discussion and training in the effective methods and tools used in writing a research project/paper.

The course content is designed to disseminate knowledge of some of the important digital tools used for academic purposes. One will learn how to create individual research profiles, find relevant and good quality journals. The modules would be an amalgamation of the much needed digital skills which can play a significant role throughout the research process.

THEMATICS

- Introduction to Research: Research Philosophy and Types
- Development of deeper understanding of the dynamics of research philosophy and design and the underlying technology and proficiency
- Research Design and Types
- Data collection and Data Visualization
- Analysis of Data and Techniques
- Systematic Literature Review and Meta Data Analysis
- Introduction to different Qualitative Research Methods
- Developing an understanding about Qualitative and Quantitative Data Analysis
- Writing Research Report and Research Papers using LaTeX
- Advanced Searching Tools and Referencing Tools
- Scientific Journal Finder
- Indexing and Impact Factors
- Publication Ethics: Patent, Copyright and Plagiarism
- Creating Research Profile and Collaborations

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

ELIGIBILTY

Faculty members (regular/adhoc/temporary) in teaching profession and research scholars 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 <u>rcmoocs.in</u>

REGISTRATION DEADLINE: 26 November 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 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: <u>fdpos@ramanujan.du.ac.in</u>

or contact us through WhatsApp: +91 - 7011863335 +91 7011527088

ORGANISING BOARD OF THE PROGRAMME

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Prof. K.B. Sharma

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