SRI GURU NANAK DEV KHALSA COLLEGE

(University Of Delhi)

(Accredited With Grade 'A' By NAAC)

Under the Aegis Of IQAC
DEPARTMENT Of MATHEMATICS

is Organizing

FIVE DAYS (ONLINE) NATIONAL WORKSHOP

on

MATHEMATICAL MODELLING AND SIMULATION

Date : 13th – 17th Feb 2024

Timings: 2:30 – 6:00 pm

Venue : Zoom

Mode: ONLINE

Dr. Bhawna Kohli
(Workshop Convenor)

Ms. Deepinder Kaur
(Department Convenor)

Prof. Gurmohinder Singh
(Principal)

About College

Initially named after the ninth Guru of the Sikhs, this institution began its journey as Sri Guru Tegh Bahadur Khalsa (Evening) College in 1973. Securing the approval to start M.Com. Course in the academic year 1988- 89, its nomenclature changed to Sri Guru Tegh Bahadur Khalsa Post-Graduate (Evening) College. With the coming of academic year 2005-06, the college gained the status of a full-fledged Day College and was renamed Sri Guru Nanak Dev Khalsa College after the first Sikh Guru.

As a constituent college of the University of Delhi, the college is now registered under Section 2f and 12B of the UGC Act 1956. With about 2000 Students an its rolls in the various courses that are offered, the College promotes a culture of equality and strives to keep pace with a constantly evolving world. Vision of the college is "to be an institution of repute with a human face, that is dedicated to academic excellence and social transformation by improving the quality of life of its students

About Department

Department has well - qualified, dedicated faculty members who are actively engaged in research activities in the field of mathematics and allied sciences. Many of them share their knowledge at national and international level institutes. The department has unique teaching methodology which includes both the use of conventional and advance use of mathematical software. For the overall development of students, a varied range of activities including talks, seminars, workshops, quizzes, add on courses, fun events are organised by the department.

About Workshop

The department of Mathematics, University of Delhi offers a discipline paper entitled "Mathematical Modelling and Simulation" to students of B.Sc.(hons) Mathematics. Mathematical Modelling and Simulation as a subject choice is slowly gaining popularity in our university. However, both students and faculty need lot more awareness to take it to wider acceptance it deserves. We are doing our bit to help the subject reach wider sections of students. This workshop to be followed by many such activities is a step in same direction.

The main objective of this workshop is to introduce

➤ Mathematical modeling as the representation of a system by a set of mathematical relations or equations.
➤ Mathematical epidemiological models susceptible-infectious-recovered (SIR) and its variant SEIR(S-Exposed-IR) for the spread of diseases.
➤ Monte Carlo simulation techniques and simplex method for solving linear programming problems.

Learning Outcomes

It will enable the participants to
1. Understand the methodology of solving SIR models for disease spread.

2. Learn significance of dieting model that provides important insights and guides to a biomedical issue that is of interest to the general public.

3. Understand nonlinear systems and phenomena with stability analysis ranges from phase plane analysis to ecological and mechanical systems.

4. Use Monte Carlo simulation technique to approximate area under a given curve and volume under a given surface.

<u>Registration Details</u>

<u>Registration Fee</u>
Faculty : Rs 500/-
Research Scholar : Rs 300/-
Students : Rs 200/-

All participants are requested to first pay the registration fee (non-refundable) via IMPS/NEFT/UPI in the following account and then fill the registration form.

> Account Holder Name: PRINCIPAL, SRI GURU NANAK DEV KHALSA COLLEGE
> Account number: 0619000101313665
> Bank : Punjab National Bank
> Branch : Punjab National Bank, New Rohtak Road (0619), Karol Bagh, New Delhi
> IFSC Code: PUNB0061900
> MICR Code: 110024084
> Account Type: Savings

Please download the transaction slip and note down the transaction id of the payment to fill in the registration form.

Registration form link: : https://forms.gle/nFhqjhKL3Z8GbdMa6

The last date for registration is 12th Feb 2024, 6.00 pm.
Limited seats are available.
Eligibility: All faculty members, Research Scholars and Students

E certificates will be provided to the participants after completing an online test.

Resource Persons

Professor Peeyush Chandra
Fellow of National Academy of Sciences, India
Professor (Retd.),
Department of Mathematics & Statistics, IIT Kanpur.

Dr. Prashant Kumar Srivastava
Associate Professor,
Department of Mathematics, IIT Patna.

Dr. Nilam
Assistant Professor,
Department of Applied Mathematics, DTU.

Advisory Committee

Prof. C. S. Lalitha

(University of Delhi, India)

Prof. R. K. Mohanty

(South Asian University, India)

Prof. Peeyush Chandra

(IIT Kanpur, India)

Organizing Committee

Prof. Gurmohinder Singh
(Principal and Patron)

Dr. Bhawna Kohli
Workshop Convenor
Department of Mathematics

Ms. Deepinder Kaur
Department Convenor
Department of Mathematics

Members: Dr. Geetika Khungar, Dr. Neeti Goel, Dr. Karuna Mamtani

For any query contact: Dr. Bhawna Kohli (9953327605)
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