



Five Day
Faculty Development Program

ON

**Computational Mathematics &
Recent Advances in Management Principles
(CMRAMP-2021)**

November 15 – 19, 2021

Organized by

Department of Management Studies

&

Department of Mathematics

Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur

Conveners

Dr. Ona Ladiwal

Professor & Head

Department of Management
Studies

Dr. Jyoti Arora

Associate Professor

Department of Mathematics

Dr. Nawal Kishor Jangid

Associate Professor

Department of Mathematics

Report of the Event

1. Title of the activity:

“Computational Mathematics & Recent Advances in Management Principles (CMRAMP-2021)”

2. Activity Details:

- **Objectives of the FDP:**

- The FDP aims at adding learning's about the Computational Mathematics and Management Principles in teaching & Research.
- The FDP shall focus on recent advances in managerial principles with modern computational techniques to various field of Management Studies, Engineering & Technology.

- **Program detail:**

The Department of Management Studies and Department of Mathematics, Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur collaboratively organized a five days Faculty Development Program on “**Computational Mathematics & Recent Advances in Management Principles**” during November 15-19, 2021. This FDP was funded by the Institute itself and conducted on WebEx online platform.

This five-day FDP comprised five thoughtful informative sessions delivered by the experts from the various reputed institutes. Many faculty members and research scholars from

various Indian as well as foreign universities and institutes participated in this FDP.

- **Inauguration**

The FDP was inaugurated on the 15 November, 2021 by the Chief Guest Dr. Pankaj Gupta, Head, Department of Mathematics, University of Delhi, Delhi

Prof. Rohit Mukherjee (Incharge, B. Tech. I Year, SKIT), Prof. Amber Srivastava (Head, Department of Mathematics, SKIT), Prof. Ona Ladiwal (Head, Department of Management Studies, SKIT), and other members of the department graced the inaugural session of the programme. Prof. Rohit Mukherjee welcomed the guests and participants of FDP. The session was moderated by Dr. Jyoti Arora (Associate Professor, Department of Mathematics, SKIT) and Dr. Nawal Kishor Jangid (Associate Professor, Department of Mathematics, SKIT). Dr. Ona Ladiwal (Professor, Department of Management Studies, SKIT) extended vote of thanks to the guests and participants.



- **Session1: (15/11/2021)**

In this session **Prof. Pankaj Gupta** delivered his talk on Linear and Non linear Optimization for teaching and research. He deliberated how we understand and formulate a LPP and how we get bounded unbounded and optimal solution by graphical method.

Also he explained about the non linear programming problems and basic difference in solution of linear and non linear programming problems, how to convert the constrained optimization in to unconstrained optimization problems, he also talk about the solution on a NLPP by KT condition and Langrange's multipliers method.

He motivated by its importance and applications in certain fields of our life.

The session was moderated by Ms. Surbhi Sharma (Assistant Professor, Department of Mathematics, SKIT). Technicality was handled by Dr. Vivek Vijay (Assistant Professor, Department of Mathematics, SKIT). Dr. Nawal Kishor Jangid (Associate Professor, Department of Mathematics, SKIT) extended vote of thanks to the guests and participants.

Any two-variable LPP can be solved graphically.

Consider the WYNDOR GLASS CO. problem from before. This very small problem has only two decision variables and therefore only two dimensions, so a graphical procedure can be used to solve it.

In any graph, there are two axes: horizontal (x_1), and vertical (x_2) (The axes are given the same names as the decision variables for better understanding).

First, we need to determine the *feasible region* (region of all possible solutions, determined by the constraints).

For that, we shall plot the boundaries (the maximum or minimum limit a constraint can reach).

In order to plot the boundaries, we need to convert the constraints from inequalities to equations by equating them with the R.H.S.

Then, we shall convert those equations into slope-intercept form for easy plotting

max $z = 3x_1 + 5x_2$

subject to:

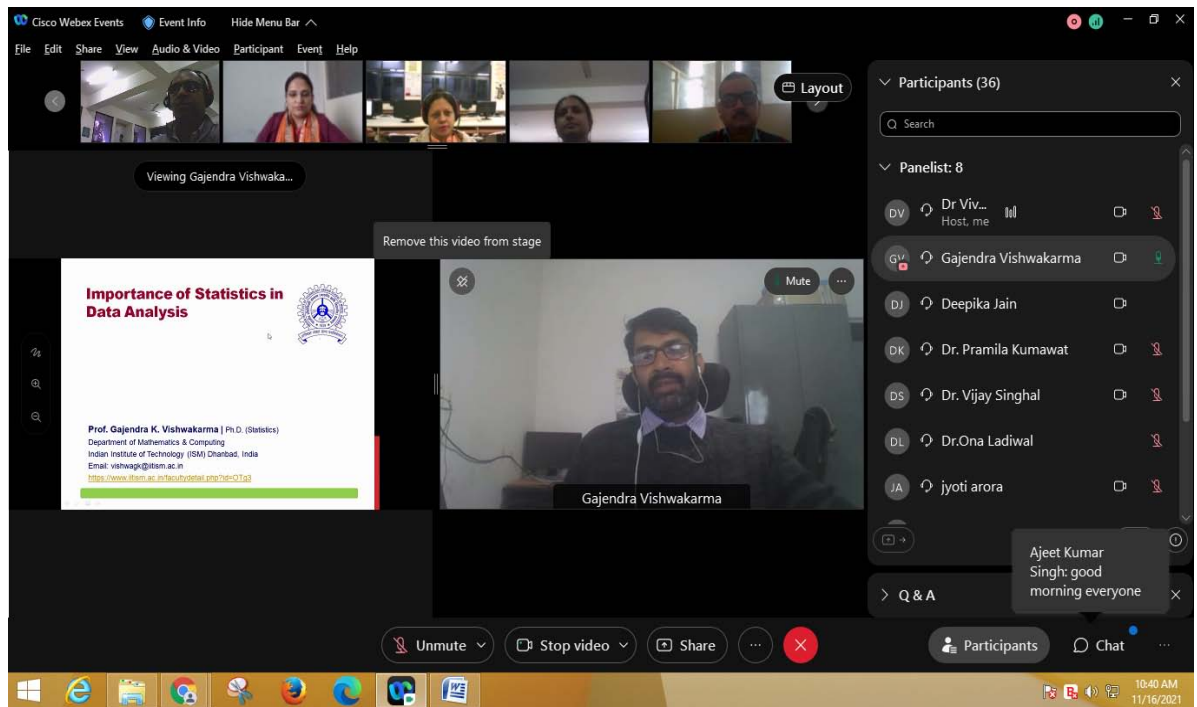
$$\begin{aligned} x_1 &\leq 4 \\ 2x_2 &\leq 12 \\ 3x_1 + 2x_2 &\leq 18 \\ x_1, x_2 &\geq 0 \end{aligned}$$

• Session 2: (16/11/2021)

In this session, **Prof. Gajendra K. Vishwakarma** delivered his talk on the **Importance of Statistics in Data Analysis**.

He deliberated how to Statistics deals with the behaviour of aggregates or large groups of data. It has nothing to do with what is happening to a particular individual or object of the aggregate. It deals with those aggregates which are subject to several random causes e.g., the heights of persons are subject to several causes such as race, ancestry, age, diet, habits, climate, and so many other factors. He enlightened the applications of Statistics like economics, business, defence, sports, industry, finance, astronomy, and medical sciences.

The session was moderated by Ms. Deepika Jain (Assistant Professor, Department of Mathematics, SKIT). Technicality was handled by Dr. Vivek Vijay (Assistant Professor, Department of Mathematics, SKIT). Dr. Pramila Kumawat (Professor, Department of Mathematics, SKIT) extended vote of thanks to the speaker and participants.



- **Session 3: (17/11/2021)**

Dr. Sandip Banerjee, Professor in the department Mathematics at IIT Roorkee was the invited guest and speaker of the session. He has given an overview on **Mathematical Modeling using Differential equations**. He taught about importance of Mathematical models to solve real world problems. He discussed various real life models as Prey-Predator model, Modified Pre-Predator model, Lazy student model, Rumor spread model, Arm race model etc. He also discussed various models in Biological sciences such as Brain Tumor model, Cancer model, SI model, SIR epidemic model.

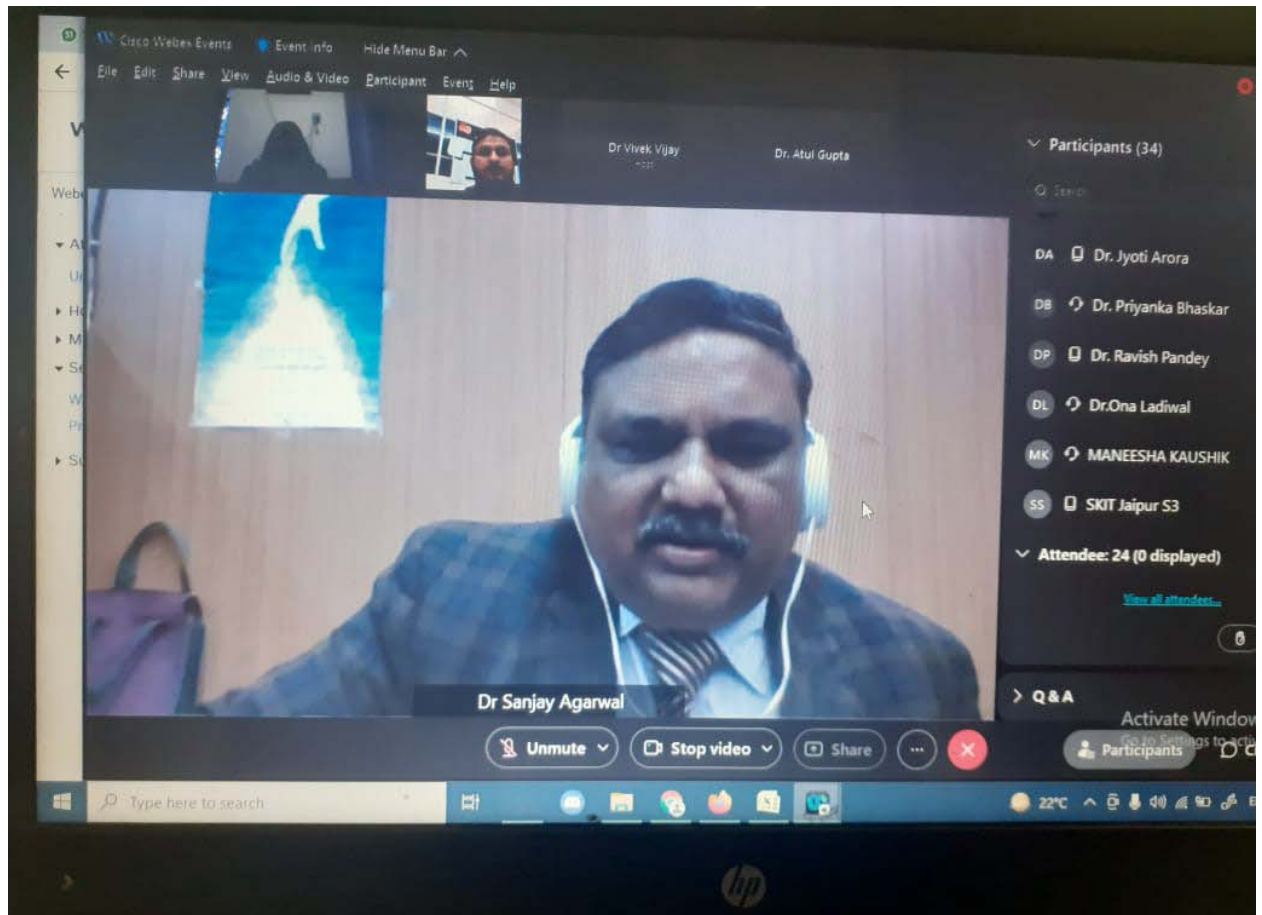
The session was moderated by Dr. Vijay Kumar Singhal (Associate Professor, Department of Mathematics, SKIT). Technicality was handled by Dr. Shalini Shekhawat (Assistant Professor, Department of Mathematics, SKIT). Dr. Sumit Gupta (Assistant Professor, Department of Mathematics, SKIT) extended vote of thanks to the speaker and participants.

The screenshot shows a Cisco Webex Events window. At the top, there are tabs for File, Edit, Share, View, Audio & Video, Participant, Event, and Help. Below these are video thumbnails for participants: Sandip Banerjee, Dr. Vijay Singhal, and another participant. The main area displays a presentation slide titled "Main point: mathematical modelling is a **PROCESS**". The slide content includes a flowchart starting with "The question" (represented by a blue circle with a question mark), leading to "Mathematical Formulation", then "What's been done before? (Literature search). Get Data. Parameter Estimation?", followed by "Analysis, Simulation", and finally "Model Validation". A feedback loop arrow labeled "Revise?" connects "Model Validation" back to "Mathematical Formulation". A pink button at the bottom of the slide says "Stop my video (Ctrl + Shift + V)". On the right side, a "Participants (42)" panel is open, showing a list of participants under "Panelist: 6" and "Attendee: 36 (0 displayed)". The bottom of the window shows standard Windows taskbar icons and a system clock indicating 10:39 AM on 11/17/2021.

- **Session 4 :(18/11/2021)**

In this session **Dr. Sanjay Kumar Agrawal**, delivered his talk on **Wealth Creation Through Personal Financial Management**. He deliberated how to invest money in various funds to create wealth. Dr. Sanjay also mentioned the importance of health insurance, mutual fund etc. He also elaborated influence and importance of inflation on daily expenditure. He elaborated the risk, benefits and long term benefits of various investments.

The session was moderated by Dr. Ravish Pandey (Assistant Professor, Department of Mathematics, SKIT). Technicality was handled by Dr. Shalini Shekhawat (Assistant Professor, Department of Mathematics, SKIT). Dr. Ona Ladiwal (Professor, Department of Management Studies, SKIT) extended vote of thanks to the speaker and participants.

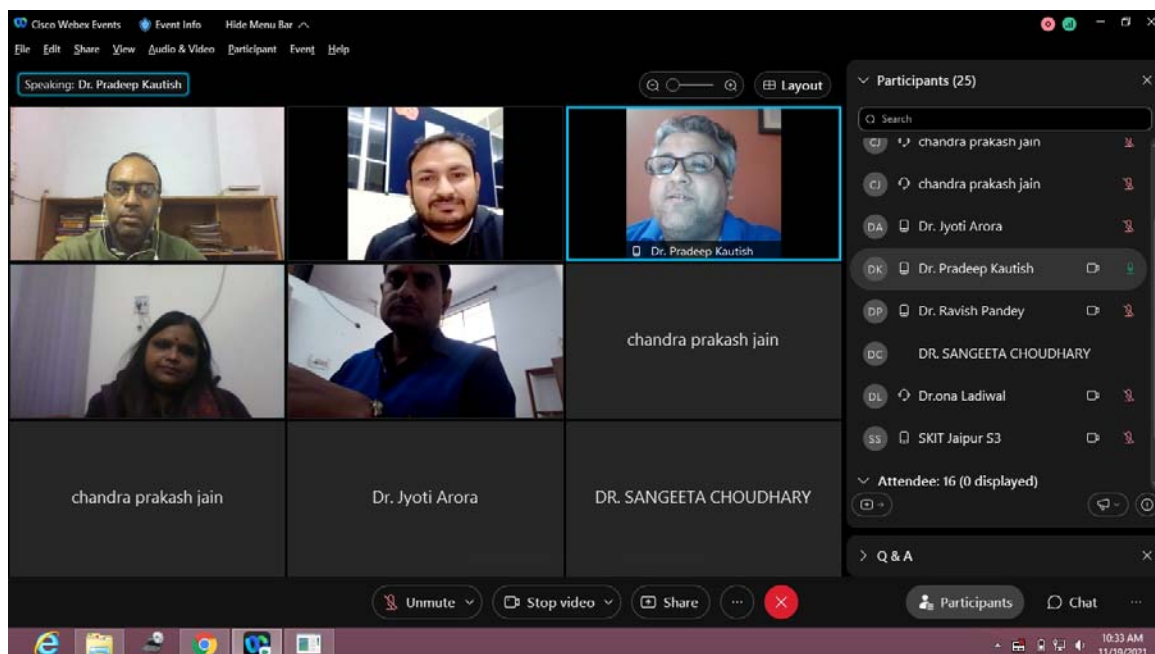


- **Session 5: (19/11/2021)**

In this session **Dr. Pradeep Kautish**, delivered his talk on **Recent Trends in Management Research**.

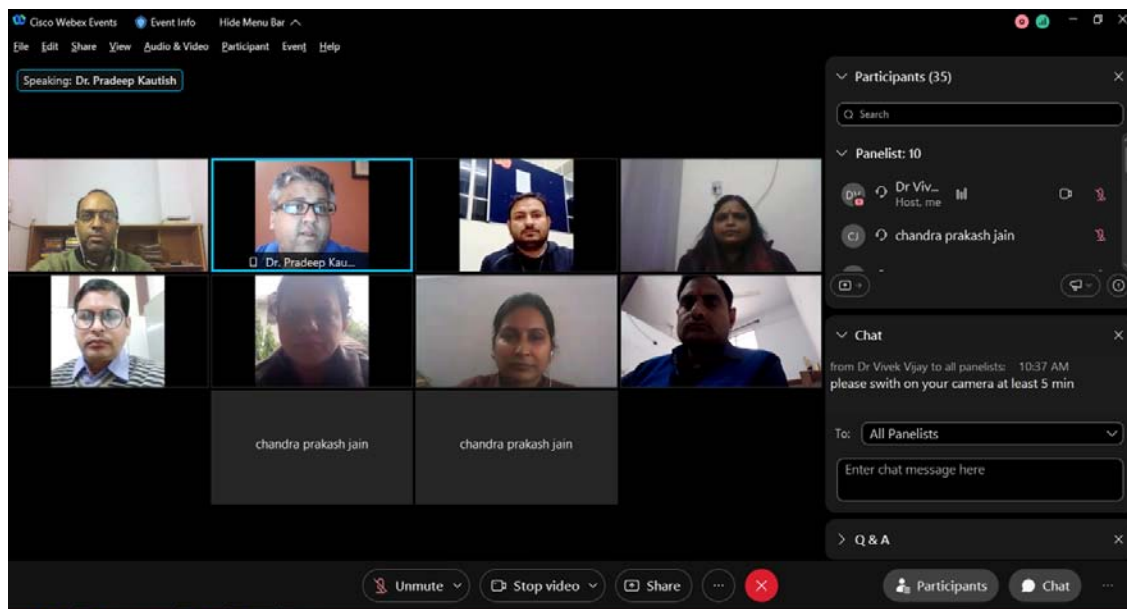
He deliberated how to use the various research tools in writing a research paper. He also discussed the weight age and role of multiple authors in a research paper. Dr. Pradeep also shared the various details and techniques required in current scenario for a researcher. He mentioned that the selection of right topic has a great significance.

The session was moderated by Dr. Ravish Pandey (Assistant Professor, Department of Management Studies, SKIT). Technicality was handled by Dr. Shalini Shekhawat (Assistant Professor, Department of Mathematics, SKIT). Dr. Atul Gupta (Associate Professor, Department of Management Studies, SKIT) extended vote of thanks to the guest and participants.



- **Valedictory**

In the valedictory session, Guest **Dr. Pradeep Kautish**, Associate Professor, NIRMA University, Gujrat. Prof. Rohit Mukherjee (In charge I year, SKIT), Prof. Amber Srivastava, (HOD Mathematics, SKIT) and organizers of the event and participants were present. Dr. Pradeep Kautish congratulated the organizing team for successful conduction of this FDP. Prof. Amber Srivastava summarized all the activities conducted in the five days programme. Prof. Ona Ladiwal (Professor, Department of Management Studies, SKIT) proposed vote of thanks to everyone involved in this FDP.



- **Outcome:** All the sessions were very much informative. The discussed areas are of great benefit for the participants as they were enlightened with various Computational Techniques and applications in mathematics and management studies.

- **Type: International**

3. Details of the Activity

- **Resource persons**

S.N.	Name of Expert	Institution/Organization
1.	Prof. Pankaj Gupta	Delhi University
2.	Prof. Gajendra K. Vishwakarma	IIT, Dhanbad
3.	Prof. Sandip Banerjee	IIT Roorkee
4.	Dr. Sanjay Kr. Agrawal	Resource Person, National Center for Financial Education (NCFE)
5.	Dr. Pradeep Kautish	NIRMA University, Gujrat

- **No. of Participants-226**
- **Brief proceeding of each day of the activity**

DAY # 1 (15.11.2021)

Inauguration: 10.00 am – 10.30 am			(Moderator) Dr. Jyoti Arora, Dr. Nawal Kishor Jangid
Session Time	Experts	Topic	Moderator
10:30-12:30 pm	Prof. Pankaj Gupta Head, Department of Operational Research University of Delhi	Linear and Non-linear Optimization	Ms. Surbhi Sharma

DAY # 2 (16.11.2021)

Session Time	Expert	Topic	Moderator
10:30 am – 12:30 pm	Prof. Gajendra K. Vishwakarma Department of Mathematics & Computing IIT, Dhanbad	Importance of Statistics in Data Analysis	Dr. Dipika Jain

DAY # 3 (17.11.2021)

Session Time	Expert	Topic	Moderator
10:30 am – 12:30 pm	Prof. Sandip Banerjee Department of Mathematics IIT Roorkee	Mathematical Modeling and Simulation	Dr. Vijay Singhal

DAY # 4 (18.11.2021)

Session Time	Expert	Topic	Moderator
10:30 – 12:30 pm	Dr. Sanjay Kr. Agrawal Resource Person, National Center for Financial Education (NCFE)	Wealth Creation through Personal Financial	Dr. Ravish Pandey

DAY # 5 (19.11.2021)

Session	Time	Expert	Topic	Moderator
10:30 – 12:30 pm		Dr. Pradeep Kautish , Associate Professor NIRMA University, Gujrat	Recent Trends In Management Research	Dr. Ravish Pandey

Valedictory	12:30 – 1:00 pm	(Moderator) Dr. Ona Ladiwal		
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Attainment of the activity: The five days FDP provided a better insight learning's about the Computational Mathematics and Management Principles in teaching and research.

- **Recommendations:** Such types of FDP must be conducted more frequently .

4. Enclosures:

- **Poster**
- **Brochure**
- **Schedule**
- **Inaugural**
- **News**

Poster



असतो मा सद्गमय

SWAMI KESHVANAND INSTITUTE OF
TECHNOLOGY, MANAGEMENT &
GRAMOTHAN, JAIPUR



Five Day
FACULTY DEVELOPMENT PROGRAM
On
**Computational Mathematics and
Recent Advances in Management Principles**
(15-19 November, 2021)

Mentors



Shri Surjit Ramesh Meel
Chairman
SKIT, Jaipur



Shri Jitpal Meel
Director
SKIT, Jaipur



Prof. (Dr.) S.L. Sarana
Director (Academics)
SKIT, Jaipur



Prof. (Dr.) Ramesh Kumar Pascher
Principal
SKIT, Jaipur



Mrs. Rachna Meel
Registrar
SKIT, Jaipur

Resource Persons



Dr. Pankaj Gupta
Head, Department of Operational Research
University of Delhi



Dr. Gajendra K. Vishwakarma
Department of Mathematics & Computing
IIT, Dhanu



Dr. Sandip Banerjee
Department of Mathematics
IIT, Roorkee



Dr. Sanjay Kumar Agrawal
Resource Person
National Center for Financial Education (NCFE)



Dr. Pradeep Kaustish
Associate Professor
NIMS University, Bhubaneswar

Conveners

Dr. Ona Ladiwal

Dr. Jyoti Arora

Dr. Nawal Kishor Jangid

Organized by:

DEPARTMENT OF MANAGEMENT STUDIES
&
DEPARTMENT OF MATHEMATICS

Brochure

PATRONS

Shri Raja Ram Meel, Patron, SKIT
Shri Surja Ram Meel, Chairman, SKIT

ADVISORY COMMITTEE

Mr. Jaipal Meel: Director, SKIT
Prof. (Dr.) S.L. Surana: Director(Academics), SKIT
Prof. (Dr.) Ramesh Kumar Pachar: Principal, SKIT
Mrs. Rachna Meel: Registrar, SKIT
Mrs. Abba Meel: Advisor, SKIT
Prof. (Dr.) Ona Ladiwal: HOD-DMS, SKIT
Prof. (Dr.) Dheeraj Joshi: HOD-ME, SKIT
Prof. (Dr.) Mukesh Arora: HOD-EC, SKIT
Prof. (Dr.) Mukesh Kumar Gupta: HOD-CS, SKIT
Prof. (Dr.) Anil Choudhary: HOD-IT, SKIT
Prof. (Dr.) D.K. Sharma: HOD-CE, SKIT
Dr. Dhanraj Chitara: HOD-EE, SKIT
Prof. (Dr.) Rohit Mukherjee: I/C B.Tech I Year, SKIT
Prof. (Dr.) Amber Srivastava: HOD- Maths, SKIT
Prof. (Dr.) Brajraj Sharma: HOD-Physics, SKIT
Dr. Sharda Soni: HOD- Chemistry, SKIT
Prof. (Dr.) Neha Purohit: HOD- English, SKIT

CONVENERS

Dr. Ona Ladiwal, Professor (DMS)
Dr. Jyoti Arora, Associate Professor (Mathematics)
Dr. Nawal Kishor Jangid, Associate Professor (Mathematics)

REGISTRATION

To register use the following QR code on or before Nov 14, 2021



<https://forms.gle/Mz817UEMYFQUpX88>

NOTE

- The FDP will be conducted on Cisco Webex online platform.
- During registration please join the whatsapp group to receive FDP related information
- E-Certificate will be issued to the participants who fulfill 80% attendance during the sessions and submit feedback afterwards.

CONTACT US

Dr. Ona Ladiwal
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Dr. Jyoti Arora
Mobile: 7737815592

Dr. Nawal Kishor Jangid
Mobile: 9928236602

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hoddms@skit.ac.in



Swami Keshvanand Institute of
Technology, Management &
Gramothan, Jaipur



Five Day

Faculty Development Program

on

Computational Mathematics
& Recent Advances in
Management Principles



ORGANIZED BY

Department of Management Studies
&
Department of Mathematics

SKIT, Ramnagar, Jagatpura,
Jaipur - 302017
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Web : www.skit.ac.in

ABOUT SKIT

Swarni Keshvanand Institute of Technology Management & Gramothan (SKIT) has been ranked no. 1 by RTU Kota consecutively for 5 years. SKIT is a selective comprehensive institute offering undergraduate and post graduate programs in engineering and management. The institute was established in the year 2000 by a team of committed professionals and academicians. During all the past years, SKIT has emerged as a premier centre of technical education not which has been realized through efficient and dedicated faculty members, innovative teaching learning methods, state of the art infrastructure and core value of discipline. The various undergraduate programs of the institute are accredited by the National Board of Accreditation(NBA).

OBJECTIVES OF FDP

The FDP aims at adding learning's about the Computational Mathematics and Management Principles in teaching and research. The FDP shall focus on recent advances in managerial principles with modern computational techniques to various field of Management Studies, Engineering & Technology.

TARGET AUDIENCE

This FDP will be very helpful for faculty members, research scholars and students who are working in various areas of Applied Mathematics and Management Studies.

DEPARTMENT OF MANAGEMENT STUDIES

The Department of Management Studies (DMS) offers an AICTE approved Master of Business Administration (MBA) degree course, affiliated to Rajasthan Technical University, Kota. The Department aims at developing future managers equipped with curricular & co-curricular skills, which will help them to make a mark in the industry. To enhance the horizon of knowledge, various Seminars, Workshops, and Entrepreneurial Activities are organized regularly. The Department is an active member of All India Management Association (AIMA).

DEPARTMENT OF MATHEMATICS

The Department of Mathematics, teaches various topics in Mathematics to undergraduate and post graduate students of different engineering and management courses. In alignment to the vision and mission of the institute, the department has put consistent and dedicated efforts towards achieving excellence in research and teaching.

ORGANIZING COMMITTEE

Dr. Savita Choudhary, Associate Professor
Dr. Atul Gupta, Associate Professor
Dr. Maneesha Kaushik, Associate Professor
Dr. Priyanka Bhaskar, Assistant Professor
Dr. Ravish Pandey, Assistant Professor
Ms. Mansi Meel, Assistant Professor
Dr. Pramila Kumawat, Professor
Dr. Vijay Kumar Singhal, Associate Professor
Dr. Sangeeta Choudhary, Associate Professor
Dr. Sumit Gupta, Assistant Professor
Mr. Chandra Prakash Jain, Assistant Professor
Mrs. Surbhi Sharma, Assistant Professor
Mrs. Deepika Jain, Assistant Professor

TECHNICAL COMMITTEE

Dr. Vivek Vijay, Assistant Professor
Dr. Shalini Shekhawat, Assistant Professor

STUDENT COMMITTEE

Keshav Pareek, III Sem, CSE
Niharika Rathore, III Sem, CSE
Kush Vasaniya, III Sem, CSE
Kushagra Mundra III sem, CSE
Divyanshu Sharma, V Sem, CSE

Schedule:



SWAMI KESHVANAND INSTITUTE OF
TECHNOLOGY, MANAGEMENT &
GRAMOTHAN, JAIPUR



Five Day
FACULTY DEVELOPMENT PROGRAM
On
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Recent Advances in Management Principles**
(15-19 November, 2021)

SCHEDULE

DAY 1

Dr. Pankaj Gupta

Head, Department of Operational Research
North Campus, University of Delhi
Topic: Linear and Non-Linear Optimization



DAY 2

Dr. Gajendra K. Vishwakarma

Department of Mathematics & Computing
IIT, Dhanbad
Topic: Importance of Statistics in Data-Analysis



DAY 3

Dr. Sandip Banerjee

Department of Mathematics
IIT, Roorkee
Topic: Mathematical Modeling and Simulation



DAY 4

Dr. Sanjay Kr. Agrawal

Resource Person
National Center for Financial Education (NCFE)
Topic: Wealth Creation through Personal Financial
Management



DAY 5

Dr. Pradeep Kautish

Associate Professor
NIRMA University, Gujarat
Topic: Recent trends in Management Research



ORGANIZED BY :

**DEPARTMENT OF MANAGEMENT STUDIES
&
DEPARTMENT OF MATHEMATICS**

Inaugural:



SWAMI KESHVANAND INSTITUTE OF
TECHNOLOGY, MANAGEMENT &
GRAMOTHAN, JAIPUR



"FACULTY DEVELOPMENT PROGRAM"

On
**Computational Mathematics and
Recent Advances in Management Principles**
(November 15-19, 2021)

Invitation for *Inaugural Ceremony*

November 15, 2021 at 10:00 AM

It is a pleasure to extend a cordial invitation to the inaugural ceremony of Faculty Development Program on "Computational Mathematics and Recent Advances in Management Principles" being organized by the Department of Management Studies & the Department of Mathematics, on November 15, 2021 at 10:00 AM.

Chief Guest

Dr. Pankaj Gupta

Head,

(Department of Operational Research, North Campus, University of Delhi)

Please grace the occasion with your benign presence during the inaugural ceremony by scanning the QR Code/opening the link

<https://skitjaipur.webex.com/skitjaipur/onstage/g.php?MTID=ee7c63d9e0a078a4db279c9404c5e03a1>



Kindly join the event 15 minutes before the scheduled time (i.e. at 9:45 AM)

Conveners

Dr. Ona Ladiwal

Dr. Jyoti Arora

Dr. Nawal Kishor Jangid

प्रधानमंत्री नारायण का बार न सायना जार जार जार जार न नारायण २०२१

एसकेआईटी में 5 दिवसीय फैकल्टी डवलपमेन्ट प्रोग्राम का आयोजन

जयपुर (कासं.)। स्वामी केसवानन्द इंस्टीट्यूट ऑफ टेक्नोलॉजी मैनेजमेंट एंड ग्रामोत्थान (एसकेआईटी) जगतपुरा, जयपुर में सोमवार को संस्थान के मैनेजमेंट (प्रबंधन) विभाग एवं गणित विभाग द्वारा संयुक्त रूप से आयोजित कम्प्यूटेशनल मैथेमेटिक्स एण्ड रिसेन्ट एडवान्सेज इन मैनेजमेंट प्रिंसीपल्स पर पांच दिवसीय फैकल्टी डवलपमेन्ट प्रोग्राम का उद्घाटन समारोह सम्पन्न हुआ। समारोह के मुख्य अतिथि दिल्ली

विश्वविद्यालय के गणित विभाग के विभागाध्यक्ष डॉ. पंकज गुप्ता थे। इस अवसर पर उन्होंने शिक्षण और अनुसंधान क्षेत्र में इष्टतमीकरण के प्रयोग पर जोर दिया। सभी प्रतिभागियों के लिए उन्होंने रैखिक एवं अरैखिक प्रोग्रामन समस्याओं पर व्याख्यान दिया। कार्यक्रम के कन्वीनर डॉ. ओना लाड़ीवाल, डॉ. ज्योति अरोड़ा एवं डॉ. नवल किशोर जांगिड़ ने बताया कि प्रोग्राम में देश के विभिन्न राज्यों के 350 से ज्यादा शिक्षक एवं शोधार्थी भाग ले रहे हैं।

सीमा सन्देश

Tue, 16 November 2021

<https://www.readwhere.com/read/c>



FD PROGRAM @ SKIT



CITY FIRST

An online five-day Faculty Development Program on Computational Mathematics and Recent Advances in Management Principles, organised collaboratively by the Department of Management Studies and the Department of Mathematics in SKIT, Jaipur, witnessed its valedictory ceremony on Friday. Prof. Pradeep Kautish, Institute of Management, Nirma Universi-

ty, Ahmedabad, was the Chief Guest of the ceremony. He delivered his talk on Recent Trends in Management Research and also elaborated on the modern tools being used in research nowadays.

Conveners of the program, Dr Ona Ladiwal, Dr Jyoti Arora and Dr Nawal Kishor Jangid said that program encompassed deliberations on Mathematical Modeling. The session turned out to be immensely valuable for everyone and the department was praised.

