



*Swami Keshvanand Institute of Technology,  
Management & Gramothan, Jaipur*



A  
Report  
on  
One Week National Workshop  
*Materials Fabrication & Characterization Techniques*  
24<sup>th</sup> – 28<sup>th</sup> January 2022

**Organized by:**  
**Department of Physics,**  
**Swami Keshvanand Institute of Technology, Management &  
Gramothan, Jaipur**

# Index

Particular(s)	Page No(s)
1. Objective and outcome of the event	3
2. Approval Letter of the Event	4
3. Brochure of the Event	5
4. Schedule of the Event	6
5. List of Invited Guests and Speakers	7
6. Consent of the Speakers	8-12
7. List of Participants	13-18
8. Screenshots of the Event	19-24
9. Copy of E-Certificates of participants	25
10. Feedback report	26-27
11. Media Coverage	28-29
12. Technical Report	30-31

## 1. Objective and Outcome of the event

### Objectives

The aim of the one-week national workshop is to provide an opportunity to the students, young researchers, engineers, and academicians to sharpen their research skills and to gain knowledge related to major analytical techniques for materials characterization like SEM, TEM, XRD, XPS, etc. with emphasis on practical applications in Engineering, Physical and Life Sciences. Also, this workshop will provide in-depth knowledge of advancement in materials, their fundamental characteristics, synthesis, and applications in different domains of Science and Technology.

### Outcomes

At the end of this workshop, the participants will be able to understand the various materials characterization techniques and subsequent analysis of test results, which are the primary requirements for any researchers working in the research of materials and manufacturing. They will also be able to apply appropriate characterization techniques for microstructure examination at different magnification level and use them to understand the microstructure of various materials. This will help the participants to determine crystal structure of specimen and estimate its crystallite size. Ultimately, the participants will have achieved a better insight into the recent trends of material fabrication and structural, optical and microscopic characterization techniques for the materials from bulk to nano range.

## 2. Approval Letter of the Event



Swami Keshvanand Institute of Technology, Management & Gramothan

Department of Physics

Date: 31/08/2021

### Note

Following Proposals for Online Workshop/Seminar are being submitted for your kind approval.

S. No.	Proposed Title	Event Type	Tentative dates	Duration	Name of Coordinator(s)	Budget
1.	Learning Physics through Simulation and Experiments	Student Workshop	22-26 Nov., 2021	1 week	1. Mr. Pawan Kumar Jain 2. Mr. Rajiv Kumar 3. Mr. Ajay Kumar Sharma 4. Dr. Rishi Vyas	30000
2.	Materials Fabrication and Characterization Techniques	Workshop	20-24 Dec., 2021	1 week	1. Dr. Manasvi Dixit 2. Mr. Ajay Kumar Sharma 3. Dr. Komal Sharma 4. Mr. Rajiv Kumar	30000
3.	National conference on Recent Trends in Emerging Technologies	Conference	28-29 January, 2022	2 days	1. Dr. Komal Sharma 2. Dr. Rishi Vyas 3. Dr. Manasvi Dixit 4. Mr. Pawan Kumar Jain	20000

yes: permitted  
P.K.

Principal, SKIT

Forwarded to Registrar  
for financial approval.

Approved  
B.S.  
6/9/2021

31/08/2021  
Dr. Brajraj Sharma  
Head, Department of Physics

### 3. Brochure of the Event



SWAMI KESHVANAND INSTITUTE  
OF TECHNOLOGY, MANAGEMENT &  
GRAMOTHAN, JAIPUR



ONE WEEK NATIONAL WORKSHOP  
ON  
“MATERIALS FABRICATION  
&  
CHARACTERIZATION TECHNIQUES”

ORGANISED BY  
DEPARTMENT OF PHYSICS, SKIT, JAIPUR

**24-28 JANUARY, 2022**  
**TIME: 1:30-3:00 PM**

RESOURCE PERSON	TARGETED AUDIENCE
The various sessions of workshop will be taken by Eminent Speakers from reputed Universities, NIT's and Organizations of India.	This workshop will be very helpful for research scholars, faculty members and research scientists who are working in the area of materials, their synthesis, characterization and applications.

Registration link & QR code:



<https://forms.gle/mcYQ3JGtiArMbPjp9>

- **Contact Us at**  
**physics@skit.ac.in**
- **There is no**  
**registration fee**



## 4. Schedule of the Event



**SWAMI KESHVANAND INSTITUTE OF  
TECHNOLOGY, MANAGEMENT &  
GRAMOTHAN, JAIPUR**

ONE WEEK NATIONAL WORKSHOP  
ON  
“**MATERIALS FABRICATION  
&  
CHARACTERIZATION TECHNIQUES**”  
**24-28 JANUARY, 2022**  
**TIME: 1:30-3:00 PM**



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**EMINENT SPEAKERS**

<p><b>Day - 1</b> 24 January 2022 (Monday) 1:00-3:00 PM</p>  <p><b>Dr. Govind Gupta,</b> Principal Scientist (CSIR-NPL) &amp; Associate Professor (AcSIR), National Physical Laboratory, New Delhi Topic: Fabrication of Nitride Heterostructures for Efficient Photodetection</p>	<p><b>Day - 2</b> 25 January 2022 (Tuesday) 1:30-3:00 PM</p>  <p><b>Dr. Balram Tripathi,</b> Associate Professor, Department of Physics, S.S. Jain Subodh PG College, Jaipur Topic: Solid state sulfur batteries: An alternate of Li-ion battery</p>
<p><b>Day - 3</b> 26 January 2022 (Wednesday) 1:30-3:00 PM</p>  <p><b>Dr. Ambesh Dixit,</b> Associate Professor, Department of Physics, IIT, Jodhpur Topic: Need of Materials Characterization and Data Analysis with emphasis on Optical Characterization for bulk to nanostructured materials</p>	<p><b>Day - 4</b> 27 January 2022 (Thursday) 1:30-3:00 PM</p>  <p><b>Dr. Pawan Kumar Kulriya,</b> Associate Professor, School of Physical Sciences, JNU, New Delhi Topic: X-ray Diffractometer: Technique for structural analysis of materials</p>
<p><b>Day - 5</b> 28 January 2022 (Friday) 1:30-3:00 PM</p>  <p><b>Dr. Vishal Mathur,</b> Assistant Professor, Physics, American International University, Kuwait Topic: Thermo-mechanical Characterization of Polymer Nanocomposites</p>	

**Registration link & QR code:**



<https://forms.gle/wZE2Pu7smaGeoL3i8>

**• Coordinators of Workshop:**  
Dr. Manasvi Dixit  
Dr. Ajay Kumar Sharma  
Dr. Komal Sharma  
Mr. Rajiv Kumar

**• Contact Us at**  
physics@skit.ac.in

ORGANISED BY  
DEPARTMENT OF PHYSICS, SKIT, JAIPUR

Swami Keshvanand Institute of Technology Management & Gramothan  
Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

## 5. List of Invited Guests and Speakers

S.No	Guest/Speakers	Name and Affiliation
1.	Chief guest of Inauguration & Invited Speaker 1	Dr. Govind Gupta, Senior Principal & Professor (AcSIR), National Physical Laboratory, New Delhi
2.	Invited Speaker 2	Dr. Balram Tripathi, Associate Professor, S.S. Jain Subodh PG College, Jaipur
3.	Invited Speaker 3	Dr. Ambesh Dixit, Associate Professor, Department of Physics, IIT, Jodhpur
4.	Invited Speaker 4	Dr. Pawan Kumar Kulriya, Associate Professor, School of Physical Sciences, JNU, New Delhi
5.	Invited Speaker 5	Dr. Vishal Mathur, Assistant Professor, Physics, American International University, Kuwait

## 6. Consent of the Speakers

2/8/22, 12:28 PM

Swami Keshvanand Institute of Technology Mail - Invitation to be Chief Guest in the inaugural ceremony of One Week workshop o...



Physics Department &lt;physics@skit.ac.in&gt;

**Invitation to be Chief Guest in the inaugural ceremony of One Week workshop on "Material fabrication and Characterization Techniques" to be held on 24th January 2022 (01:00 pm- 3:00 pm)**

5 messages

FDP Physics &lt;physics@skit.ac.in&gt;

To: govind@nplindia.org, govindnpl@gmail.com

Sat, Jan 15, 2022 at 10:34 PM

Dear Sir,

Greetings from Department of Physics, SKIT Jaipur!!!

Hope this mail finds you in good health.

We are pleased to invite you as a Chief Guest in the inaugural ceremony of One Week workshop on "Material Fabrication and Characterization Techniques" to be held on **24<sup>th</sup> January 2022 (01:00 pm- 3:00 pm)** (*Virtual Mode using Webex platform*).

This workshop will be very helpful for research scholars, faculty members and research scientists who are working in the area of materials, their synthesis, characterization and applications.

As you have immense experience in this field, we invite you to join us as a Chief Guest in the inaugural ceremony and enlighten us with your expert talk. It will be an excellent addition to our program as many of our participants will look forward to hearing and learning from your experience.

We will be very grateful if you can accept our invitation and help us to confirm your availability for the same.

It is also requested you to share your title of the expert talk with us. Workshop poster is also attached herewith for your reference.

Looking forward to a positive response from your side.

Thanks and regards,

Dr. Manasvi Dixit,  
Coordinator, Workshop  
Associate Professor,  
Department of Physics,  
SKIT, Jaipur (Rajasthan)  
Mobile No. 9783882707

<https://mail.google.com/mail/u/1/?ik=26891d2760&view=pt&search=all&permmsgid=thread-a%3A~2123231769087574196&simpl=msg-a%3A~7928196...> 1/3

2/8/22, 12:28 PM

Swami Keshvanand Institute of Technology Mail - Invitation to be Chief Guest in the inaugural ceremony of One Week workshop o...



Workshop Poster.pdf

214K

govind gupta &lt;govindnpl@gmail.com&gt;

To: FDP Physics &lt;physics@skit.ac.in&gt;

Tue, Jan 18, 2022 at 10:12 AM

Dear Dr. Dixit

Thanks for your invitation as a Chief guest for the One week workshop on Material Fabrication & Characterization starting on 24 Jan 2022 at SKIT Jaipur.

I'll be happy to be a part of this event.

The title of my talk will be "**Fabrication of Nitride Heterostructures for Efficient Photodetection**".

with best regards

Govind

[Quoted text hidden]

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**Dr. Govind**

Senior Principal Scientist (CSIR-NPL) &  
Professor, Academy of Scientific & Innovative Research (AcSIR)

Head, Sensor Devices & Metrology,  
R.No.7, Quantum Structure Laboratory & R No 9, Thin Film Building

CSIR-National Physical Laboratory,  
Dr. K.S. Krishnan Marg, New Delhi-110 012, India

Phone: +91-11-4560 9503/8403/8488

Fax: +91-11-4560 9310

Mobile: +91-9811930735

Email: govind@nplindia.org, govindnpl@gmail.com

URL: <http://nplindia.org/users/govindnplindiaorg>

: <https://www.linkedin.com/in/govind-gupta-37a31a51/>

: [https://www.researchgate.net/profile/Govind\\_Gupta7](https://www.researchgate.net/profile/Govind_Gupta7)

: <https://sites.google.com/view/govindgupta/home>

Swami Keshvanand Institute of Technology Management & Gramothan  
Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India



2/8/22, 12:26 PM

Swami Keshvanand Institute of Technology Mail - Regarding an invited talk in a One Week workshop on "Material fabrication and ...



Physics Department <physics@skit.ac.in>

**Regarding an invited talk in a One Week workshop on "Material fabrication and Characterization Techniques" (24 - 28 January)**

3 messages

FDP Physics <physics@skit.ac.in>  
To: balramtripathi1181@gmail.com

Sat, Jan 15, 2022 at 10:15 PM

Dear Sir,

Greetings from Department of Physics, SKIT Jaipur!!!

Hope this mail finds you in good health.

We are pleased to invite you for an expert talk in One Week workshop on "Material fabrication and Characterization Techniques" to be held on **25<sup>th</sup> January 2022 (01:30 pm- 3:00 pm)** (*Virtual Mode using Webex platform*).

This workshop will be very helpful for research scholars, faculty members and research scientists who are working in the area of materials, their synthesis, characterization and applications.

As you have immense experience in this field, we invite you to join us as an invited speaker and enlighten us with your valuable suggestions. It will be an excellent addition to our program as many of our participants will look forward to hearing and learning from your experience.

We will be very grateful if you can accept our invitation and help us to confirm your availability for the same.

Workshop poster is also attached herewith for your reference.

Looking forward to a positive response from your side.

Thanks and regards,

Dr. Manasvi Dixit,  
Coordinator, Workshop  
Associate Professor,  
Department of Physics,  
SKIT, Jaipur (Rajasthan)  
Mobile No. 9783882707

Workshop Poster.pdf  
214K

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2/8/22, 12:26 PM

Swami Keshvanand Institute of Technology Mail - Regarding an invited talk in a One Week workshop on "Material fabrication and ...

Balram Tripathi <balramtripathi1181@gmail.com>  
To: FDP Physics <physics@skit.ac.in>

Sun, Jan 16, 2022 at 5:11 PM

Dear organizers

Many congratulations in advance for organizing the event. I am happy to be a part of the same. The abstract & title of talk will be shared soon

Regards

Balram

[Quoted text hidden]

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Dr. BALRAM TRIPATHI  
DEPARTMENT OF PHYSICS  
S S JAIN SUBODH PG (Auto.) COLLEGE  
(UNIVERSITY OF RAJASTHAN )  
JAIPUR

2/8/22, 12:27 PM

Swami Keshvanand Institute of Technology Mail - Regarding an invited talk in a One Week workshop on "Material fabrication and ...



Physics Department &lt;physics@skit.ac.in&gt;

## Regarding an invited talk in a One Week workshop on "Material fabrication and Characterization Techniques" (24 - 28 January)

5 messages

FDP Physics <physics@skit.ac.in>  
 To: ambesh@iitj.ac.in  
 Bcc: hodphy@skit.ac.in

Thu, Jan 20, 2022 at 10:07 AM

Dear Sir,

Greetings from Department of Physics, SKIT Jaipur!!!

Hope this mail finds you in good health.

We are pleased to invite you for an expert talk in One Week workshop on "Material fabrication and Characterization Techniques" to be held on **26<sup>th</sup> January 2022 (01:30 pm- 3:00 pm)** (*Virtual Mode using Webex platform*).

This workshop will be very helpful for research scholars, faculty members and research scientists who are working in the area of materials, their synthesis, characterization and applications.

As you have immense experience in this field, we invite you to join us as an invited speaker and enlighten us with your valuable suggestions. It will be an excellent addition to our program as many of our participants will look forward to hearing and learning from your experience.

We will be very grateful if you can accept our invitation and help us to confirm your availability for the same.

Workshop poster is also attached herewith for your reference.

Looking forward to a positive response from your side.

Thanks and regards,

Dr. Manasvi Dixit,  
 Coordinator, Workshop  
 Associate Professor,  
 Department of Physics,  
 SKIT, Jaipur (Rajasthan)  
 Mobile No. 9783882707



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2/8/22, 12:27 PM

Swami Keshvanand Institute of Technology Mail - Regarding an invited talk in a One Week workshop on "Material fabrication and ...

Ambesh Dixit <ambesh@iitj.ac.in>  
 To: FDP Physics <physics@skit.ac.in>

Thu, Jan 20, 2022 at 10:44 AM

Dear Dr. Mansvi,

Thank you so much for your email and kind invitation. I am available for a talk on 26 Jan 2022 and accept your invitation for the same.

Looking at the workshop domain, the talk will be on **"Need of Materials Characterization and Data Analysis with Emphasis on X-ray Diffraction for bulk to nanostructured materials"**.

Please let me know if you need any additional information.

Thanks & Regards  
 Ambesh Dixit

[Quoted text hidden]

Ambesh Dixit <ambesh@iitj.ac.in>  
 To: FDP Physics <physics@skit.ac.in>

Thu, Jan 20, 2022 at 3:18 PM

Please consider the following title:

**Need of Materials Characterization and Data Analysis With Emphasis on Optical Characterization for bulk to nanostructured materials.**

Thanks & Regards

Ambesh Dixit

[Quoted text hidden]

Swami Keshvanand Institute of Technology Management & Gramothan  
 Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

2/8/22, 12:33 PM

Swami Keshvanand Institute of Technology Mail - Regarding an invited talk in a One Week workshop on "Material fabrication and ...



Physics Department <physics@skit.ac.in>

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**Regarding an invited talk in a One Week workshop on "Material fabrication and Characterization Techniques" (24 - 28 January)**

3 messages

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**FDP Physics** <physics@skit.ac.in>  
To: pawaniuac@gmail.com

Sat, Jan 15, 2022 at 3:53 PM

Dear Sir,

Greetings from Department of Physics, SKIT Jaipur!!!

Hope this mail finds you in good health.

We are pleased to invite you for an expert talk in One Week workshop on "Material fabrication and Characterization Techniques" to be held on **27<sup>th</sup> January 2022 (01:30 pm- 3:00 pm)** (*Virtual Mode using Webex platform*).

This workshop will be very helpful for research scholars, faculty members and research scientists who are working in the area of materials, their synthesis, characterization and applications.

As you have immense experience in this field, we invite you to join us as an invited speaker and enlighten us with your valuable suggestions. It will be an excellent addition to our program as many of our participants will look forward to hearing and learning from your experience.

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Workshop poster is also attached herewith for your reference.

Looking forward to a positive response from your side.

Thanks and regards,

Dr. Manasvi Dixit,  
Coordinator, Workshop  
Associate Professor,  
Department of Physics,  
SKIT, Jaipur (Rajasthan)  
Mobile No. 9783882707

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**FDP Physics** <physics@skit.ac.in>  
To: pawaniuac@gmail.com

Sat, Jan 15, 2022 at 3:56 PM

<https://mail.google.com/mail/u/1/?ik=26891d2760&view=pt&search=all&permthid=thread-a%3A4187559572922293939&simpl=msg-a%3A5195066...> 1/2



## 7. List of Participants (Outside SKIT)

S.No.	Participant Name	Name of Institute	Email ID (Registered)
1.	Mr.Aditya Raj Meena	Jecrc University	adiya.19bscn016@jecrcu.edu.in
2.	Mr.Anupam Agrawal	Bhilai Institute of Technology, Durg	anupamagrawal123@gmail.com
3.	Mr.Chandan Singh	Manipal University Jaipur	chandansingh43811@gmail.com
4.	Mr.Deepak Agrawal	Sri Balaji College of Engineering and Technology, Jaipur	deepakagrawal210@gmail.com
5.	Mr.Deepak Somani	SS Polytechnic college, Udaipur	deepak.somani26@gmail.com
6.	Dr.Devendra Kumar Singhal	Arya College of Engineering & IT	devendraggc@gmail.com
7.	Dr.Dheeraj Bhardwaj	Birla Institute of Technology Mesa Jaipur Campus	dbhardwaj@bitmesra.ac.in
8.	Mr.DINESH NAGDA	SS POLYTECHNIC COLLEGE UDAIPUR	er.dineshnagda@gmail.com
9.	Dr.SUMITA SHEKHAWAT	Kanoria P G Mahila Mahavidyalaya	sumita.s@kanoriacollege.in
10.	Dr.Mahesh Baboo	L.B.S. PG College Jaipur	m.baboo@rediffmail.com
11.	Dr.Priya Jadoun	Galgotias University, Greater Noida	priya.jadoun@galgotiasuniversity.edu.in
12.	Dr.Rajkumar	Jaipur Engineering College and Research Center, Jaipur	rajkumar.phy@jecrc.ac.in
13.	Dr.Rashmi Saxena	St wilfred College for girls, Jaipur	rashmi_saxena29@yahoo.co.in
14.	Dr.Ratyakshi	Bhaskaracharya College of Applied Sciences, University of Delhi	ratyakshi.mb@bcas.du.ac.in
15.	Dr.Trupiti Sharma	JECRC UNIVERSITY	tsphy91@gmail.com
16.	Mr.G PRASANT KUMAR	UNITED SCHOOL OF BUSINESS MANAGEMENT, BHUBANESWAR	gprasantkumar98@gmail.com
17.	Dr.G. Vaidehi	Bharath institute of higher education and research	vaidehispices@gmail.com
18.	Dr.Gyanesh Soni	IIS DEEMED TO BE UNIVERSITY	gyaneshsoni10@gmail.com
19.	Mr.Jagmohan lal sharma	RRBMU ALWAR	jagmohanrc@gmail.com

Swami Keshvanand Institute of Technology Management & Gramothan

Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India



20.	Mr.Keshav Ranga	Jaipur engineering college and research Center	ranga.jsm@gmail.com
21.	Ms.Kiran devat	University of Rajasthan	Kiran.devat.111.asha@gmail.com
22.	Mr.Kuldeep Singh	Central University of Rajasthan	2019phdph006@curaj.ac.in
23.	Dr.Mahesh Chander Mishra	Raj Rishi College, Alwar	mahmishra111@gmail.com
24.	Mr.MAHESH KUMAR YADAV	Central University of Rajasthan, Kishangarh, Ajmer	mkydv10@gmail.com
25.	Ms.Manjeet Rani	Central university of Rajasthan	manjeetredu75@gmail.com
26.	Mr.Manoj Pathak	JECRC	manojpathak76@gmail.com
27.	Mr.MANOJ VERMA	Sri Balaji College of Engineering & Technology, Jaipur	immy.manoj@gmail.com
28.	Prof.Mohanathi K	The Oxford College of Engineering	mohanangel419@gmail.com
29.	Mr.N. MANIVANNAN	Bharath Institute of Higher Education and Research	manisriagri@gmail.com
30.	Mr.N.LENINRAKE SH	Bharath Institute of Higher Education And Research- Chennai	leninrakesh.mech@bharathuniv.ac.in
31.	Dr.NEERAJ JAIN	Poornima College of Engineering	neeraj@poornima.org
32.	Ms.Neha	Jecrc University	neha.19bscn039@jecrcu.edu.in
33.	Dr.Pallav Gupta	Amity University Uttar Pradesh, Noida.	pallav_gupta19@yahoo.co.in
34.	Mr.Patil Abhijeet Prithviraj	P.A.H.Solapur University Solapur	abhijeetpatil654321@gmail.com
35.	Mr.Pawan Kumar Sharma	The LNMIIT	17pph001@lnmiit.ac.in
36.	Mr.Prafull Kothari	Institute of Engineering and Technology, MLSU, Udaipur	prafullkothari1954@gmail.com
37.	Dr.PRATHEESH KUMAR S	PSG College of Technology	spratheeshkumarth@gmail.com
38.	Ms.Priyadarshini R	Sri Ranganathar Institute of Engineering and Technology	rvkpriya05@gmail.com
39.	Ms.Priyanshi Soan	JECRC University, Jaipur	piyasoan15@gmail.com
40.	Dr.Kalpesh Anil Isai	R C Patel Institute of Technology Shirpur Maharashtra	isaikalpesh.2010@gmail.com

41.	Prof. Kuldeep S Rathore	ACEIT	kuldeepprathore.physics@gmail.com
42.	Mr.R.Kiran Kumar Reddy	University of Strathclyde	kirankumarreddy998@gmail.com
43.	Mr.Ramesh kumar	Govt. Polytechnic college dausa	rameshkhatkar86@gmail.com
44.	Dr.Renu Sharma	Jecrc University	renu.malsaria@gmail.com
45.	Mr.ROHIT JAIN	Jecrc University	rohit.19bscn009@jecrcu.edu.in
46.	Dr.S . Anandhi Lavanya	Bharath Institute of Higher Education and Research	anandhi.saro19@gmail.com
47.	Mr.Saksham Sharma	Jecrc University	saksham.19bscn012@jecrcu.edu.in
48.	Ms.Sanju Tanwar	Rajasthan Technical University Kota	stanwar@rtu.ac.in
49.	Ms.Santushty	JECRC University, Jaipur	santushtyjain53699@gmail.com
50.	Dr.Seema Bansal	Jaipur Engineering College and Research Center	Bansalseema08@gmail.com
51.	Mr.Seeone Sharma	PIET SAMALKHA	seeonesharma@gmail.com
52.	Dr.Shalini Dixit	S.S.Jain Subodh PG Autonomous college jaipur	shaliniyitiwari@gmail.com
53.	Dr.Shweta Khetan	House wife	agrwl21@gmail.com
54.	Dr.Sumit Gupta	Amity University Uttar Pradesh, Noida	sgupta20@amity.edu
55.	Dr.Sunil Kadiyan	School of Engineering and Technology (GTC) , Soldha, Bahadurgarh	sunkadiyan@gmail.com
56.	Mr.Tushar rathor	Jecrc university	tusharrathor8830@gmail.com
57.	Dr.Vijay Chaudhary	Amity University Noida Uttar Pradesh	vchaudhary2@amity.edu
58.	Mr.VIJAY KUMAR JANGID	SRI BALAJI COLLEGE OF ENGINEERING & TECHNOLOGY	vijayjangid1982@gmail.com
59.	Dr.VIPIN KUMAR JAIN	JK Lakshmipat University, Jaipur	vipinjain7678@gmail.com
60.	Mr.Vishnukant	The LNM Institute of Information Technology	20pph005@lnmiit.ac.in
61.	Dr.R.Hariharan	Bharath Institute of Higher Education and Research	hariharan.mech@bharathuniv.ac.in
62.	Dr.Vishal Saxena	Jaipur engineering college and research center	vishalsaxena.math@jecrc.ac.in

### List of Participants (SKIT-Faculty)

S.No.	Participant Name	Name of Institute	Department	Email ID (Registered)
1.	Mr. Raj Kumar	SKIT M&G, Jaipur	ME	goswamiraz@gmail.com
2.	Ms. Rammurti Meena	SKIT M&G, Jaipur	EE	rammurti.meena@skit.ac.in
3.	Prof. Rishi Vyas	SKIT M&G, Jaipur	Physics	rishivyas@skit.ac.in
4.	Mr. Sanjay Bairwa	SKIT M&G, Jaipur	ME	sanjay.bairwa@skit.ac.in
5.	Mr. Sarabjeet Singh	SKIT M&G, Jaipur	CSE	sarabjeet.singh@skit.ac.in
6.	Mr. Saurabh Gupta	SKIT M&G, Jaipur	ME	saurabh.gupta@skit.ac.in
7.	Ms. Sumita	SKIT M&G, Jaipur	ME	sumita.hemrom@skit.ac.in
8.	Dr. Swati Arora	SKIT M&G, Jaipur	ECE	swati@skit.ac.in
9.	Mr. Yogesh Kumar Sharma	SKIT M&G, Jaipur	ME	yogesh.sharma@skit.ac.in
10.	Mr. Abhinandan Jain	SKIT M&G, Jaipur	ECE	abhinandan.jain@skit.ac.in
11.	Dr. Abhishek Jain	SKIT M&G, Jaipur	Civil	abhishek.jain@skit.ac.in
12.	Dr. Ajay Verma	SKIT M&G, Jaipur	Basic Sciences and Humanities	ajay.verma@skit.ac.in
13.	Mr. Amit Kumar Bansal	SKIT M&G, Jaipur	ME	amit.bansal@skit.ac.in
14.	Mr. Ankit Kumar Agarwal	SKIT M&G, Jaipur	ME	ankit@skit.ac.in
15.	Mr. Ankur Mishra	SKIT M&G, Jaipur	Civil	ankur.mishra@skit.ac.in
16.	Dr. Anurag Sharma	SKIT M&G, Jaipur	Chemistry	anurag@skit.ac.in
17.	Prof. Brajraj Sharma	SKIT M&G, Jaipur	Physics	raj.braj12@gmail.com
18.	Mr. Brij Mohan Sharma	SKIT M&G, Jaipur	ME	brijmohan.sharma@skit.ac.in

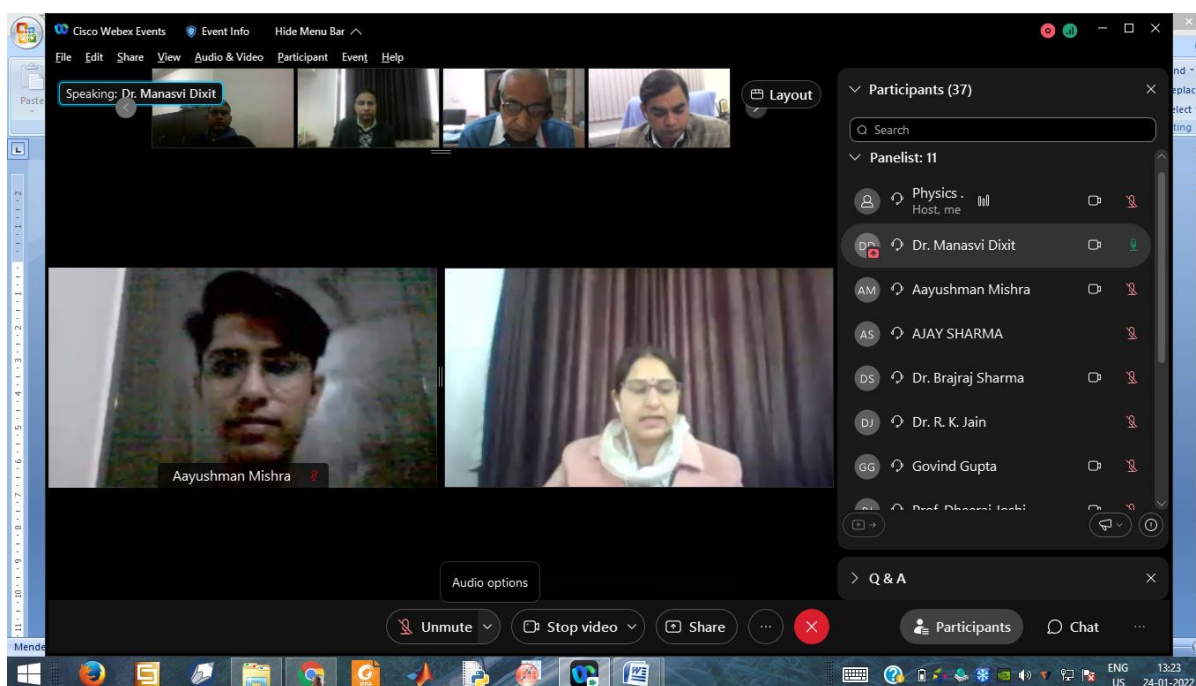
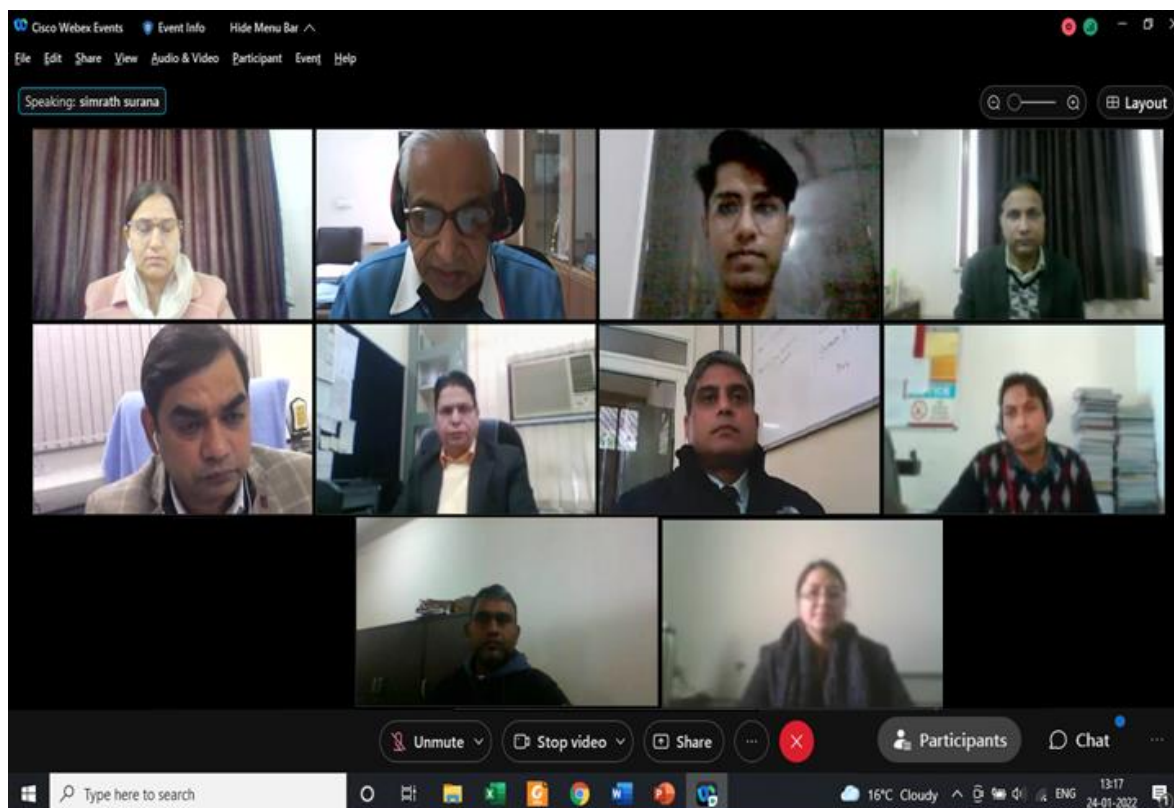
19.	Mr. Chandra Mohan Kumar	SKIT M&G, Jaipur	ME	chandra.mohan@skit.ac.in
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30.	Ms. Pooja Choudhary	SKIT M&G, Jaipur	ECE	pooja.choudhary@skit.ac.in
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**List of Participants (SKIT-Student)**

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5.	Varun Kumar Meena	SKIT M&G, Jaipur	20ESKCE123	Civil Engineering	varunmeena701@gmail.com
6.	Aayushman Mishra	SKIT M&G, Jaipur	20ESKME001	Mechanical Engineering	mishraayushman786@gmail.com



## 8. Screenshots of the Event



Swami Keshvanand Institute of Technology Management & Gramothan  
Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

Cisco Webex Events Event Info Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Govind Gupta

Physics . Host

Aayushman Mishra

AJAY SHARMA

Dr. Brairaj Sharma

Dr. R. K. Jain

Layout

Fabrication of Nitride Detectors @CSIR-NPL

RF-Plasma Assisted Molecular beam Epitaxy

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Participants Chat

Type here to search

16°C Cloudy 13:46 24-01-2022

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Dr. Komal Sharma

Rishi Vyas

Dr. Brairaj Sharma

Physics . Host

Layout

Viewing Balram Tripathi's a...

Solid State Sulfur Batteries: An Alternate of Li-ion Battery

Li-S

Lithium Sulfur Batteries: Mechanisms, Modelling and Materials

Dr. Balram Tripathi

E-mail: [balramtripathi1181@gmail.com](mailto:balramtripathi1181@gmail.com), Mb: +919460067015

S S Jain Subodh PG (Auto.) College, Jaipur-India

Google Scholar Id: <https://scholar.google.com/citations?user=298556uJAAAAAJ&hl=en>

ORCID Id: <https://orcid.org/0000-0002-8324-7883>

Scopus Id: <https://www.scopus.com/authid/detail.url?authid=15383688900>

Researchgate Id: <https://www.researchgate.net/profile/Balram-Tripathi>

Unmute Stop video Share

Participants Chat

Type here to search

17°C Cloudy 15:24 25-01-2022



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Ambesh Dixit Rishi Vyas Aayushman Mishra Physics . Host Dr. Brajraj Sharma Dr. Komal Sharma Layout rajiv kumar

Viewing Ambesh Dixit's app...

## Why materials characterization?

Different materials having different structures are used in different applications.

In the laboratory, we want to characterize these materials to:

1. Determine whether the material is suitable for the desired applications.
2. Improve the materials processing/synthesis
3. Optimize the materials properties.

Unmute Stop video Share

Activate Windows Go to Settings to activate Windows. Participants Chat

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Cisco Webex Events Event Info Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Dr. Komal Sharma Aayushman Mishra Dr. Brajraj Sharma Physics . Host rajiv kumar Layout

Viewing Pawan Kumar Kulri...

## X-Ray Diffractometer

1. High vacuum chamber  
2. CCD Camera  
3. X-ray tube  
4. Sample cooling unit  
5. XRD goniometer  
6. Dial gauge used for controlling atmosphere XRD

Unmute Stop video Share

Activate Windows Go to Settings to activate Windows. Participants Chat

Type here to search 18°C Haze ENG 13:46 27-01-2022



The screenshot shows a Cisco Webex meeting interface. At the top, there's a menu bar with 'File', 'Edit', 'Share', 'View', 'Audio & Video', 'Participant', 'Event', and 'Help'. Below the menu, there are video thumbnails for participants: Aayushman Mishra, Dr. Brajraj Sharma, Dr. Komal Sharma, Physics . Host, and rajiv kumar. The main content area displays a presentation slide titled 'Various XRD experiments'. The slide lists three variables: a. Radiation : Monochromatic or variable, b. Sample : Single crystal, powder or solid piece, and c. Detector : Radiation counter or photographic film. Below this, a flowchart categorizes XRD methods based on Wavelength (Monochromatic, Variable), Sample (Powder, Single crystal, Solid piece), Detector (Counter, Film), and Method (Diffractometer, Debye-Scherrer, Guiner, Rotation Weissenberg Precession, Automatic diffractometer, Laue). The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying '19°C Sunny' and the date '27-01-2022'.

**Various XRD experiments**

Three variables:

- Radiation : Monochromatic or variable
- Sample : Single crystal, powder or solid piece
- Detector : Radiation counter or photographic film

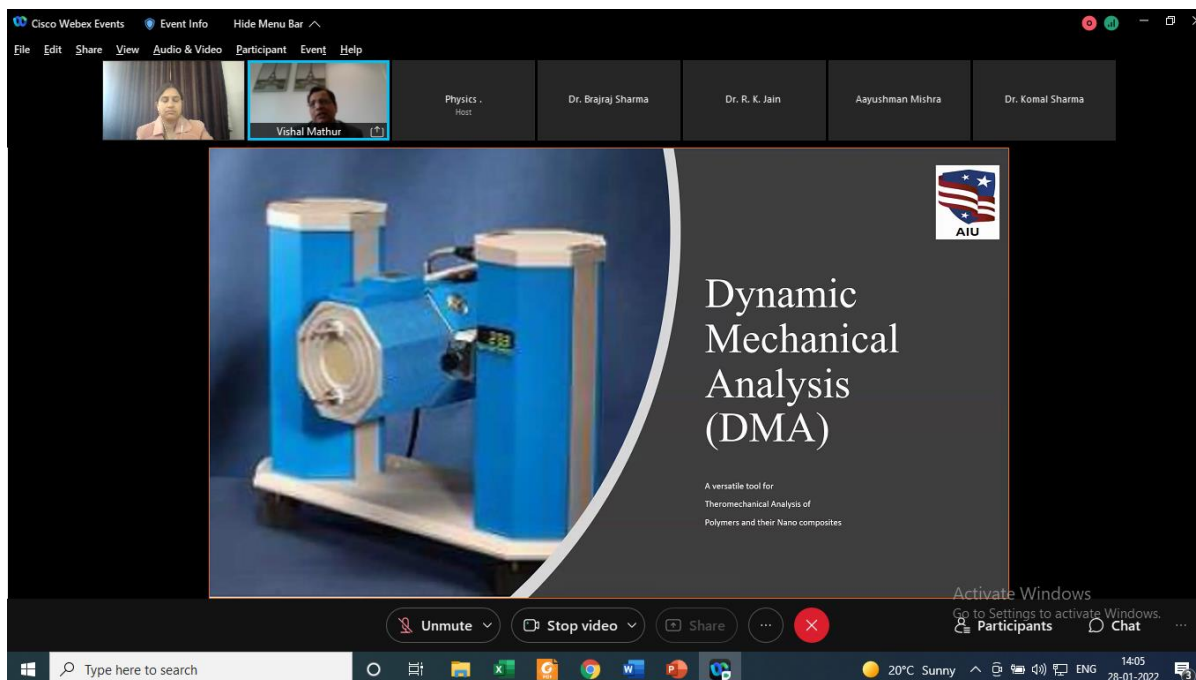
Wavelength	Sample	Detector	Method
Monochromatic	Powder	Counter	Diffractometer
		Film	Debye-Scherrer, Guiner
Variable	Single crystal	Film	Rotation Weissenberg Precession
		Counter	Automatic diffractometer
	Solid piece	Film	Laue

The screenshot shows a Cisco Webex meeting interface. At the top, there's a menu bar with 'File', 'Edit', 'Share', 'View', 'Audio & Video', 'Participant', 'Event', and 'Help'. Below the menu, there are video thumbnails for participants: Dr. Mananvi Dixit, Physics . Host, and Aayushman Mishra. The main content area displays a presentation slide titled 'Plan of Presentation'. The slide lists four topics: • Review on Materials and Materials Science, • Review on Nanoscience and Nanotechnology, • Dynamic Mechanical Analysis (DMA), and • DMA Results Analysis. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying '19°C Haze' and the date '28-01-2022'.

**Plan of Presentation**

- Review on Materials and Materials Science
- Review on Nanoscience and Nanotechnology
- Dynamic Mechanical Analysis (DMA)
- DMA Results Analysis





Cisco Webex Events Event Info Hide Menu Bar

File Edit Share View Audio & Video Participant Event Help

Physics Host Dr. Brajraj Sharma Dr. R. K. Jain Aayushman Mishra Dr. Komal Sharma

Vishal Mathur

**Dynamic Mechanical Analysis (DMA)**

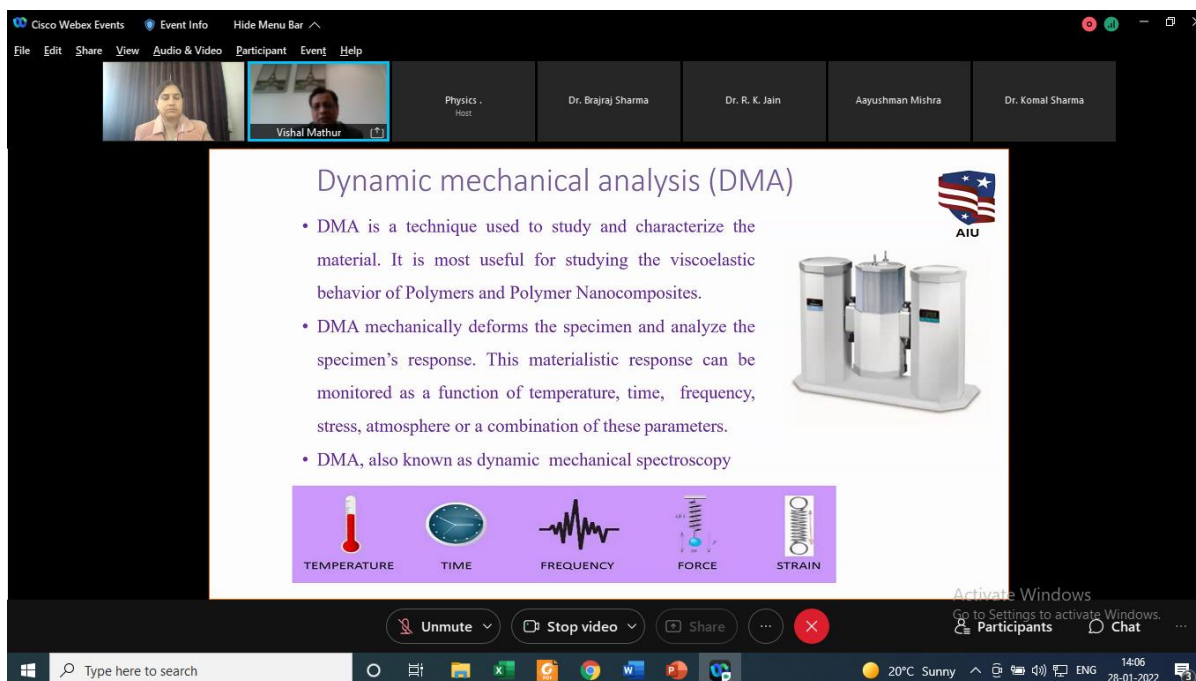
A versatile tool for Thermomechanical Analysis of Polymers and their Nano composites

AIU

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Activate Windows Go to Settings to activate Windows. Participants Chat

Type here to search 20°C Sunny ENG 14:05 28-01-2022



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Physics Host Dr. Brajraj Sharma Dr. R. K. Jain Aayushman Mishra Dr. Komal Sharma

Vishal Mathur

**Dynamic mechanical analysis (DMA)**

- DMA is a technique used to study and characterize the material. It is most useful for studying the viscoelastic behavior of Polymers and Polymer Nanocomposites.
- DMA mechanically deforms the specimen and analyze the specimen's response. This materialistic response can be monitored as a function of temperature, time, frequency, stress, atmosphere or a combination of these parameters.
- DMA, also known as dynamic mechanical spectroscopy

AIU

TEMPERATURE TIME FREQUENCY FORCE STRAIN

Unmute Stop video Share

Activate Windows Go to Settings to activate Windows. Participants Chat

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## 9. Sample Copy of Certificate

### Participant Certificate

	<b>Swami Keshvanand Institute of Technology, Management &amp; Gramothan, Jaipur</b> <b>One Week National Workshop</b> <b>on</b> <b>“Materials Fabrication &amp; Characterization Techniques”</b>	
<b><u>Certificate of Participation</u></b>		
Ref: SKIT/MFCT/2021-22/104		
This is to certify that <b>Dr. Vishal Saxena</b> of <b>Jaipur Engineering College and Research Center</b> participated in the One Week National Workshop on <b>“Materials Fabrication &amp; Characterization Techniques”</b> , organized by <b>Department of Physics, Swami Keshvanand Institute of Technology, Management &amp; Gramothan, Jaipur</b> from <b>24<sup>th</sup>-28<sup>th</sup> January, 2022.</b>		
 <b>Prof. R.K. Pachar</b> Principal, SKIT	 <b>Dr. Manasvi Dixit</b> Coordinator, Workshop, SKIT	 <b>Dr. Brajraj Sharma</b> Head, Physics, SKIT

### Expert Certificate

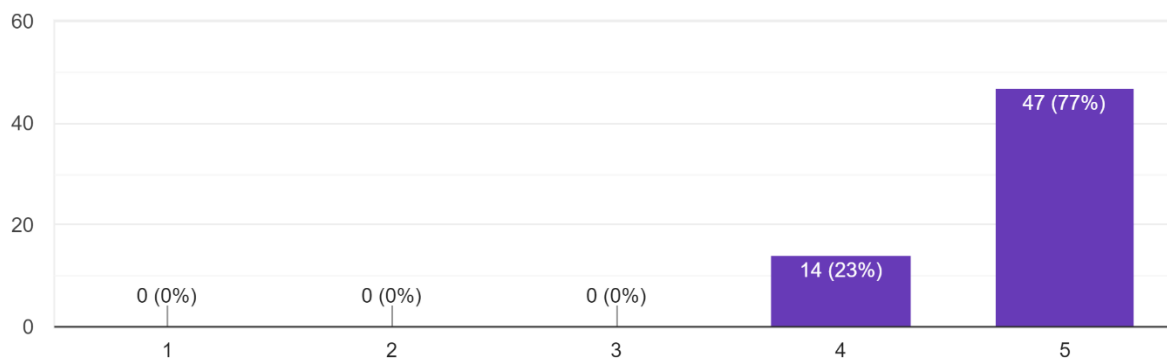
	<b>Swami Keshvanand Institute of Technology, Management &amp; Gramothan, Jaipur</b> <b>One Week National Workshop</b> <b>on</b> <b>“Materials Fabrication &amp; Characterization Techniques”</b>	
<b><u>Certificate of Appreciation</u></b>		
This is to certify that <b>Dr. Govind Gupta, Senior Principal Scientist &amp; Professor (AcSIR), National Physical Laboratory, New Delhi</b> has contributed as Resource Person in the One Week National Workshop on <b>“Materials Fabrication &amp; Characterization Techniques”</b> , organized by <b>Department of Physics, Swami Keshvanand Institute of Technology, Management &amp; Gramothan, Jaipur</b> from <b>24<sup>th</sup>-28<sup>th</sup> January, 2022.</b>		
 <b>Prof. R.K. Pachar</b> Principal, SKIT	 <b>Dr. Brajraj Sharma</b> Head, Physics, SKIT	

Swami Keshvanand Institute of Technology Management & Gramothan  
Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

## 10. Feedback Report

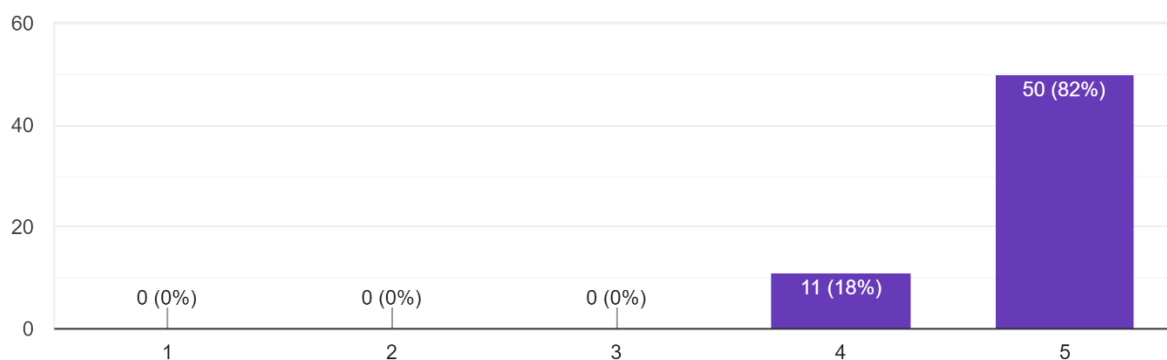
The content delivered by Session Expert

61 responses



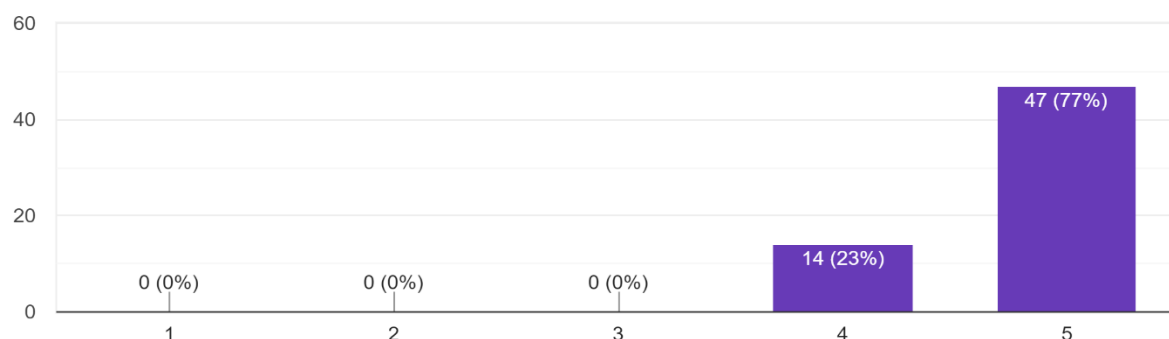
The Knowledge shared by Session Expert

61 responses



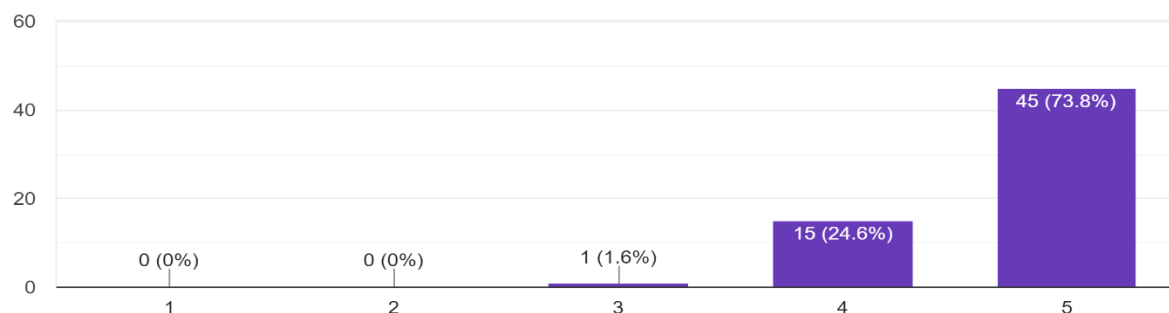
### Relevancy of the topic

61 responses



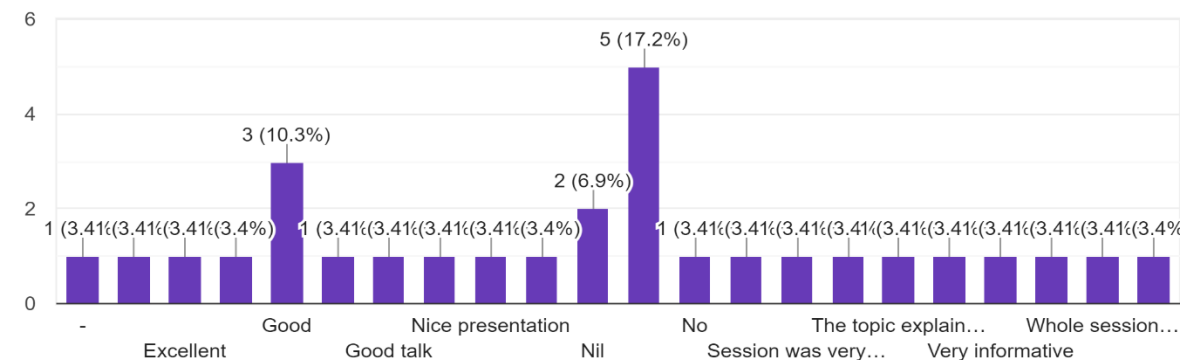
### Your Experience about the session

61 responses



### Any other Suggestions

29 responses



## 11. Media Coverage

### एस.के.आई.टी. में पांच दिवसीय नेशनल वर्कशॉप का शुभारम्भ

**P3 Police Public Politics**

जयपुर ! जगतपुरा स्थित स्वामी केशवानंद इंस्टीट्यूट आफ टेक्नोलॉजी मैनेजमेंट एंड ग्रामोत्थान में सोमवार दिनांक 24 जनवरी 2022 को भौतिकी विभाग के द्वारा ऑनलाइन प्लेटफॉर्म पर,

“मटेरियल फेब्रिकेशन एंड कैरेक्टराइजेशन टेक्निक्स” विषय पर पांच दिवसीय नेशनल वर्कशॉप का शुभारम्भ हुआ। मुख्य वक्ता के रूप में डॉ. गोविन्द गुप्ता, सीनियर प्रिंसिपल साइंटिस्ट एंड प्रोफेसर (एस्ट्रॉनॉमिकल साइंटिस्ट नई दिल्ली) ने नाइट्राइड हेट्रो संरचना की फेब्रिकेशन एवं फोटो डिटेक्शन में उपयोगिता के बारे में बताया।

इस अवसर पर कॉलेज के डायरेक्टर अकादमिक प्रोफेसर (डॉ.) एस. एल. सुराना ने मुख्य वक्ता एवं अन्य प्रतिभागियों का स्वागत किया तथा एस.के.आई.टी. की उपलब्धियों के बारे में बताया। कार्यक्रम के कोऑर्डिनेटर

(डॉ.) मनस्वी दीक्षित ने इस प्रोग्राम में आने वाले वक्ताओं तथा होने वाले विभिन्न सत्रों का संक्षिप्त विवरण प्रस्तुत किया। प्रोफेसर (डॉ.) ब्रजराज शर्मा, विभागाध्यक्ष, भौतिकी विभाग ने धन्यवाद ज्ञापित किया। इस कार्यक्रम का संचालन



एसोसिएट प्रोफेसर राजीव कुमार, पवन जैन तथा आयुष्मान शर्मा ने किया। इस अवसर पर प्रोफेसर (डॉ.) आर. के. जैन, प्रोफेसर (डॉ.) रोहित मुखर्जी, तथा प्रोफेसर (डॉ.) धीरज जोशी भी उपस्थित थे।



# Workshop inaugurated



CITY FIRST

**A** five-day national workshop on the topic 'Materials Fabrication & Characterization Techniques' was started at Swami Kesavanand Institute of Technology Management and Gramothan, Jagatpura, by the Department of Physics on Monday. On this occasion, the keynote speaker Dr Govind Gupta, Senior Principal Scientist & Professor (AC-SIR, NPL, and New Delhi) explained the fabrication of Nitride Hetrostructures for Effi-



cient Photodetection. The Director Academic of the college, Professor (Dr) S L Surana welcomed the keynote speaker and all the participants. Dr Manasvi Dixit, the coordinator of the program, presented a brief description of the speakers and various sessions to be held in this program. Professor (Dr) Brajraj Sharma, (Head of the Department, Physics) expressed a vote of thanks. The program was conducted by Associate Professor Rajiv Kumar, Pawan Jain and Aayushman Sharma.

cityfirst@firstindia.co.in

## एस. के. आई. टी. में पांच दिवसीय वर्कशॉप का समापन

P3 Police Public Politics

जयपुर ! जगतपुरा स्थित स्वामी केशवानंद इंस्टीट्यूट आफ टेक्नोलॉजी मैनेजमेंट एंड ग्रामोथान में भौतिकी विभाग के द्वारा ऑनलाइन प्लेटफॉर्म पर, «मेटेरियल फेब्रिकेशन एंड कैरेक्टराइजेशन टेक्निकस» विषय पर पांच दिवसीय नेशनल वर्कशॉप का शुक्रवार दिनांक 28 जनवरी 2022 को समापन हुआ। इस समापन समारोह में मुख्य अतिथि एवम आमंत्रित वक्ता के रूप में डॉ. विशाल माधुर, भौतिकी विभाग, अमेरिकन इंटरनेशनल यूनिवर्सिटी, कुवैत ने धर्मो-

मैकेनिकल कैरेक्टराइजेशन ऑफ पॉलीमर नैनोकम्पोजिट्स विषय पर अपना व्याख्यान दिया और वर्कशॉप के सफल आयोजन के लिए आयोजकों को बधाई दी। इस वर्कशॉप के विभिन्न सत्रों में मुख्य वक्ता के रूप में प्रोफेसर (डॉ.) गोविंद गुप्ता (एनपीएल, न्यू दिल्ली), डॉ. बलराम त्रिपाठी (सुबोध पी. जी. कॉलेज, जयपुर), डॉ. अम्बेश दीक्षित (आई. आई. टी. जोधपुर) एवम डॉ. पवन कुमार कुलरिया (जे.एन.यू., न्यू दिल्ली) ने भी अपने व्याख्यान से प्रतिभागियों को लाभान्वित किया। इस कार्यक्रम के

कोऑर्डिनेटर डॉ. कोमल शर्मा ने इस प्रोग्राम का संक्षिप्त विवरण प्रस्तुत किया। इस प्रोफेसर (डॉ.) ब्रजराज शर्मा, विभागाध्यक्ष, भौतिकी विभाग ने वर्कशॉप का महत्व बताते हुए इसके सफल आयोजन के लिए समस्त आमंत्रित वक्ताओं तथा आयोजकों को धन्यवाद दिया। इस कार्यक्रम का संचालन डॉ. मनस्वी दीक्षित, राजीव कुमार, पवन कुमार जैन तथा आयुष्मान मिश्रा ने किया। इस वर्कशॉप में विभिन्न शैक्षणिक संस्थानों के 150 से अधिक प्रतिभागियों ने पंजीकरण कराया और सक्रिय रूप से भाग लिया।



Swami Keshvanand Institute of Technology Management & Gramothan  
Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

## 12. Technical Report

The Department of Physics, Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur organized a One Week National Workshop on “Materials Fabrication & Characterization Techniques” during 24<sup>th</sup> -28<sup>th</sup> January 2022. This workshop is conducted on Webex online platform.

This one week national workshop comprised five thoughtful informative and interactive sessions delivered by the experts from the various reputed institutes. About 150 research scholars, faculty members and students from various universities and institutes of all over the country participated in this workshop.

Dr. Govind Gupta, Senior Principal & Professor (AcSIR), National Physical Laboratory, New Delhi was the chief guest of the inaugural session of this workshop. The Workshop began with the welcome address by Prof. (Dr.) S.L.Surana, Director Academics, SKIT, Jaipur. He addressed the audience by highlighting the need of research in material science.

Chief guest Dr. Govind Gupta addressed participants about importance of material fabrication and need of characterization techniques. He has also shared the research facility and characterization techniques available in NPL, New Delhi and invited for collaborative research work.

In the Inauguration ceremony Prof. R.K.Jain, Dean SKIT, Dr. Dheeraj Joshi, HOD, Mechanical and Dr. Brajraj Sharma, HOD Physics were also present.

Dr. Manasvi Dixit, Coordinator of workshop discussed the objective of the workshop and Prof. Brajraj Sharma, HOD, Physics extended vote of thanks to the keynote speaker and all participants in Inaugural Ceremony.

In the first day interactive session Dr. Govind Gupta delivered an expert talk on Fabrication of Nitride Heterostructures for Efficient Photodetection. In his talk he explained the fabrication of Nitride based UV detector and highlighted the importance of nitride semiconductor for flexible optoelectronics applications. The session was very informative.

Commencement of second day was enthusiastic and informative due to an expert lecture of Dr. Balram Tripathi, Associate Professor, S.S. Jain Subodh College, Jaipur. He shed light on Solid state sulfur batteries which is an alternate of Li-ion battery. He also talked about the drawbacks of excessive use of Li-ion batteries and explained the recycling process to minimize the negative impact on environment.

Day 3 started again with the knowledge enriching session of Dr. Ambesh Dixit, Associate Professor, Department of Physics, IIT, Jodhpur. He enlightened need of Materials

Swami Keshvanand Institute of Technology Management & Gramothan

Ramnagar, Jagatpura, Jaipur-302 017, Rajasthan, India

Characterization and Optical spectroscopy characterization technique. He talked about the optical and microscopic structural Characterization from bulk to nanostructured materials. The session was very interesting.

Day 4 began with interactive session of Dr. Pawan Kumar Kulriya, Associate Professor, School of Physical Sciences, JNU, New Delhi. He explained the X-ray Diffractometer: Technique for structural analysis of materials from bulk to nano size and also explained the material fabrication for XRD analysis.

The workshop is ended with the final session of Day 5 by Dr. Vishal Mathur, Assistant Professor, Physics, American International University, Kuwait. He shared his knowledge on Thermo-mechanical Characterization of Polymer Nanocomposites. He also explained the Dynamic Mechanical characterization techniques in detail which is used to measure the mechanical properties of thin polymer nanocomposite film.

All the sessions were very much informative. The discussed areas are of great benefit for the participants as they were enlightened with recent advancement in material fabrications and different characteristics techniques.

**---Thank You-----**