

## DEPARTMENT OF PHYSICS

**1) Name of the Department :** Physics

**2) Year of Establishment :** 2001

**3) Scope and importance of the department:-**

Physics contributes to the technological infrastructure and provides trained personnel needed to take advantage of scientific advances and discoveries.

Physics is defined as systematic and formulated knowledge of any object in Universe. Once we understand the basic concepts, we feel that physics is the most simplest and interesting subject. But Physics is difficult and boring subject, if we do not know the basic concepts.

Physics is the broadest of the sciences. In the 1800's it was called Natural Philosophy. It is the description of "how the natural world works". Physics comprises astronomy, electronics, optics, thermodynamics, hydraulics, mechanics (statics and dynamics), atomic theory, cosmology, physical chemistry and other fields.

Some sciences like biology, organic and inorganic chemistry, botany, zoology, physiology, etc. are the physics at their base, although they are studied at a much higher level.

For the major areas of physics and for additional listings of articles in physics See also Acoustics; Atomic physics; Biophysics; Classical mechanics; Electricity; Electromagnetism; Elementary particle; Fluid mechanics; Heat; Low-temperature physics; Molecular physics; Nuclear physics; Optics; Solid-state physics; Statistical mechanics.

The last decade brought about phenomenal changes in the field of microwaves and opto-electronics, which have grown with tremendous speed owing to their potential applications in communication, automobiles, sensors, healthcare space and defense research etc.

The result of the department from last five years is quite attractive and glorious. Every year nearly 10 % of students of the department was admitted for the post graduate courses. The maximum number of students is doing their jobs in different government and private sectors. And our institutional main goal is to develop and

to provide education to the poor, needy students of this rural area and to make them eligible to stand as a good human, good civilian of the nation. The students of the department are giving their best to the society, nation and to the host institution and doing their jobs with a great satisfaction.

#### **4) Introduction of Department:-**

- The department of Physics was established in Aug 2001.
- At present the department located in science building in college campus.
- It occupies in the area of about 300 sq.m., which includes two general laboratories, one semi dark room for some electrical experiments, one dark room for optical experiment, departmental staff room these facilities are available in the department.
- Sufficient number of instruments and furniture has been provided by the institution.
- The department is always being active in curricular and cocurricular activities; such as science forum, science exhibition etc.
- Consistent record of good results.
- Infrastructure with superior quality of facilities.
- Highly experienced and qualified faculty.
- Teaching and learning with I.C.T. support.

The departmental faculties **Dr.M.N.Sarnaik**, **Dr.A.P.keche**, **Dr.M.V.Shisode** have completed their research work and have published their research papers in the reputed national and international journals. The faculty has actively participated in the various national, international conferences and workshops. It feels proudly to mention that the department has taken good efforts and has successfully organized the national conference and webinar and has given an opportunity to the students, research workers of this rural area to participate, to make a dialogue, to listen the great popular scientists. Certainly many students of this area gets benefited, inspired and will find their career in the research field. The title of the National conferences/Webinar organized by the department is as follows:-

- 1) One day National Conference on “Nanostructured Materials & Nano Technology (NMN-2018)” dated on 28<sup>th</sup> Sept. 2018 organized by Department of Physics.
- 2) Two Days National Online FDP on "Designing & Implementation of Outcome Based Education (OBE) Model" dated on 7<sup>th</sup> -8<sup>th</sup> July 2020 organized by Department of Physics.
- 3) One Day National webinar on Research Methodology on topic “Science and Technology of Nanomaterials” dated on 30<sup>th</sup> Dec 2021 organized by Department of Physics.

#### **Objectives of the Department:-**

- 1) To create awareness among the students regarding to the scientific views.
- 2) To remove the superstition and to inculcate the scientific ideas.
- 3) To search and to explain the cause of natural phenomena observing in the daily life.
- 4) To create interest to handle the various experiments in the department.
- 5) To create responsible and sensitive civilian and scientists.

#### **Facilities of the Department:-**

1. The well-developed & furnished laboratory.
2. Computers & internet facility for the students & staff.
3. The charts, models, journals, are available.
4. Use of ICT & smart boards for teaching.

#### **5) Detail of Programmes / Courses offered (UG, PG, M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., Short term courses, Career oriented courses, etc. (Current academic year i. e. 2021- 2022)**

Sr. No	Programme level	Name of the programme/ Course	Duration	Entry qualification	Medium of Instruction	No. of Student admitted
1	UG	BSc	3Years	12th Pass	English	136

## 6) Faculty profile with name, qualification, designation, specialization

Sr. No.	Name of the Faculty	Qualification	Designation	Specialization
1	Dr. M.N.Sarnaik	MSc,M.B.A.,Ph.D.	Assistant Professor	Solid State Physics
2	Dr.A.P. Keche	MSc, Ph.D.	Assistant Professor	Nuclear Physics
3	Ms. V.C.Karade	MSc, M.Phil, SET	Assistant Professor	Nanotechnology
4	Mr. R.D. Bankar	MSc, NET	Assistant Professor	Electronics
5	Dr. M.V. Shisode	MSc, Ph.D.	Assistant Professor	Electronic Instrumentation

## 7) Details of academic support staff (technical)and administrative staff; sanctioned and filled: -

Sr. No.	Name of staff	Designation
1.	Mr. B. A. Bhapkar	Lab. Assistant

## 8) Student profile program/ course wise: (2016-17 to 2021-22)

Academic Year	Name of the Course / Programmer	Enrolled		Total
		M	F	
2016 -17	B.Sc FY	90	34	124
	B.Sc SY	90	26	116
	B.Sc TY	65	33	98
2017-18	B.Sc FY	59	26	85
	B.Sc SY	38	16	54
	B.Sc TY	69	18	87
2018-19	B.Sc FY	81	39	120
	B.Sc SY	70	31	101
	B.Sc TY	29	07	36
2019-20	B.Sc FY	70	32	102
	B.Sc SY	66	26	92
	B.Sc TY	47	22	69
2020-21	B.Sc FY	49	23	72
	B.Sc SY	68	32	90
	B.Sc TY	68	25	93
2021-22	B.Sc FY	33	39	72
	B.Sc SY	14	10	24
	B.Sc TY	27	13	40

### 9) Details of student Result (2016-17 to 2021-22)

Academic Year	Name of the Course / Programmer	No of students appear	Total No of students passed	Percentage
2016 -17	B.Sc FY	310	292	94.19%
	B.Sc SY	260	242	93.07%
	B.Sc TY	212	197	92.92%
2017-18	B.Sc FY	370	336	90.8%
	B.Sc SY	230	212	92.17%
	B.Sc TY	245	234	95.51%
2018-19	B.Sc FY	290	262	90.00%
	B.Sc SY	260	238	91.53%
	B.Sc TY	210	195	92.80%
2019-20	B.Sc FY	292	284	97.26%
	B.Sc SY	265	248	93.58%
	B.Sc TY	210	193	91.90%
2020-21	B.Sc FY	98	89	90.80%
	B.Sc SY	182	167	91.75%
	B.Sc TY	102	90	88.23%

### 10) Student-Teacher Ratio (Program wise): (2016 -17 to 2021-2022)

Acad. Yr	First Year	Second Year	Third year
2016-17	124: 2	116: 2	98: 2
2017-18	85: 2	54: 2	87:2
2018-19	120: 2	101: 2	36: 2
2019-20	102:2	92:2	69:2
2020-21	72:2	90:2	93:2
2021-22	72:2	24:2	40:2

### 11) On-going /completed research projects by faculty funded by governmental and non-governmental agencies (2016-17 to 2021-22)

Sr. No	Name of the principal investigator	Duration of the project	Name of the research project	Amount fund received	Name of funding agency	Date of sanction	Year of Completion
1	Dr. A.P. Keche	2 years	"Synthesis and studies on Nanocrystalline ferrosinels for Magnetic Recording	40000/-	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	24/06/2019	Ongoing

			Media" (minor research project)				
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**12) Research papers published in journals notified on UGC website (2016-17 to 2021- 22)**

Sr. No.	Name of Journal	Title of Research Paper	ISSN/ ISBN No.
1	IOSR Journal of Engineering (IOSRJEN)	Influence of Dy <sup>3+</sup> Doping on the Structural and Magnetic Properties of YIG Nanoparticles	2250-3021
2	IOSR Journal of Engineering (IOSRJEN)	Chemical Co-precipitation Synthesis and Characterizations of Nickel Ferrite Nanoparticles	2250-3021
3	2019 JETIR January 2019,	Effect of Al-Cr Co-doping on the Structural Properties of Nickel Ferrite Nanoparticles	2349-5162
4	2019 JETIR January 2019,	Sol-gel Auto Combustion Synthesis And Structural characterizations of Nickel Ferrite Nanoparticles by X-Ray Diffraction Technique	2349-5162
5	International Journal of Advance and Innovative Research	INFLUENCE OF PARTICLE SIZE ON STRUCTURE AND MAGNETIC PROPERTIES OF CADMIUM FERRITE (CDFE <sub>2</sub> O <sub>4</sub> ) NANOPARTICLES	2394-7780
6	Journal of Physics: Conference Series	Structural and Magnetic Properties of Nickel Ferrite	1644
7	Journal of Physics: Conference Series	Investigation on Synthesis, Structural and Electrical properties of Zinc Ferrite on Gamma Irradiation	1644
8	Journal of Physics: Conference Series	Structural and electrical properties of copper ferrite (CuFe <sub>2</sub> O <sub>4</sub> ) NPs	1644
9	<i>International Journal of Advanced Research In Basic and Applied Sciences</i>	Sol-Gel synthesis, Structural and magnetic properties of multiferroic Nanoparticles	2394-4072
10	<i>Journal of Superconductivity and Novel Magnetism</i>	Structural, Microstructural, Magnetic, and Ferroelectric Properties of Ba <sup>2+</sup> -Doped BiFeO <sub>3</sub> Nanocrystalline Multiferroic Material	1557-1939
11	<i>Applied Physics A</i>	Investigations of magnetic and ferroelectric properties of multiferroic Sr-doped bismuth ferrite	<a href="https://doi.org/10.1007/s00339-018-2025-3">https://doi.org/10.1007/s00339-018-2025-3</a>
12	Journal of Electronic Materials	Influence of Ba <sup>2+</sup> on Opto-Electric Properties of Nanocrystalline BiFeO <sub>3</sub> Multiferroic	<a href="https://doi.org/10.1007/s11664-018-6715-6">https://doi.org/10.1007/s11664-018-6715-6</a>

**13) Number of books and chapter in edited volumes/Books published  
(2016-17 to 2021-22)**

<b>Title of the book/ chapter published</b>	<b>Name of Faculty</b>	<b>National/ International</b>	<b>Year of publication</b>	<b>ISBN/ISSN No.</b>	<b>Name of the publisher</b>
Book Title:- "Objectives Physics for B.sc Students" Chapter Published: 01	Dr. A.P.Keche	National	2021	978-81- 951034-9-2	Rushi Publication Reg.No:- 1641500310731143
Objectives Physics for B.sc Students Chapter Published: 01	Ms. V.C. Karade	National	2021	978-81- 951034-9-2	Dr.S.S.Lakkas Rushi Publication

**14) Details of Research Guides**

<b>Sr. No.</b>	<b>Name of research guide</b>	<b>Date of Approval as research guide</b>
1	Dr. M.N. Sarnaik	10/06/2017
2	Dr. A.P. Keche	26/02/2020

**15) Seminars/ Conferences/Workshops organized & the source of funding**

<b>Sr. No.</b>	<b>Level National/ International/ State</b>	<b>Name of the workshop/Seminar</b>	<b>Funding agency</b>	<b>Durations (From-To)</b>	<b>Number of participants</b>
1	National	Two Days National Online FDP on "Designing & Implementation of Outcome Based Education (OBE) Model"	Self	7 <sup>th</sup> -8 <sup>th</sup> July 2020	2210
2	National	Two days Online State Level Workshop on "Avishkar: Preparing for innovative research projects" in collaboration with Deogiri College, Aurangabad	Self	9 <sup>th</sup> -10 <sup>th</sup> July 2021	834
3	National	"One Week Raman Guest Lecture Series"	Self	25 <sup>th</sup> -31 <sup>th</sup> May	352

		for B.Sc. students and teachers		2021	
4	National	Guest Lecture on "Science and Technology: Socio-Economic Development"	Self	11 <sup>th</sup> July 2021	36
5	National	National webinar Research Methodology on the topic "Science and Technology of Nanomaterials"	Self	30 <sup>th</sup> Dec 2021	97
6	National	Student Oriented program on Rendezvous with a Mountaineer on the topic "Trek in Himalayas"	Self	24 <sup>th</sup> Aug 2021	52

#### 16) Seminar / Workshop / Conference Attended / presented a paper

Sr. No	Name of faculty	International	National	Total
1	Dr. A. P. Keche	09	21	30
2	Ms. V. C. Karade	02	15	17
3	Mr. R. D. Bankar	03	02	05
4	Dr. M. V. Shisode	03	04	07

#### 17) Awards/ Recognition received by faculty and students

Date of awards	Name of full time teachers receiving awards	state level, National level, International level	Designation	Name of the award, fellowship, received from government or recognized bodies
Feb 2015	Ms. V.C.Karade	National	Assistant Professor	Best Poster Award in "Raman Memorial Conference-2015" held at Department of Physics, Savitribai Phule Pune University, Pune.

#### 18) Details of Infrastructural facilities:

Library : Central library facility - 115  
Departmental Library - 57

Internet Facilities for staff & students : Yes

Class room with ICT facility : Yes



**19) Details on the students enrichment programs  
(Special lecture, workshops, and seminar) with external experts: (2016-17 to 2021-22)**

Sr. No	Title of Workshop/ seminar/ Guest lecture	Name of recourse person	Date of event	No of participants
1	“Emerging Issues in Magnetic Nano Particles in Nanotechnology”	Prof. Dr. Mahavir Singh	24/01/2019	14
2	“Interference”	Dr. S. D. More	05/02/2019	18
3	“Transistors Biasing & Amplifiers”	Dr. B.G. Lone	06/02/2019	14
4	“Non Conventional Energy Resources and Optical Fibers”	Dr.M.R.Patil	25/11/21	20
5	“Origin of Quantum Theory and Wave Particle Duality”	Dr.R.J.Topare	26/11/21	24
6	“Lasers and it's Applications”	Dr.V.N.Dhage	29/11/21	30
8	“Thermal Conductivity”	Dr.B.H.Devmunde	30/11/21	25
9	“Mechanics”	Dr.S.D.More	06/12/21	
10	“Physics Principles and its Applications”	Dr.A.R.Chavan	07/12/21	18
11	“Quantum Mechanics”	Mr.A.V.Ambhore	08/12/21	27
12	“Fundamental of Acoustics’ and its Research Applications”	Dr.P.B.Nalle	09/12/21	23
13	“Opportunities in Physics after Graduation”	Dr.J.S.Kounsalye	1213//21	31
14	“Role of Physics in Crime Investigation”	Dr.F.I.Shaikh	18/12/21	27

**20) Details of Teaching- Learning methods/ E-content**

Sr. No .	Name of Faculty	Teaching Methods	Links
1	Dr. A. P. Keché	Power-point presentations	<a href="https://drive.google.com/drive/folders/1LUpxGdOwmmywYt_NxopOZhrCmrkS_Oe9?usp=sharing">https://drive.google.com/drive/folders/1LUpxGdOwmmywYt_NxopOZhrCmrkS_Oe9?usp=sharing</a>
2	Ms. V. C.Karade	Power-point presentations	<a href="https://drive.google.com/file/d/19s8dhQ4jVf78QpEplIwwTKusU2GnO3eW/view?usp=sharing">https://drive.google.com/file/d/19s8dhQ4jVf78QpEplIwwTKusU2GnO3eW/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1XpgVUgu91DjyKOM_AJTv1mKkfHJq0mZQ/view?usp=sharing">https://drive.google.com/file/d/1XpgVUgu91DjyKOM_AJTv1mKkfHJq0mZQ/view?usp=sharing</a> <a href="https://drive.google.com/file/d/14W0MfaLH1u4YoAD0UMj-lpl1uT61qMeL/view?usp=sharing">https://drive.google.com/file/d/14W0MfaLH1u4YoAD0UMj-lpl1uT61qMeL/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1Rtne_TSXzqgKGkPjgZizAxIxeKyqa6na/view?usp=sharing">https://drive.google.com/file/d/1Rtne_TSXzqgKGkPjgZizAxIxeKyqa6na/view?usp=sharing</a>
		Internet/You Tube	<a href="https://www.youtube.com/channel/UCJBaZc3RdFzM1qDaaDKyTQQ">https://www.youtube.com/channel/UCJBaZc3RdFzM1qDaaDKyTQQ</a> <a href="https://youtu.be/EzedRMAIGI0">https://youtu.be/EzedRMAIGI0</a>

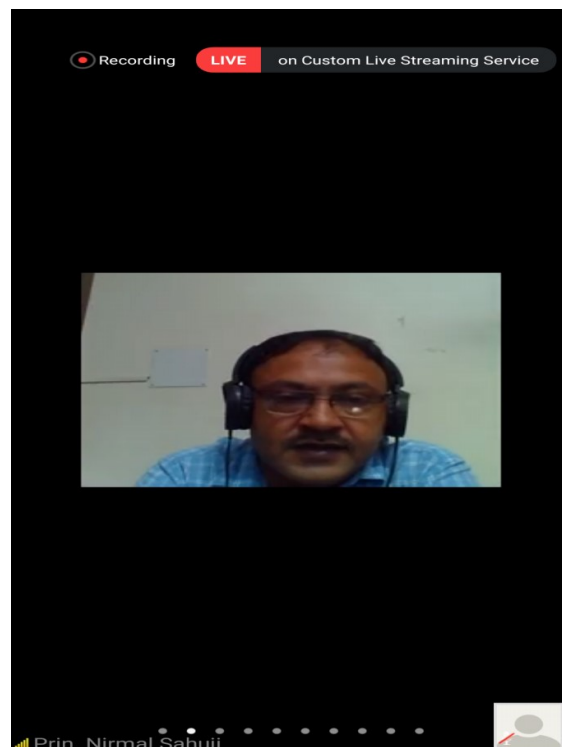
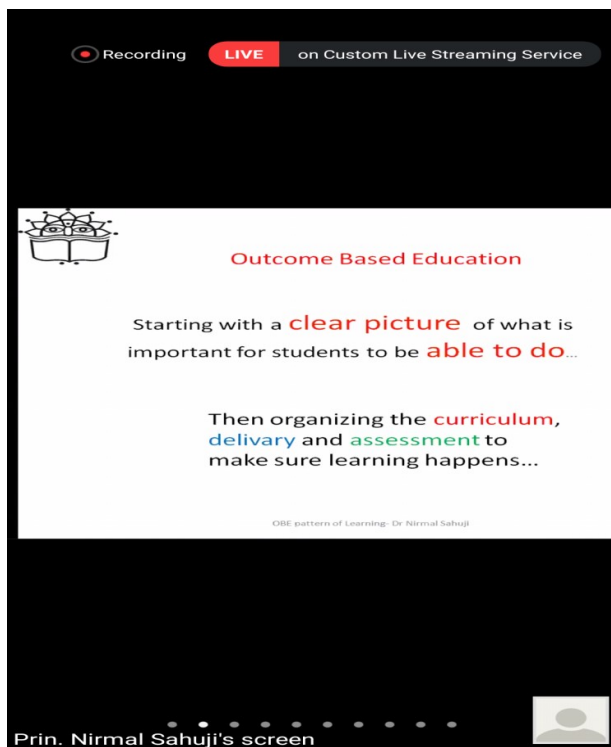
			<a href="https://youtu.be/QHMzFUo0NL8">https://youtu.be/QHMzFUo0NL8</a> <a href="https://youtu.be/PDwqff62_3E">https://youtu.be/PDwqff62_3E</a>
		Charts	<a href="https://drive.google.com/file/d/1EsBVAuZ1rlT7vn9l8wD1gAliDU7M9LuU/view?usp=sharing">https://drive.google.com/file/d/1EsBVAuZ1rlT7vn9l8wD1gAliDU7M9LuU/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1RzdTOiZR5TQWdtIS40s7L9yAbGKeCGC/view?usp=sharing">https://drive.google.com/file/d/1RzdTOiZR5TQWdtIS40s7L9yAbGKeCGC/view?usp=sharing</a>
3	Mr. R.D. Bankar	Power-point presentations	<a href="https://drive.google.com/file/d/1rJBbekRAB1Fgwh0TiPNHHIHqPvsb_Ukz/view?usp=sharing">https://drive.google.com/file/d/1rJBbekRAB1Fgwh0TiPNHHIHqPvsb_Ukz/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1iMzMz3Oy5nvmtdQdODXXAKzDCJb2Ila/view?usp=sharing">https://drive.google.com/file/d/1iMzMz3Oy5nvmtdQdODXXAKzDCJb2Ila/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1V6rTPHho8GZBkJ0eRSXMPF6EPWZNyH/view?usp=sharing">https://drive.google.com/file/d/1V6rTPHho8GZBkJ0eRSXMPF6EPWZNyH/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1_D5YUi1iuYgWRTA9KOVfjIXNlrTHcb7/view?usp=sharing">https://drive.google.com/file/d/1_D5YUi1iuYgWRTA9KOVfjIXNlrTHcb7/view?usp=sharing</a>
4	Dr. M.V.Shisode	Power-point presentations	<a href="https://drive.google.com/file/d/1ZUbJPRJGgeaUaXTMHqAu_5WkQnPkkax_/view?usp=sharing">https://drive.google.com/file/d/1ZUbJPRJGgeaUaXTMHqAu_5WkQnPkkax_/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1LfDa1G6pcT2HjjmP0pO-32ieVvjAbloW/view?usp=sharing">https://drive.google.com/file/d/1LfDa1G6pcT2HjjmP0pO-32ieVvjAbloW/view?usp=sharing</a>

## 21) Teaching methods adopted to improve student learning

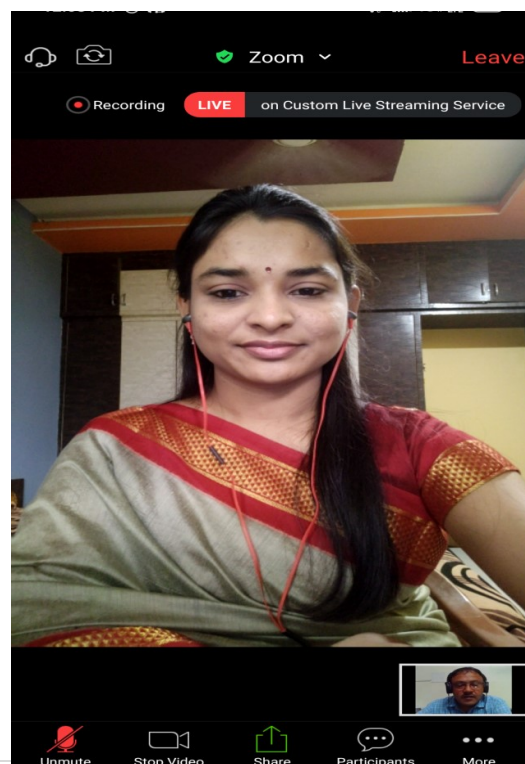
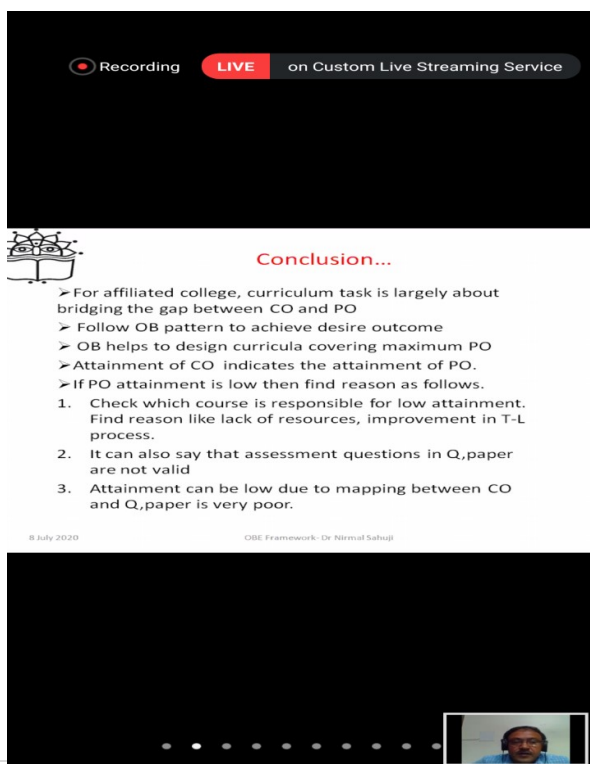
- Power Point Presentations : Yes
- Use of Video Clips : Yes
- Project Work : Yes
- Video Conferencing Lecture : Yes
- Organized Workshop : Yes
- Online NPTEL Courses : No
- Online NPTEL/UGC-SWAYAM Lectures : No
- Students Seminar : Yes
- Field Project/Survey : Yes

## 22) Department Event's with Photographs

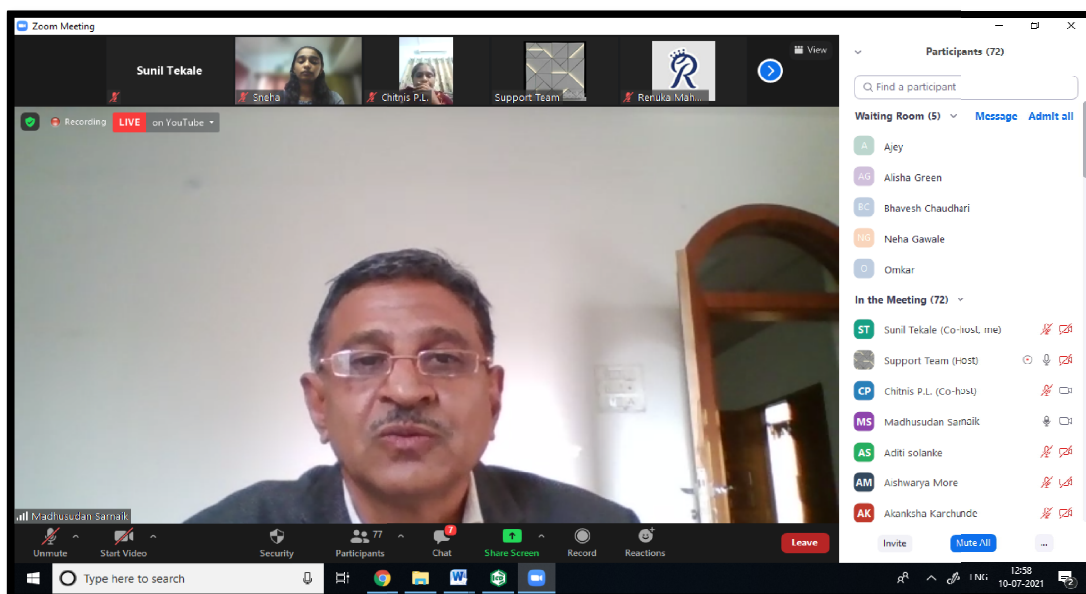
### 1. Two Days National Online FDP on “Designing and Implementation of Outcome Based Education(OBE) Model”



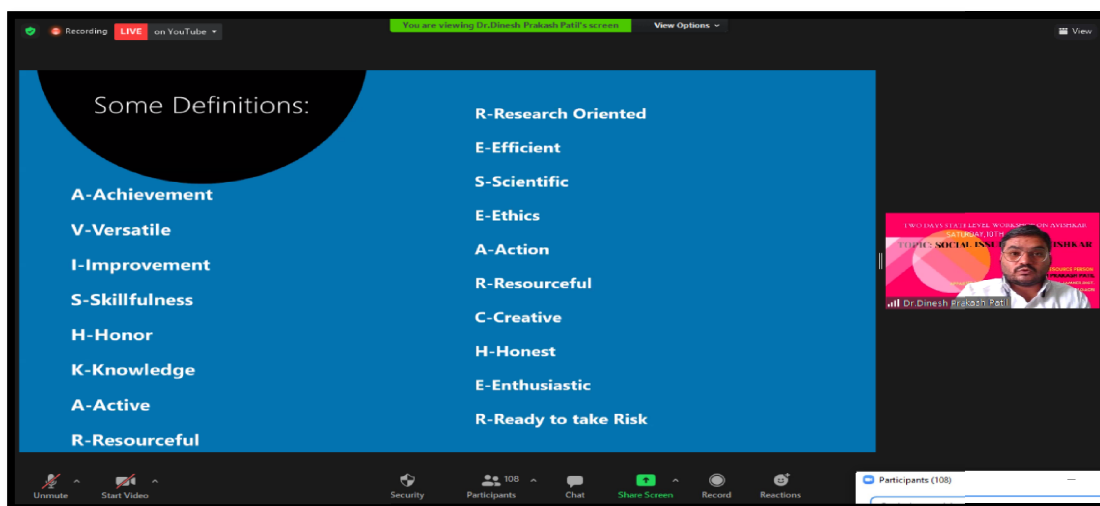
*Dr. Dinesh Patil delivering lecture to participants*



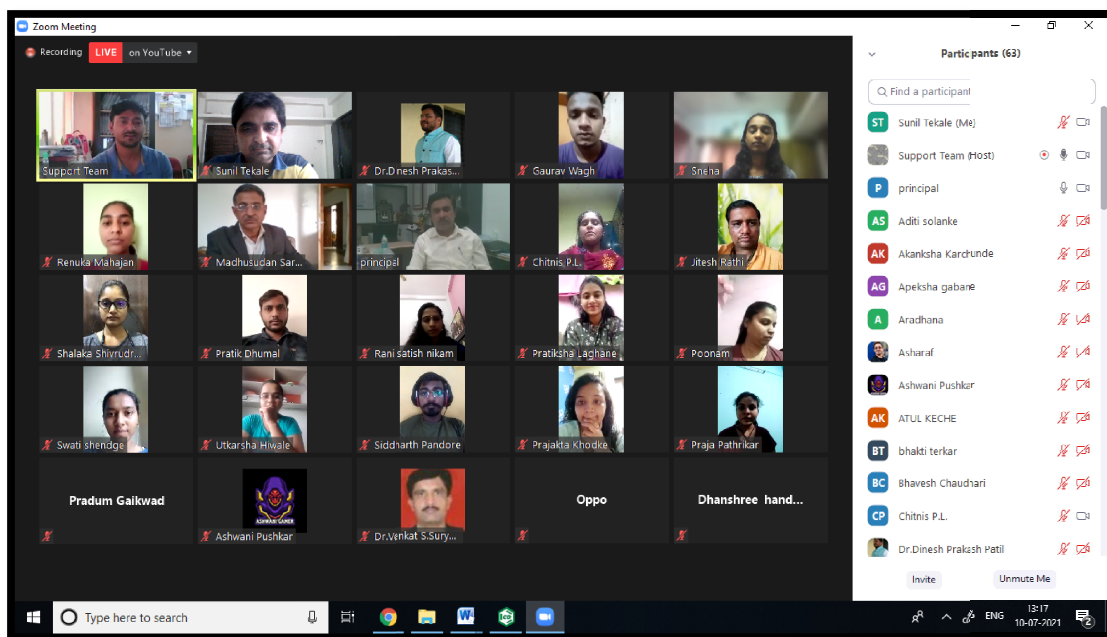
- Two days Online State Level Workshop on “**Avishkar: Preparing for innovative research projects**” in collaboration with Deogiri College, Aurangabad.



*Principal Dr. Madhusudan Sarniak addressing the students in inauguration session*



*Dr. Dinesh Patil addressing the students*



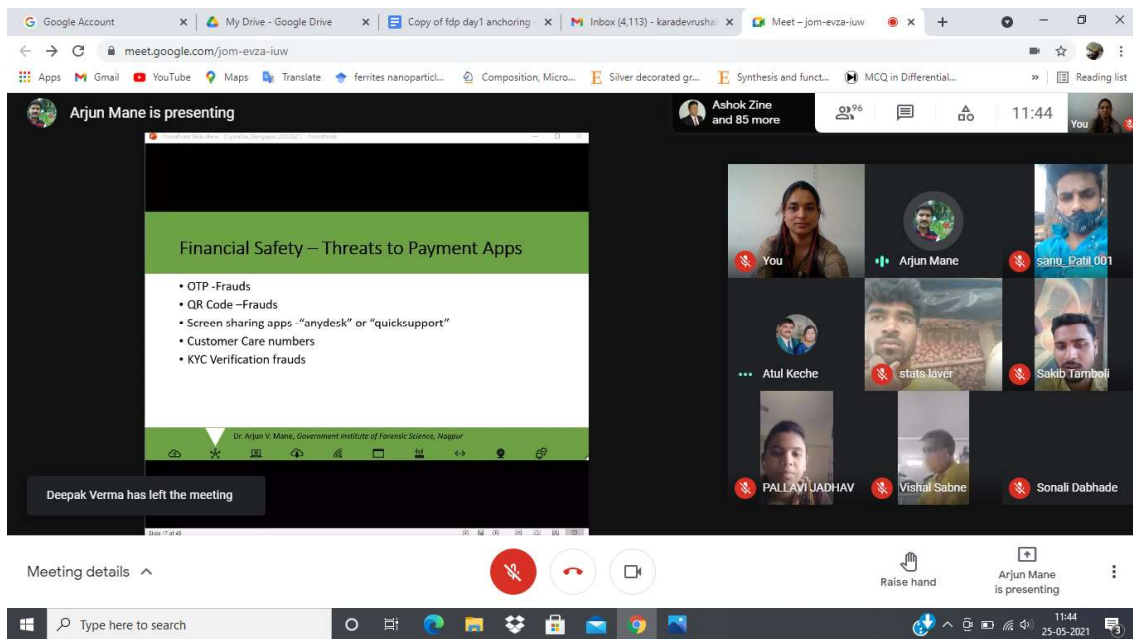
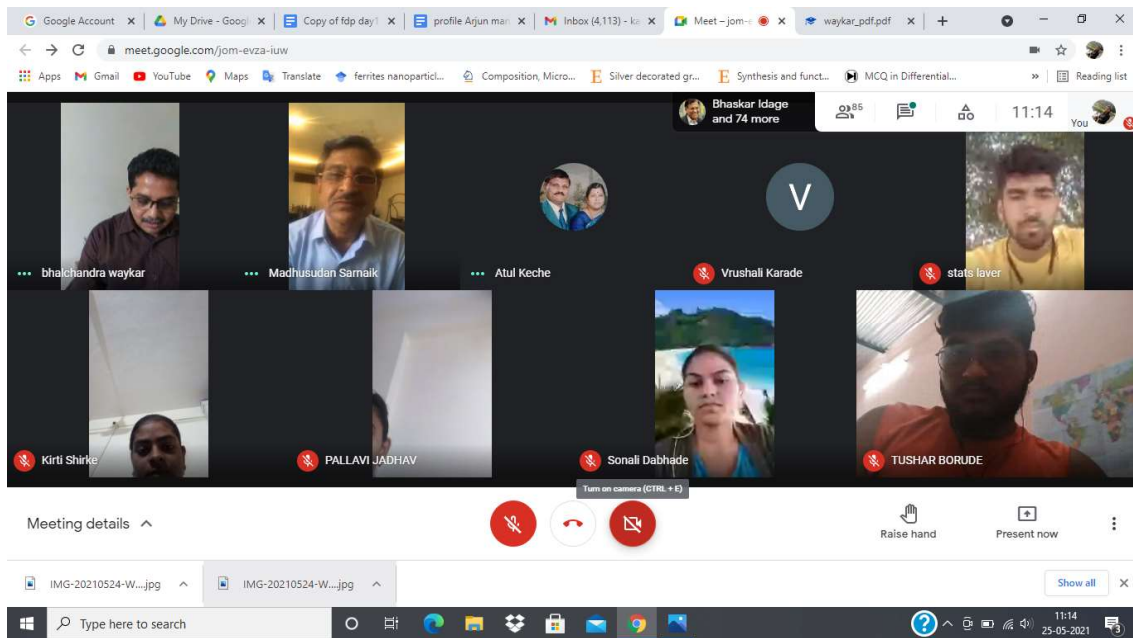
*Online Selfie of the participants*

### 3. "One Week Raman Guest Lecture Series" for B.Sc. students and teachers

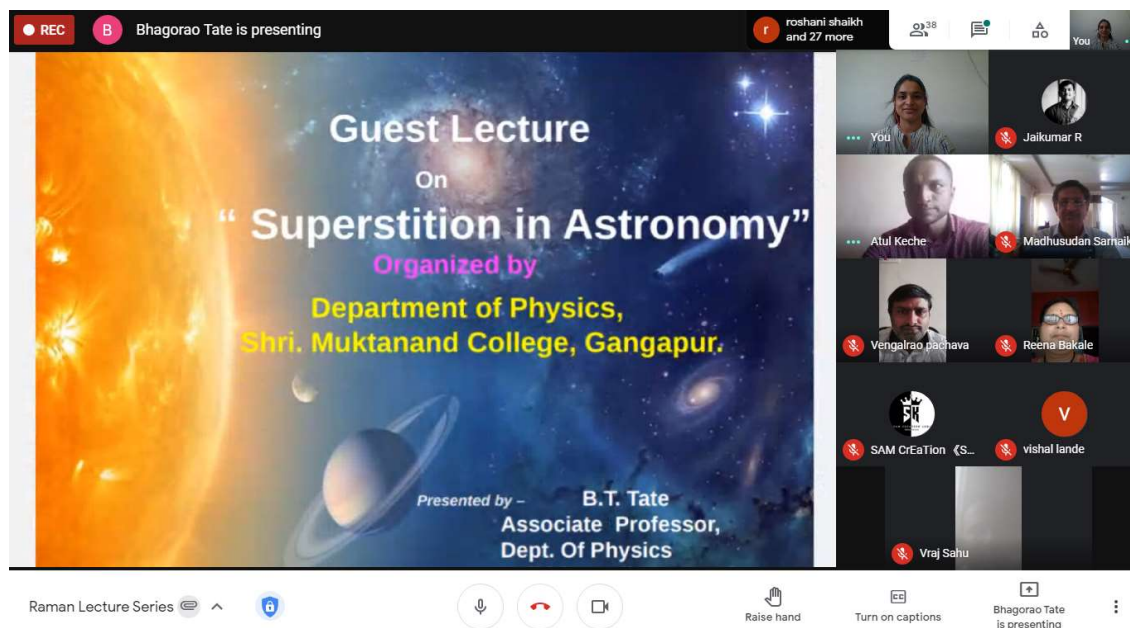
MSP MANDAL'S <b>SHRI MUKTANAND COLLEGE</b> TAL:- GANGAPUR, DIST:- AURANGABAD				
DEPARTMENT OF PHYSICS Organizes <b>Raman Lecture Series</b> (25 MAY TO 31 MAY 2021) <b>Programme Schedule Daily Timing :- 11:00 AM to 12:00 PM</b>				
NO	Date	Day	Resource Person	Topic
01	25/05/2021	Tuesday	Dr. Arjun Vithalrao Mane Dept. of Digital and Cyber Forensic Government Institute of Forensic Science, Nagpur	"Cyber Security Awareness"
02	26/05/2021	Wednesday	Mr. Bhagorao Tukaram Tate Associate Professor Dept. of Physics Balbhim Arts, Science and Commerce College, Beed	"Superstition in Astronomy"
03	27/05/2021	Thursday	Dr.C.M. Kale Associate Professor Dept. of Physics Indraraj Arts, Commerce and Science College, Sillod	"Laser a Special kind of Light"
04	28/05/2021	Friday	Dr.B.G. Lone Associate Professor Dept. of Physics Vinayakrao Patil Mahavidyalaya, Vaijapur, Dist: Aurangabad	"Opportunities of modelling and Simulation in Physics and Chemistry for undergraduate Students"
05	29/05/2021	Saturday	Dr.B.G. Toksha Dept. of Engineering Physics Maharashtra Institute of Technology (MIT), Aurangabad	"Nanotechnology foundations and Frontiers"
06	30/05/2021	Sunday	Dr.V.B. Kawade Professor Dept. of Physics Late.Laxmibai Deshmukh Mahila College, Parli-Vaijnath, Dist: Beed	"Semiconductor Devices and it's Applications"
07	31/05/2021	Monday	Dr.S.K. Vyawahare Professor Dept. of Physics Sunderrao Solanke Mahavidyalaya, Majalgaon, Dist : Beed	"Non-Conventional Energy Sources"



## Day-1:

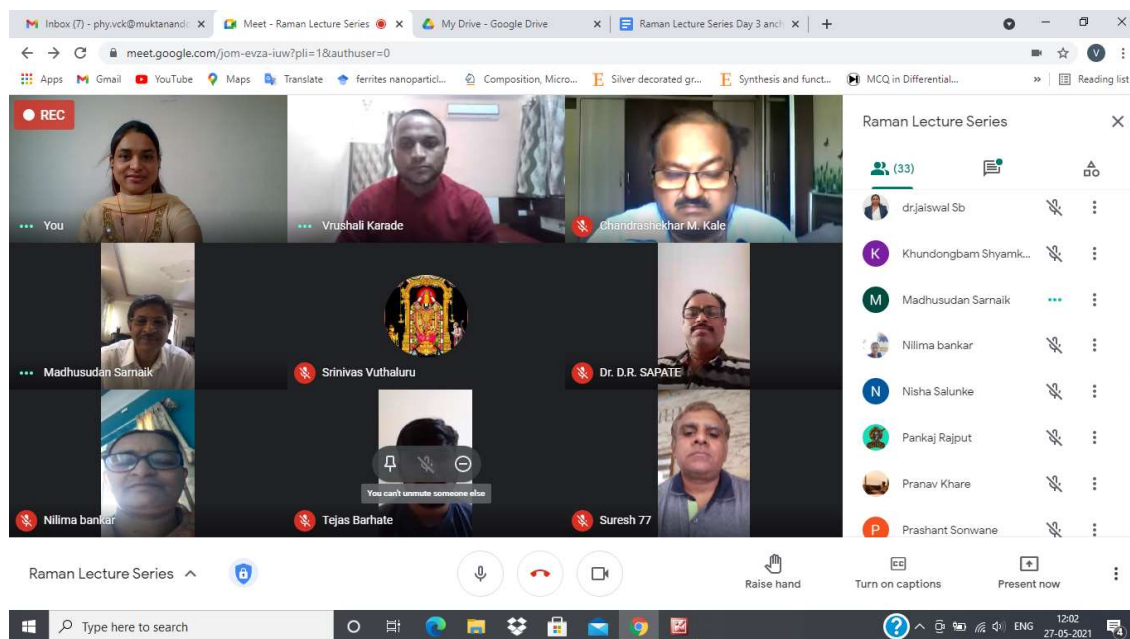


## Day-2:



*Mr. Bhagorao Tate delivering the lecture on the topic “Superstitions in Astronomy” dated 26<sup>th</sup> May, 2021.*

## Day-3:



*Dr. Chandrasekhar Kale is delivering a lecture on the topic “LASER: A Special Kind of Light” dated 27<sup>th</sup> May, 2021.*

## Day-4:

The screenshot shows a Zoom meeting interface. On the left, a PowerPoint slide is displayed with the following text:

**Raman lecture series**  
 Organised by Shri. Mukundan College Gangapur,  
 Department of Physics  
 28.05.2021

**Topic: Opportunities of Modeling and Simulation in Physics and Chemistry for undergraduate students**

**Dr. LONE B.G.**  
 Ph.D. (Physics), Postdoc-U.S.A. (Chemistry)  
 Head & Assistant Professor, Department of Physics  
 Vinayakrao Patil Mahavidyalaya, Velisapur  
 Email: drbglone@gmail.com  
 baliram.lone@apjcmil.usu.edu  
 +91 8208473408

On the right, a grid of participant avatars is visible, including Dr. Baliram Lone, Bhagwan Toksha, Vrushali Karade, Raju Sena, Infinite Media, RAGHUNATH VIDH..., roshani shaikh, and Prakash mundhe. The bottom of the screen shows the Zoom control bar with icons for mute, video, chat, and other functions.

***Dr. Baliram Lone is delivering a lecture on the topic “Opportunities of Modeling and Simulation in Physics and Chemistry for Undergraduate Students” dated 28<sup>th</sup> May, 2021.***

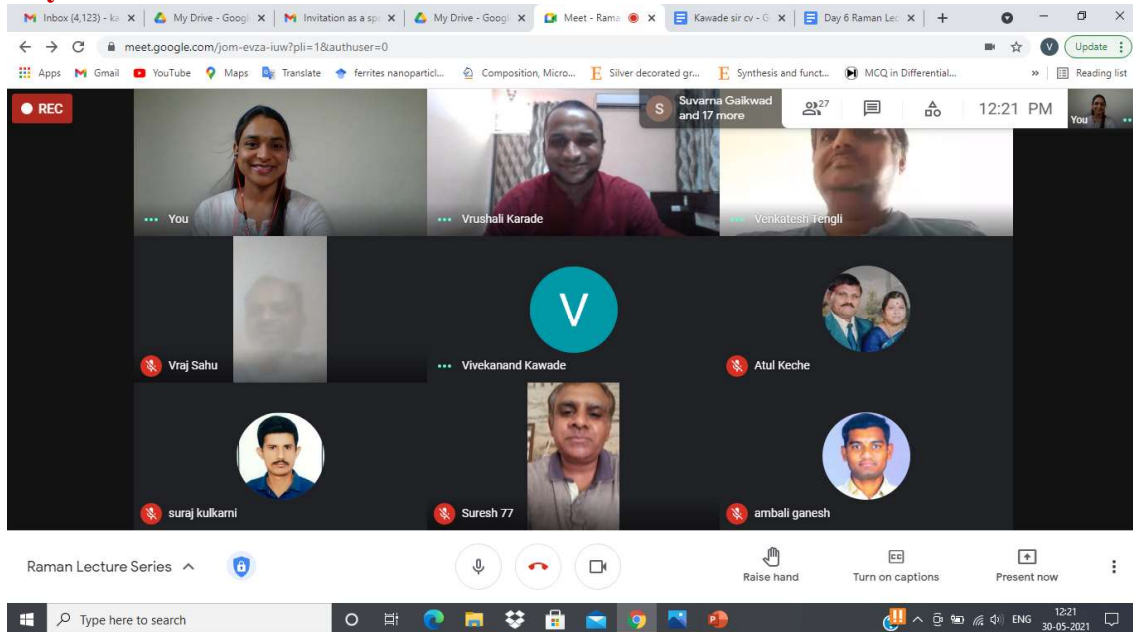
## Day-5:

The screenshot shows a Zoom meeting interface. The top of the screen displays the meeting title 'Day 5 Raman' and the time '12:12 PM'. The main area shows a grid of participant avatars, including You, Vrushali Karade, Yashraj Sahu, physics by toksha, anil raut, Dr. V P Deshpande, Pankaj Rajput, Narendra Kesana, and Khundongbam Shyamkanhai. The bottom of the screen shows the Zoom control bar with icons for mute, video, chat, and other functions.

***Dr. Bhagwan Toksha is giving a lecture on the topic named “Nanotechnology Foundations and Frontiers” dated 29<sup>th</sup> May, 2021.***

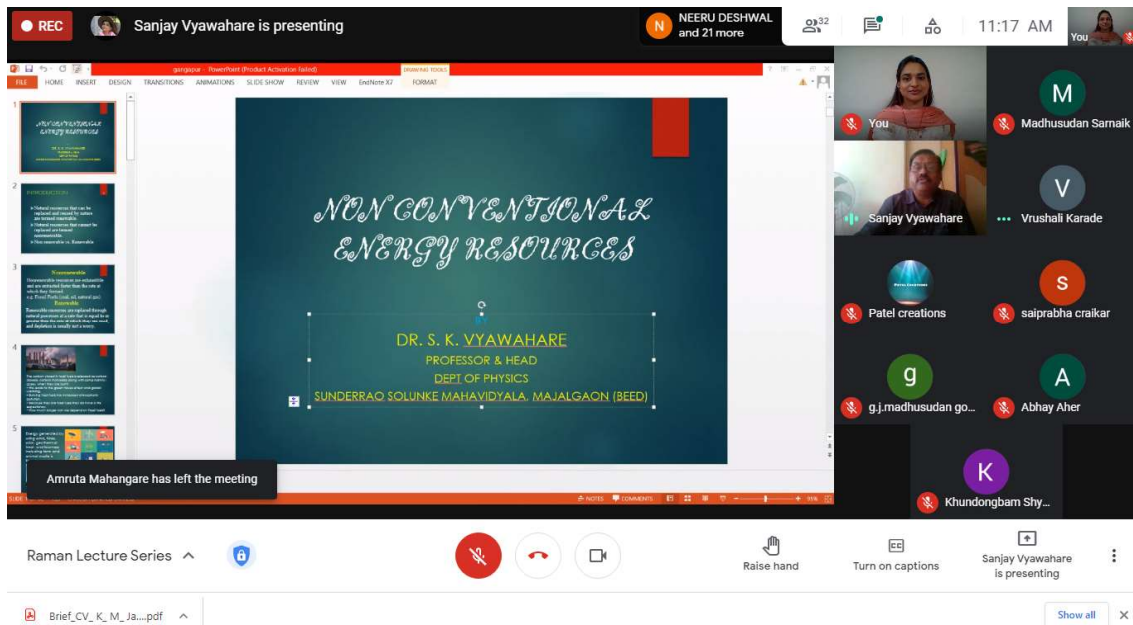


## Day-6:




*Dr. V.B. Kawade is delivering a lecture on the topic “Semiconductor Devices and Its Applications” dated 30<sup>th</sup> May, 2021.*

## Day-7:




*Dr. S.K. Vyawahare is delivering a lecture on the topic “Non-Conventional Energy Sources” dated 31<sup>st</sup> May, 2021.*

#### 4. Webinar on “Science and Technology: Socio-Economic Development”




MSP MANDAL'S  
**SHRI MUKTANAND COLLEGE**  
TAL:- GANGAPUR, DIST:- AURANGABAD  
DEPARTMENT OF ECONOMICS AND PHYSICS  
JOINTLY ORGANISED GUEST LECTURE ON

**“SCIENCE AND TECHNOLOGY: SOCIO - ECONOMIC DEVELOPMENT”**  
DAY: - SUNDAY DATE: - 11/07/2021 TIME: - 12:00 TO 1:00 PM



**.....Guest Speaker.....**  
**MS.GITANJALI RAUT CHIPLUNKAR**  
DEPT. OF ECONOMIC SCIENCES  
NKT COLLEGE, THANE (MUMBAI)



**Dr.M.N.Sarnaik**  
**PRINCIPAL & HEAD**  
DEPT. OF PHYSICS

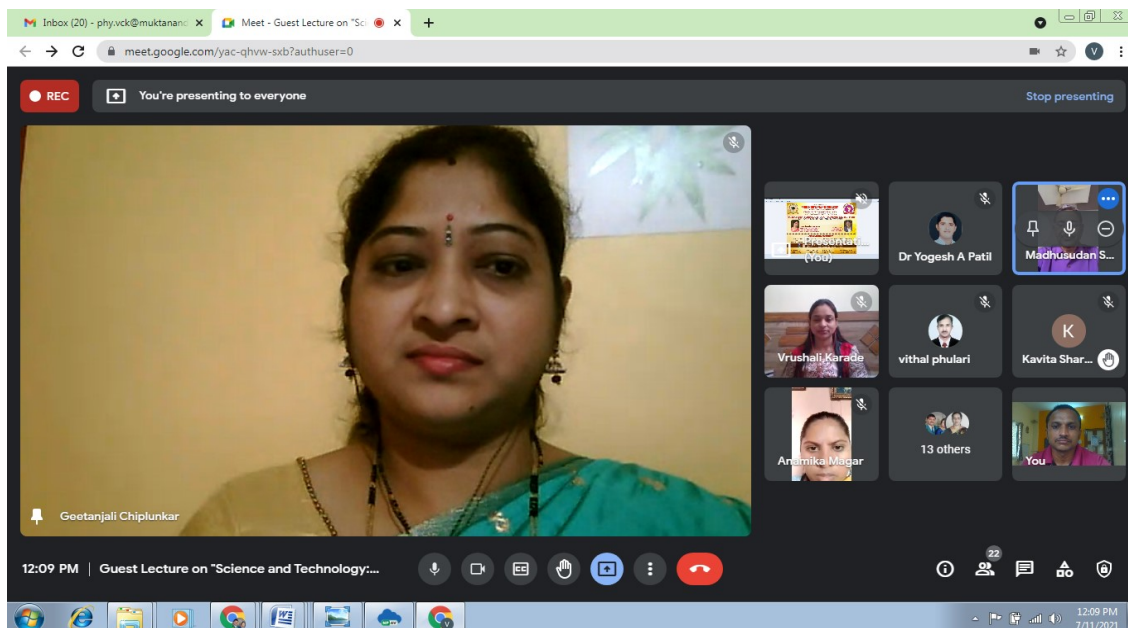
**ORGANIZING COMMITTEE**

<b>DR.V.S.PHULARI</b> HEAD DEPT. OF ECONOMICS	<b>DR.A.P.KECHE</b> ASSISTANT PROFESSOR DEPT. OF PHYSICS	<b>DR.YOGESH.A.PATIL</b> ASSISTANT PROFESSOR DEPT. OF ECONOMICS	<b>MISS.V.C.KARADE</b> ASSISTANT PROFESSOR DEPT. OF PHYSICS
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REGISTRATION LINK : - <https://forms.gle/yRiza8FTq6cYwNGV8>  
GOOGLE MEET : - <https://meet.google.com/yac-qhvw-sxb>

<b>DR.V.N.BAGUL</b> VICE PRINCIPAL	<b>DR.B.T.PAWAR</b> VICE PRINCIPAL	<b>DR.V.T.SABNE</b> VICE PRINCIPAL	<b>DR.V.B.JADHAV</b> IQAC COORDINATOR
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*Flyer of the Program*



*Ms. Gitanjali Raut Chiplunkar delivered online guest lecture on the topic “Science & Technology: Socio-Economic Development” dated 11 July 2021.*

## 5. National webinar Research Methodology on the topic "Science and Technology of Nanomaterials"

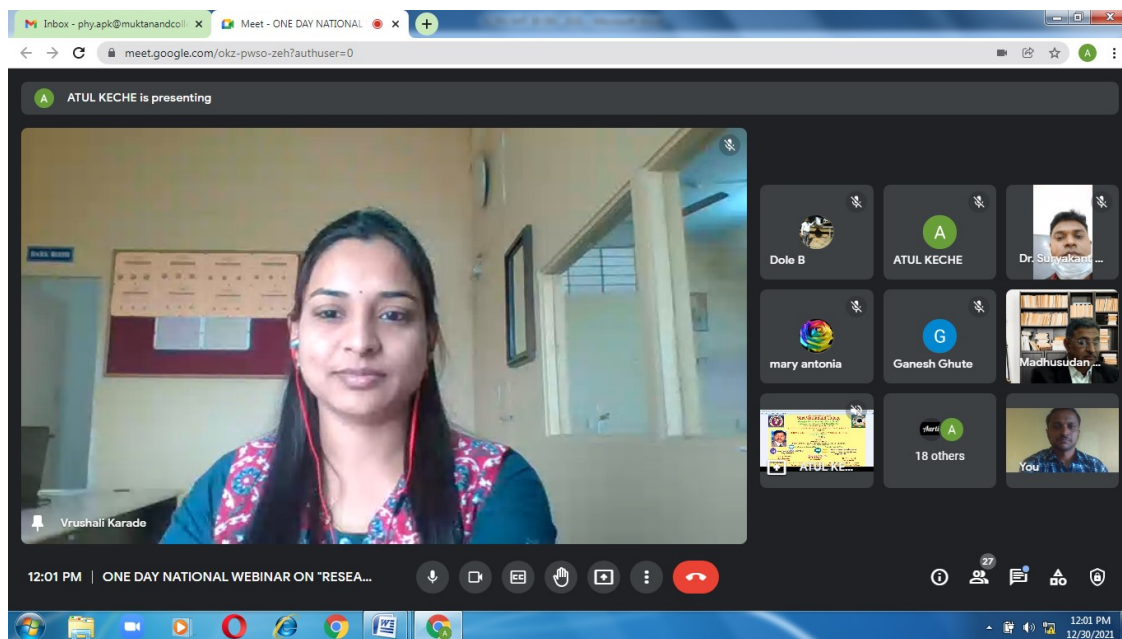


*Flyer of the Program*

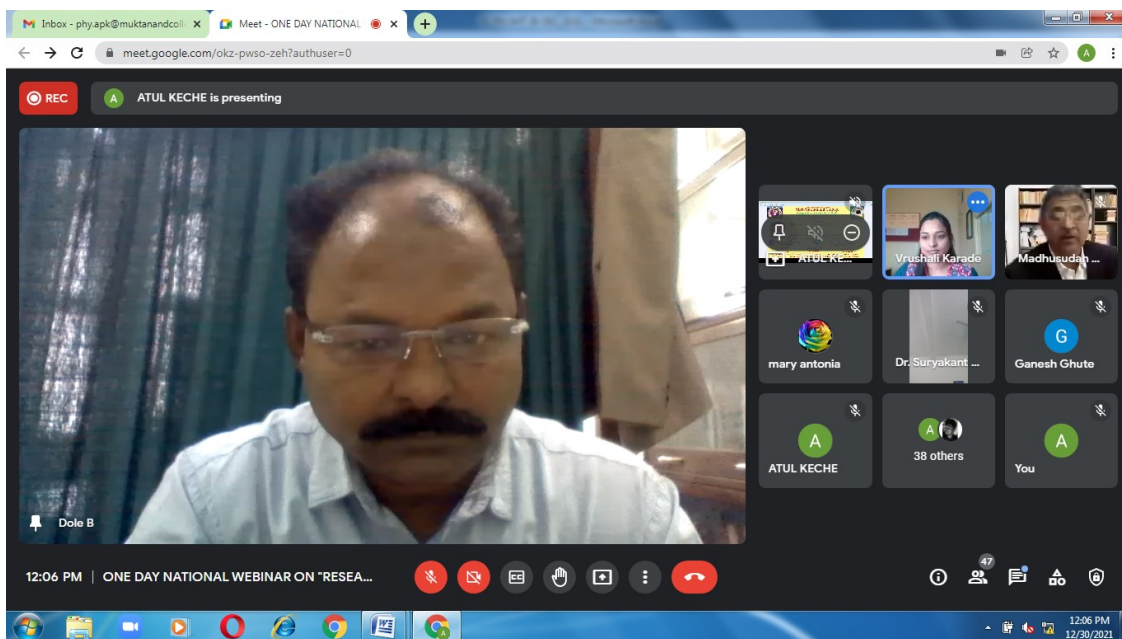


*Honorable Principal Addressing the Program*



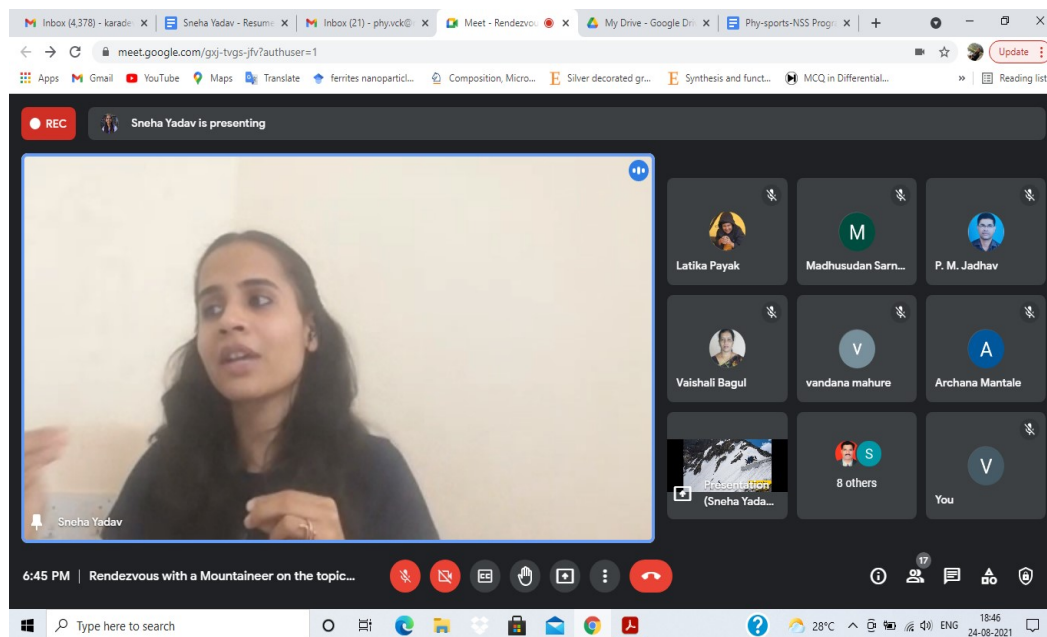


*Ms. V.C. Karade Mam Introducing the Resource Person Dr. B.N. Dole Sir*

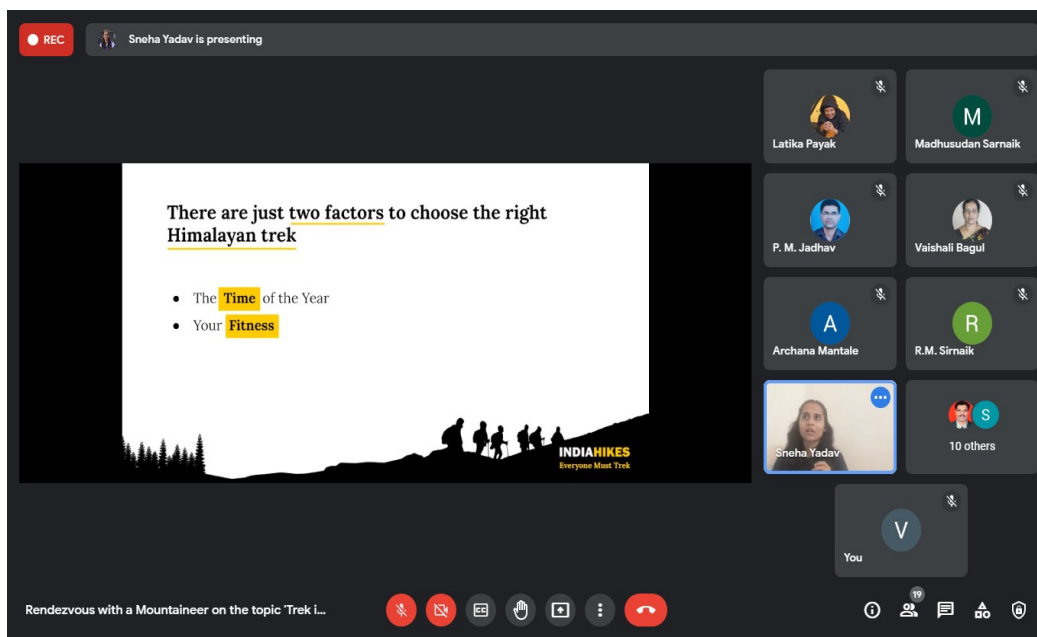


*Dr. B.N. Dole Sir delivered online Talk to One Day National Webinar 'Research Methodology' on the topic "Science & Technology of Nano Materials" dated 30 Dec 2021*

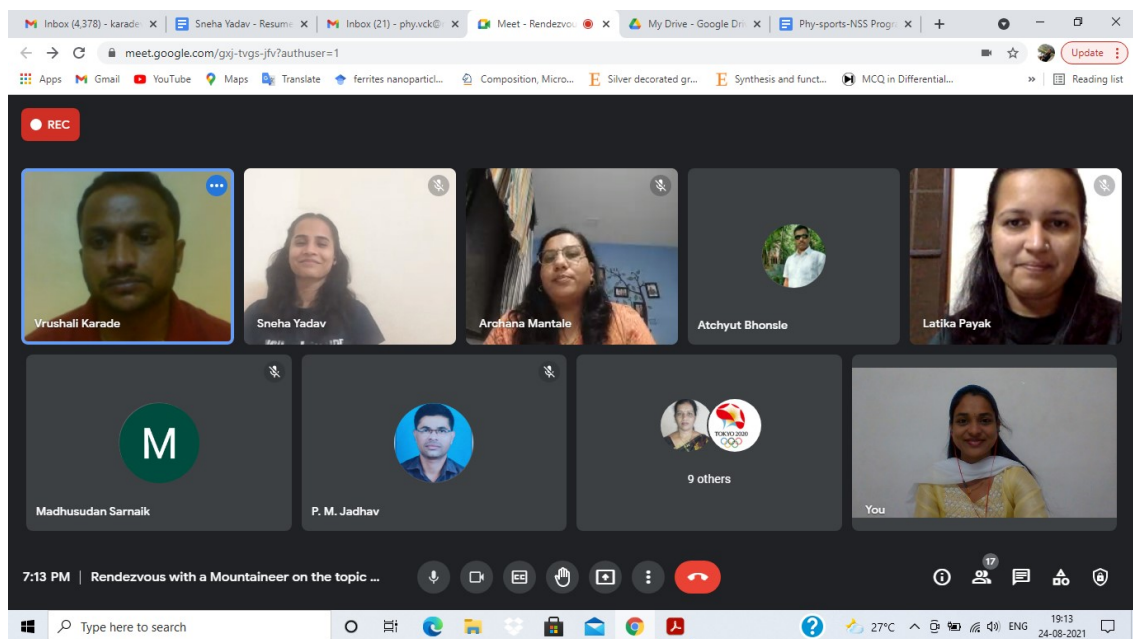
## 6. Student oriented program on Rendezvous with a mountaineer Topic: **Trek in Himalayas**



*Ms.Sneha Yadav addressing the students*



*Ms.Sneha Yadav presenting information regarding Himalayan Treks*



*Online Selfie with the participants*

**23) Details about Study tour / study visit report: -**

**Yes**

**24) SWOC analysis of the department and Future Plans:**

**a) SWOC analysis:**

**Strengths:**

- 1) Highly qualified, experienced and devoted Teaching staff having the quality of research publications.
- 2) Department conducts many seminars, guest lectures and online webinars beneficial for students and teachers.
- 3) Well-equipped laboratory facility with necessary instrumentation and computers with internet facility.
- 4) ICT Enabled Classroom
- 5) Faculty members are research supervisors and students pursuing doctoral degree under their supervision.

**Weakness:**

- 1) Department does not have Post Graduate program
- 2) Lack of space to do research related and other activities.
- 3) Lack of Short term and certificate courses in Career-oriented programs.

### **Opportunities:**

- 1) Multiple career opportunities for the students with physics as their graduation subject viz. placement in companies like Thermax, Teaching career and research opportunities.
- 2) Curriculum based Projects are allotted for B.SC III<sup>rd</sup> year students in order to inculcate research prospective among students.

### **Challenges:**

- 1) To increase employability of students.
- 2) Strengthen strong collaborative tie-up with industries, academic institutes and national research laboratories.
- 3) Teaching Challenges as Students come from rural area and the academic background of the students is not up to level.
- 4) Taking initiatives for research related activities.

### **Best Practices of the Department:-**

1. The student centric teaching & learning
2. The students are encouraged to participate in the regular teaching & learning process.
3. The special attention is given to the students to improve their interest & skills in understanding in the basic concepts of physics.
4. The slow learners are motivated & encouraged by providing the guidance on the difficult articles.
5. The students are motivated to participate in the poster presentation, debate, science exhibition, project work etc.
6. The students are encouraged, guided & motivated for the study and to participate in various competitive examinations.
7. The departmental staff & students participate in various curricular & extra-curricular activities in college.

### **b) Future plan of the Department:-**

- 1) To develop the Science hub where the students of this area can explore and find a technical support regarding to the basic scientific concepts.
- 2) To provide the Research facility in the Material science.

- 3) To organize a workshop on the physical experiments in association with the Avishkar for the students of this rural area.
- 4) To use the solar power system in the department in order to remove the dependence on MSEB.



Dr.A.P.Keche  
**Head**  
Department of Physics