

**TELANGANA TRIBAL WELFARE RESIDENTIAL DEGREE  
COLLEGE FOR WOMEN, THANGALLAPALLY RAJANNA  
SIRCILLA**



**Activities Report  
Department of Physics**



**Faculty members**

**K.Vanisri (HOD)**

**S.Kavitha**

**M.Sravanth**

# Department of Physics Activities

Academic year 2023-24

## Science Induction Programme

**Date of the program:**27-02-2024

**Location:** college campus

### Objectives of the program:

- To create awareness about the science and new technology trends in the schoolchildren.
- Igniting the scientific and innovative thoughts in the students.
- To encourage the students towards new innovations.
- To create interest in the students about science concepts

### About the program:

An awareness program on science induction to the school students was conducted on the occasion of National science day to inculcate scientific and innovative thoughts in the students.

For this program Indian Association of Physics Teachers (IAPT) sponsored 10,000 rs for the science activities.

Chief guest DEO, Ramesh Kumar and Guest of honour Ch.Madhusudhan, secretary of IAPT, IQAC co-ordinator, GDC siddipet attended the program and appreciated the students.

We invited nearby school students to this program to create awareness on basic science experiments. Students from Shubodaya high school and zphs high school were attended the program.





## Feedback of the students:

1. It will create interest on the science- Mrudhula, 10th class, zphs, Thangallapally
2. This will improve curiosity about science- Swathi, 10th class, shubodaya high school

# Project work on solar based induction stove

**Project name:** Solar based induction stove

**Date of the program:** 23-08-2023 to 21-09-2023

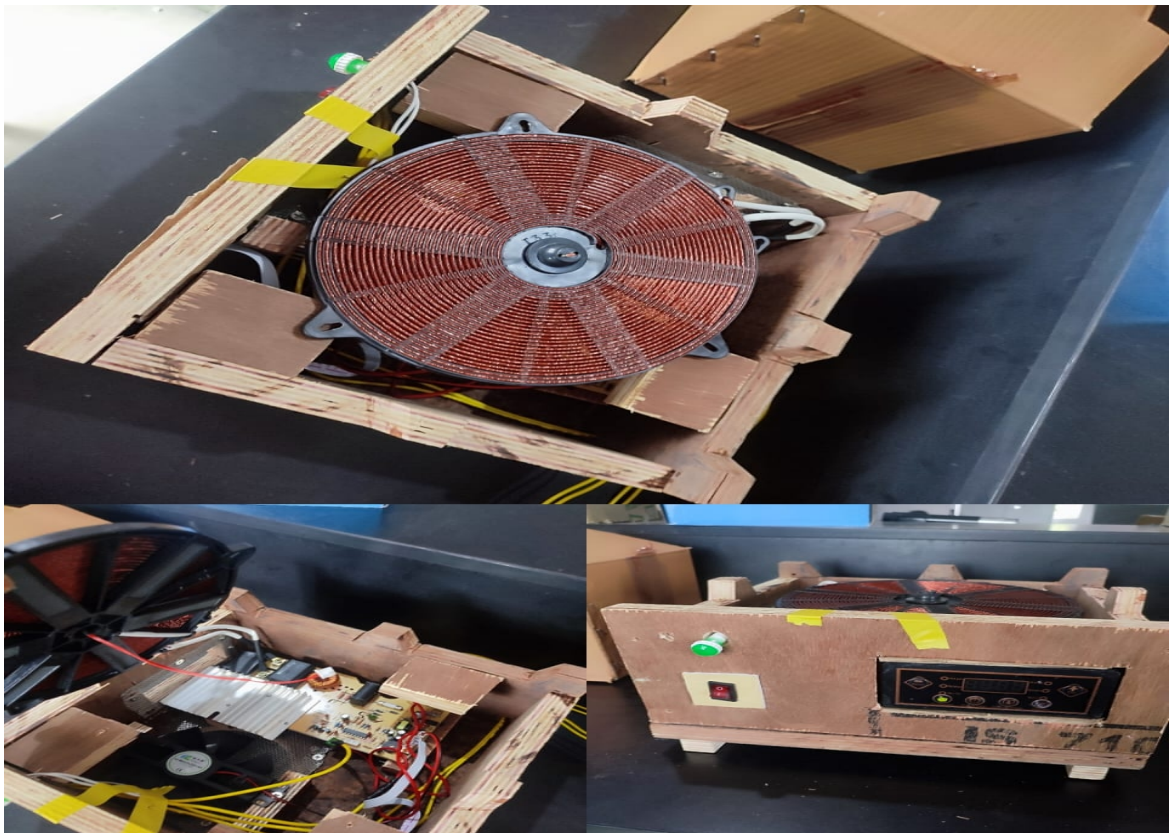
**Participants:** mentee:A.Navya , mentor: k Vanisri,DL in physics

## Objectives of the project:

- To reduce cooking fuel (LPG) and power consumption.
- To encourage the students towards energy conservation and sustainable development goals.
- Promoting the use of a sustainable and abundant energy source that does not deplete natural resources.

## Brief review about the project:

An innovative project named solar based induction stove was done by G.Navya, MBZC under the guidance of the mentor K.Vanisri,DL in physics. The cost for the material was funded by District collector, Siricilla. The project was successfully verified and it is properly working.



### About the importance of the project:

As the part of Sustainable development goals (SDG) and energy efficiency indicators department of Physics decided to use renewal energy resource solar power for daily usage in college campus.

We have used this solar power to lighting and fan in the mess hall as the part of energy conservation measures.



### Measures for energy conservation in the campus with solar energy:

As the part of energy conservation we have also used this solar energy for lighting and fan in the mess hall to reduce power consumption.

### Future scope:

we have developed ac induction stove by using solar panel. It requires battery to store solar energy and inverter to convert DC power to ac power. Next we want to develop induction stove which works on DC solar power.

# ISRO START out reach training program on Space science

**Date of the program:** 17-07-2023

**Participants:** Final year and second year MPCs students

## **Objectives of the program:**

The main objectives of this program are

- Sparking curiosity and fostering interest among students in the field of space science and technology.
- Encouraging innovation and creativity among students through competitions, challenges, and projects related to space research and technology development.

## **About the program:**

The ISRO (Indian Space Research Organisation) Start Outreach Program aims to engage and inspire students and the public about space science and technology. Through this initiative, ISRO collaborates with educational institutions, government bodies, and other organizations to conduct workshops, seminars, exhibitions, and competitions

ISRO has conducted the Space science and Technology Awareness Training (START) programme, as an awareness programme in space science and technology. The programme will be organized in online mode in order to reach out to as many of the space enthusiasts as possible.

The lecture modules are thematically arranged to address different facets of space science and technology like Earth and near earth space, solar system exploration, space mission design and observations Astronomy, Astrophysics, cosmology, as well as technological aspects like accessing the space and space instrumentation etc., space science. But due to the technical issue students not attended the examination.



3001- IIRS Outreach Programme on Overview of Space Science and Technology

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### Students Record

Show 10 entries Search:

S.No.	RegNo.	Name	Email ID	Profession	Quali
1	202330011925637	loudya akhila	loudyaakhila@gmail.com	Student	P Gr
2	202330011931272	MANTHRI SWATHI	manthriswathi2004@gmail.com	Student	P Gr
3	202330011925131	KASHURI ALEKHYA	alekhyakasthuri2005@gmail.com	Student	P Gr
4	202330011976857	malothu thirumala	thirumalamalothuthiru29321@gmail.com	Student	P Gr
5	202330011927198	KUMRA NAGAJYOTHI	chinthapurisamatha9010@gmail.com	Student	P Gr
6	202330011927451	BEEKSULA ASAWIKA	beeskulasawika@gmail.com	Student	P Gr
7	202330011961769	bhukya akhila	akhlabhukyarathod2004@gmail.com	Student	P Gr

Showing 1 to 10 of 32 entries

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[CMS Tutorial](#)

3001- IIRS Outreach Programme on Overview of Space Science and Technology

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### Students Record

Show 10 entries Search:

S.No.	RegNo.	Name	Email ID	Profession	Quali
4	202330011976857	malothu thirumala	thirumalamalothuthiru29321@gmail.com	Student	P Gr
5	202330011927198	KUMRA NAGAJYOTHI	chinthapurisamatha9010@gmail.com	Student	P Gr
6	202330011927451	BEEKSULA ASAWIKA	beeskulasawika@gmail.com	Student	P Gr
7	202330011961769	bhukya akhila	akhlabhukyarathod2004@gmail.com	Student	P Gr
8	202330011925454	NARSINGOJU ANJUMALIKA	anjumalikanarsingoju2005@gmail.com	Student	P Gr
9	202330011924694	GUNTI RAVALIKA	gunti.ravalika2005@gmail.com	Student	P Gr
10	202330011925461	BATTU VASANTHA	battuvasantha7@gmail.com	Student	P Gr

Showing 1 to 10 of 32 entries

Previous [1](#) [2](#) [3](#) [4](#) Next

[CMS Tutorial](#)

## Feedback of the students:

program has inspired them to pursue careers in space exploration and related fields, showcasing the program's effectiveness in fostering interest and passion for space science among the youth.- Divya - MPCs -3rd year

It's very informative and useful. We are proud to be the part of this orientation classes given by esteemed members of ISRO.- Vinika - MPCs -3rd year

# Academic year 2022-23

## Extension lecture on career prospects in physics

**Date of the program:**17-04-2023

**Participants:** All MPC and MPCs students

### Objectives:

- To educate students about the various career paths available to physics graduates beyond academia.
- Showcase the diverse range of industries where physics skills are in demand, such as technology, engineering, finance, and healthcare.
- Inspire students by sharing success stories of individuals who have pursued rewarding careers in physics-related fields.

### About the program:

Our physics Department arranged an orientation program on career guidance after completion of B.Sc with physics.

We invited Guest lecturer to give this orientation program. P.Anil kumar, Degree lecturer in Vikas degree college, siricilla was come to our college and gave a valuable information about career opportunities after completion of graduation with B.Sc physics.

The lecture commenced with an overview of the numerous industries where physics skills are highly valued. Examples included technology, engineering, finance, healthcare, and renewable energy sectors. Emphasis was placed on the versatility of a physics degree and its applicability across various fields.

### Conclusion:

The extension lecture proved to be highly informative and insightful, shedding light on the diverse range of career prospects available to physics graduates. Attendees left with a clearer understanding of the opportunities awaiting them and the necessary steps to embark on their desired career paths.

### Recommendations :



- It's better to incorporate more hands-on activities or workshops to provide practical experience.
- Invite a panel of professionals from various industries to share their

experiences and insights.

- Offer follow-up sessions or resources to support students in their career exploration journey.

Overall, the extension lecture was a resounding success in empowering students to consider and pursue exciting career prospects in physics beyond academia.

**TTWRDC (W), SIRICILLA**  
**Department Of Physics**

 17 April, 2023  At 3:00pm

**WEBINAR ON  
CAREER PROSPECTS OF  
PHYSICS**

**Speaker:**  
**P. Anil Kumar**  
Degree lecturer,  
Mahathi Degree College,  
Siricilla.

**Convener:**  
**K.Rajani,**  
Principal,  
Department of Microbiology



# Open discussion about new innovative Projects and Project work on Mechanical Escalator model

Discussed projects from physics

1. Rescue of children from borewell

2. Solar induction stove

**Date of the program:**2-03-2023

**Participants:**Y.Vinika, Divya, Sreelekha, Archana- MPCs -2nd year

A.Navya- MBZC 3rd year

**Objectives of the program:**

- ▶ Generating innovative ideas for engaging science activities that can captivate students' interest, stimulate curiosity, and foster critical thinking, creativity, and scientific inquiry.
- ▶ Facilitating the exchange of ideas, experiences, and expertise among participants to foster mutual learning and understanding of new innovations

**About the program:**

As the part of national science day celebration all science departments organized an open discussion about new innovative ideas in the science and technology.few of the students came with different ideas which will helpful for our society, department of physics shortlisted 2 projects in the physics subject, those are Rescue of children from bore wells presented by Y.Vinika-MPCs -2nd year and other student A.Navya came with new idea that is solar induction stove.

Vinika MPCs, a second year student, likely provided a detailed explanation of the project on the rescue of children from bore wells on 2-3-2023.

Brief overview of the issue: Children falling into bore wells is a recurring and distressing incident.

Importance of timely and efficient rescue operations to save lives.

She also mentioned that to use of advanced equipment like cameras, drones, and drilling machinery to enhance rescue operations.



(Student explaining about the project using poster presentation)



Second year students Divya , archana, Sandhya, manjula did mechanical Escalator model as the part of project work.

### **Feedback of the students:**

- the presentation was very informative and insightful, raising awareness about the challenges and importance of such rescue missions.- Vijaya- MPC-3rd year
- Presentation was very effective and useful project but it would be better to use ppt presentation to show the importance of the project.- Divya - MPCs - 3rd year

## Poster presentation on Production of Electricity

**Date of the program:** 2-3-2023

**Participants:** Vaishnavi - MPC 3rd year, sreelekha MPCs -3rd year and Vinika - MPCs -2nd year

**Location:** seminar hall

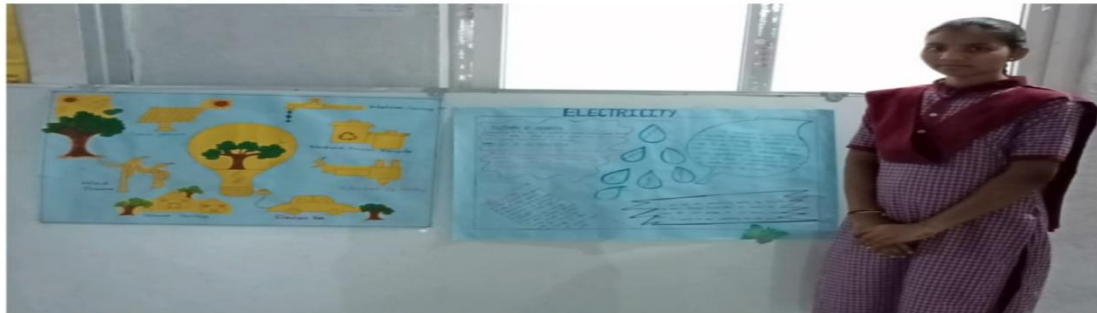
### Objectives of the program:

- To Educate viewers about different methods of electricity generation.
- To give clear idea about electricity generation.

### About the program:

Department of physics arranged a poster presentation competition for the students. Final year students B.Sreelekha, MPCs and E. Vaishnavi. MPC presented their posters on the topic How to produce electricity and advantages and disadvantages.





### **Feedback of the students:**

clear and concise presentation of information, which made complex concepts easy to understand.- Divya -Mpcs 2nd year

It would be effective by including more real-life examples and case studies to illustrate the practical applications of electricity production methods.- few of the students from 2nd years

## Master student competitions department wise

**Date of the program:**24-02-2023

**Participants:** B.Akhila-Mpcs 3rd year, Anjumalika, Thrisha- MPCs -2nd year

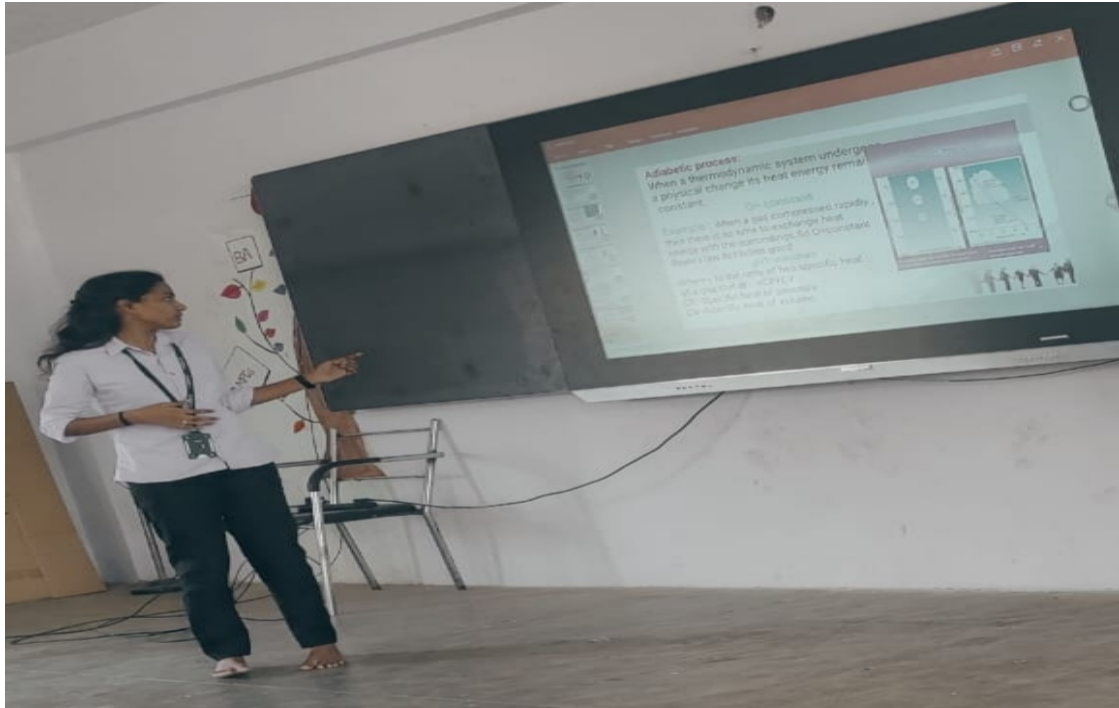
### Objectives of the program:

- To encourage students to explore their talent and interest in the subject.
- To improve communication skills of the students and competitive spirit.

### About the program:

Gurukulam head office gave a circular to conduct department wise super student competitions from that select 2 students from each department. For selected students again conducted competitions in all the departments and selected 4 students from the college and short listed 4 students went to super student competitions which was conducted at TTWRDC (W), Mahaboob nagar. From the department of physics Anjumalika selected for this competition. She explained about transport phenomena and Thermodynamics laws with applications.





# Poster making competitions (Slogan making) on the occasion of Energy conservation day

**Date:**14-12-2022

**Participants:** MPCs 1<sup>st</sup> year

**Activity:** Poster making and slogan making competition

**Theme of the posters:**

Awareness on energy conservation

**Objectives:**

- Poster making competition serves as a platform to raise awareness among participants and the general public about the importance of energy conservation in today's world.
- These competitions encourage creativity and innovation in expressing ideas related to energy conservation. Participants get to showcase their artistic and linguistic skills in delivering powerful messages.

**Methodology:**

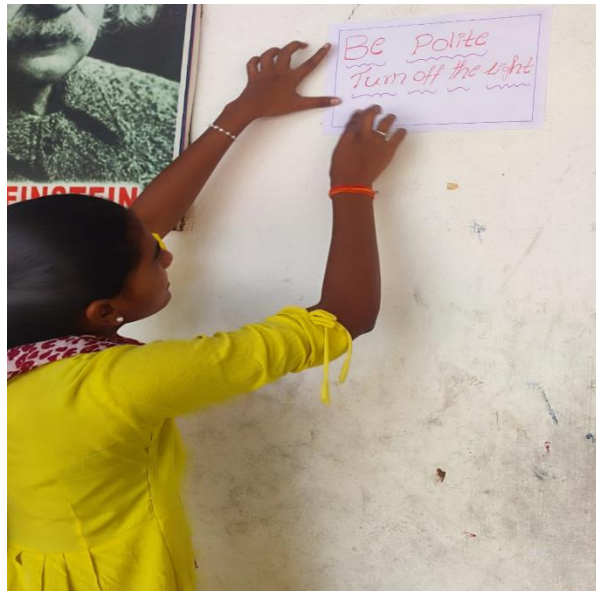
Learning with posters (Learning with pictorial representation)

**Description about the activity:**

On the occasion of Energy conservation day, department of physics organized a poster and slogan making competitions to all MPCs first year students. Students were actively participated in the competition. All the students made colourful posters with showing importance of energy conservation.



(Students preparing posters representing energy conservation importance)



(Pasting Wall posters in college campus to aware about energy conservation all the students)

**Outcomes of the activity:**

These competitions increased awareness among participants and the general public about the importance of energy conservation. Through the creation and display of posters, key messages about energy-saving practices are disseminated to a wider audience.

# Inter departmental Quiz and eassay writing competitions

**Date of competition:**18 -11 -2022,

**Location:** seminar hall

**Participants:** MPC and MPCs -2nd year students

## **Objectives:**

The main objective of this program is to raise awareness about energy conservation among the students.

## **About the program:**

Quiz Competition:

The quiz competition was a spirited affair, with teams of students showcasing their knowledge on various aspects of energy conservation. Questions ranged from renewable energy sources to energy-efficient technologies, challenging participants to think critically and creatively. The competition fostered healthy competition among students and provided an engaging platform for learning.

Essay Writing Competition:

The essay writing competition provided students with an opportunity to express their thoughts and ideas on energy conservation through written discourse. Participants delved into topics such as the impact of energy consumption on the environment, the role of renewable energy in mitigating climate change, and the importance of individual actions in conserving energy.





### **Feedback of the students:**

1. we were enjoyed alot in participating in quiz competition it was so fun and lot of knowledge was gain by this type of programs- Vijaya- MPC 2nd year
2. It is good opportunity to share our views through eassay writing activity and healthy competitions always provide scope for new things to learn.- Vasantha - MPCs -2nd yea

# Project work on Verification of Hook's law

**Date:** 25-8-2022


**Students:** N.Anjumalika, Nandhini, Avinasha, Saraswathi- MPCs-1st year

## Objectives of the project:

The primary objective of a project on Hooke's Law would likely include understanding and demonstrating the relationship between the force applied to an elastic object and the resulting extension or deformation.

**Principle:** Hooke's law states that the strain of the material is proportional to the applied stress within the elastic limit of that material.

A Project Report  
on  
**Verification of Hook's law**  
Submitted by  
Anjumalika ( 220771044681025 )  
Nandhini (220771044681010)  
Avinasha (220771044681015)  
Saraswathi (220771044681023)  
Under the guidance  
Of  
K Vaniri, M.Sc, SET, (PhD)  
HOD, Department of Physics



Department of Physics  
Telangana Tribal Welfare Residential Degree College(W), Rajanna Sircilla.  
(Affiliated to Satevahana University)  
Academic year (2022-23)



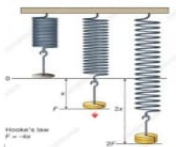
Fig: Students finding readings in laboratory

**Project report on Verification of Hook's law**

**Aim:**  
To verify the Hook's law

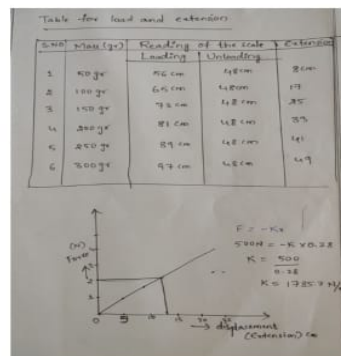
**Objectives of the project:**  
The primary objective of a project on Hooke's Law would likely include understanding and demonstrating the relationship between the force applied to an elastic object and the resulting extension or deformation.

**Principle:**  
Hooke's law states that the strain of the material is proportional to the applied stress within the elastic limit of that material.



**Theory:**  
To deform a material requires the application of a force. Some materials deform more easily than others. Materials that return to their original dimension after deforming force has been removed are called elastic. All materials exhibit some degree of elasticity but not always in enough quantity to be useful from a practical sense. The elasticity property makes its presence

**Observations:**  
Least count of vertical scale = 0.1 cm  
**Table for load and extension:**



## Outcomes:

Students understood experimental analysis and relation between stress and strain in real time applications

## Student Seminar

### On the topic Thermal properties and laws of thermodynamics

**Date of the seminar:**24-8-2022

**Participants:** MPCs -2<sup>nd</sup> year students

**Seminar given by:** M.Anila, MPCs -2<sup>nd</sup> year

## Objectives:

- ☒ Understanding the fundamental principles of thermodynamics.
- ☒ Exploring the various thermal properties of matter.
- ☒ Discussing the laws of thermodynamics and their applications.
- ☒ Analyzing real-world examples to illustrate thermodynamic concepts.

## Methodology adopted:

Learning with visual demonstrations and practical examples.

## Brief review about the seminar:

The student seminar on thermal properties and laws of thermodynamics, given by M.Anila at TTWRDC (Women's College), Siricilla, introduced a comprehensive understanding of these fundamental principles. She employed a multi-dimensional methodology to elucidate the concepts, including:

**Visual Demonstrations:** Anila utilized visual aids such as diagrams, graphs to illustrate the concepts of thermal properties and laws of thermodynamics, making the abstract theories more tangible and comprehensible.

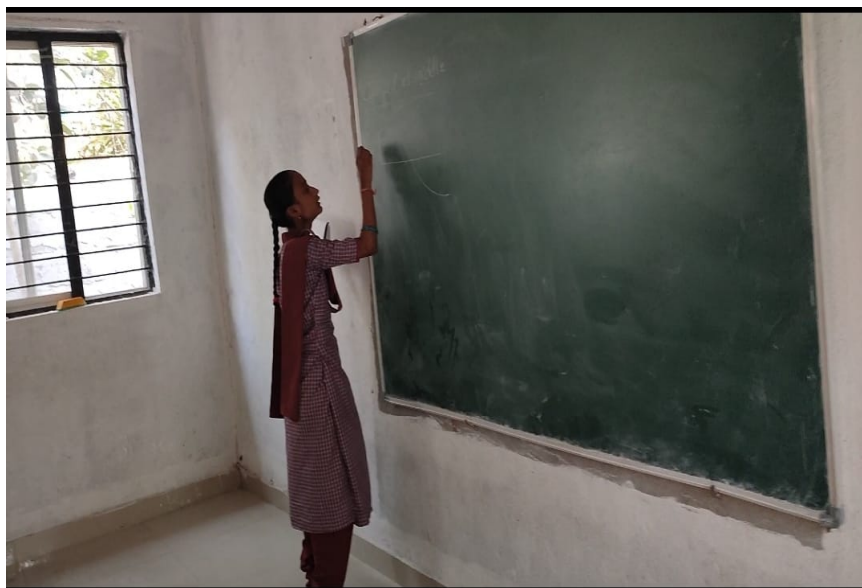
**Real-life Examples:** She explained real-life examples and applications of thermodynamics, connecting theoretical concepts with practical scenarios to demonstrate their relevance in everyday life and engineering applications.

**Interactive Discussions:** The seminar encouraged active participation from attendees through open discussions, Q&A sessions, and group activities. This interactive approach fostered engagement and allowed students to clarify doubts and deepen their understanding collaboratively.

### **Feedback of the students:**

It was very interesting by observing the real life examples in the seminar like thermal conductivity from hot water to cool water.- Y.Divya, MPCs -2<sup>nd</sup> year

We can improve our knowledge in the subject and also communication skills by conducting seminars.- P.Rani, MPCs -2<sup>nd</sup> year.



### **Outcomes:**

- Students gained a deeper understanding of the thermal properties of materials, such as conductivity, specific heat, and expansion coefficients.
- Students understood real-time applications of thermodynamics

## Career Guidance Workshop

**Date of the program:**19-07-2022

**Participants:**All final year students

**Location:** seminar hall, TTWRDC (W), Siricilla

### Objectives of the program:

The career guidance workshop aimed to provide B.Sc Physics students with insights into various career paths and opportunities available to them in the field of physics and related disciplines.

### Brief review about the program:

The workshop commenced with a warm welcome to all participants, emphasizing the importance of career planning and exploration.

Keynote Speeches:

Guest speakers P. Sridevi, Head of electrical and electronics engineering and N.Ravinder, Lecturer in Electrical engineering delivered a keynote address, shedding light on the wide array of career opportunities accessible to B.Sc Physics graduates, ranging from academia to industry and research.



### **Outcomes:**

- This workshop increased awareness among students about the diverse career options available after completing a B.Sc in Physics.
- It enhanced understanding of the skills and qualifications required to excel in different career paths.
- Empowerment of students to make informed decisions about their future academic and professional endeavors.

### **Conclusion:**

The career guidance workshop proved to be a fruitful endeavor, equipping B.Sc Physics students with the knowledge, resources, and motivation to embark on successful career journeys in their chosen field.

# Academic year 2022-23

## Career Guidance Orientation program

Orientation program on higher education opportunities in central universities and IITs

**Participants:** All MPC and MPCs -3rd year students

**Date of the program:**14-07-2022

### Objectives of the program:

- Introducing participants to a wide range of career options and opportunities.
- Providing information on educational pathways and qualifications required for different careers.
- Assisting participants in identifying their interests, strengths, and values to align with suitable career paths.
- Offering guidance on developing essential skills and competencies for success in various professions.
- Empowering participants to set realistic career goals and create actionable plans to achieve them.

### About the program:

An orientation program was conducted by the department of Physics for all the final year students of MPC and MPCs students. In this program department HOD K. Vanisri and faculty S. Kavitha explained about various opportunities with graduation in physics in education, employment, and entrepreneurship fields.

K. Vanisri lecturer in physics explained about various higher education opportunities like post graduation with different specialisations and career paths in individual specialisation. She also explained about various central level examinations like IIT JAM, Jest, Central universities, NITs, etc.,

S.Kavitha, lecturer in physics explained about Employability and entrepreneurship opportunities opportunities with physics degree.



## **Feedback of the students:**

1. From this program we came to know about various central level universities and how to get seat in that universities. It was helpful to us- Prathyusha - MPCs -3rd year
2. We understood about various opportunities in employability with graduation in physics.- Poojitha -Mpcs 3Rd year

## Academic year 2021-22

### Project work on determination of wavelength of Laser light

**Date:** 6-5-2022

**Students:** Vinika, Archana, Akhila- MPCs 1<sup>st</sup> year

#### Objectives:

- To Ensure accurate and precise measurements of the laser wavelength to minimize errors.
- To verify experimental result with theoretical value of monochromatic laser beam( Visible light range verification)

#### Introduction:

As in the part of department project work, one small project was allotted to the first year students to make the students curious about the subject.

To improve their knowledge in the subject we have given the task of literature survey about Laser properties and



**A Project Report**  
on  
**"Determination of Wavelength of Laser light using diffraction grating"**

Submitted by  
Y.Vinika (210771044681018)  
B.Akhilja(210771044681003 )  
G.Archna (210771044681008)

Under the guidance  
of  
K.Vanishri, M.Sc, SET, (PhD)  
HOD, Department of Physics



**Department of Physics**  
**Telangana Tribal Welfare Residential Degree College(W),**  
**Rajanna Sircilla.**  
**(Affiliated to Satavahana University)**  
(Academic year -2021-22)



(Students observing the diffraction pattern and taking the observations)

**Observations & Calculations:**

Number of lines per inch on the grating,  $N = 15000$  lines/ inch

**Project report on determination of wavelength of Laser light using diffraction grating**

**Aim:**

To determine wavelength of laser light using diffraction grating

**Objective:**

To Ensure accurate and precise measurements of the laser wavelength to minimize errors.

To verify experimental result with theoretical value of monochromatic laser beam (Visible light range verification)

**Apparatus:**

LASER source, Plane Transmission Grating, meter scale, Vertical stands, Screen, etc

**Introduction:**

Laser is a process by which we can obtain a beam of light which is highly coherent, highly monochromatic and perfectly parallel.

A laser beam can be sent to any place and return back without any practical loss of intensity and it can be used for many purposes.

The word diffraction is about spreading out of waves after passing through small opening. Diffraction effects are important when the size of the opening is comparable to or less than the wavelength

**Principle:**

According to grating equation, for a plane transmission grating

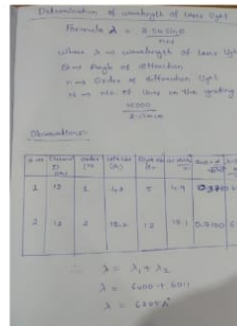
$d \sin \theta = n\lambda$ , Where  $\theta$  - angle of diffraction,

So,  $\lambda = \frac{d \sin \theta}{n}$

$\lambda$  - the wavelength of Laser,  $n$  - order of spectrum and  $N$  - number of lines per unit length

**Procedure:**

- 1) A semi conductor diode laser is mounted on the vertical stand so that it produces a horizontal beam.
- 2) The given diffraction grating is placed on a vertical stand at a distance of about 5cm from the laser and normal to it.



**Result:**

Experimentally calculated wavelength of laser light by taking multiple readings for different distances, We finally found the wavelength of laser light is  $6205 \text{ \AA}$

Wavelength of LASER beam =  $6205 \text{ \AA}$

# Field trip to powerloom and handloom industries at Siricilla

**Date of the program:**12-02-2022

**Location:** Siricilla

**Participants:** MPCs -3rd year students

## **Objectives:**

To provide students with a practical understanding of the processes involved in textile production, including weaving techniques, machinery usage, and production scale.

To offer students insights into the functioning of power loom and handloom industries, including their significance in the local economy, employment opportunities, and challenges faced by workers.

## **Purpose of Visit:**

The Department of Physics organized a field visit to power loom and handloom industries in Siricilla to provide students with practical insights into the application of physics principles in textile manufacturing processes.



## **Brief review about the visit:**

### **Observation of Power Loom Operations:**

Students observed the functioning of power looms, which utilize mechanical energy to automate the weaving process. They learned about the role of physics in designing and operating power looms efficiently.

### **Analysis of Handloom Techniques:**

The visit also included an exploration of traditional handloom techniques. Students observed the intricate manual processes involved in weaving and gained an appreciation for the physics principles underlying these techniques.

### **Interaction with Industry Experts:**

Students had the opportunity to interact with industry experts and workers to understand the practical challenges faced in textile production. Discussions revolved around topics such as energy conservation, material properties, and machinery design.

### **Demonstration of Physics Concepts:**

Throughout the visit, instructors highlighted various physics concepts at play, including mechanical dynamics, energy transfer, and material science. Students were encouraged to relate theoretical knowledge to real-world applications.



## **Conclusion:**

The field visit to power loom and hand loom industries provided students with valuable insights into the practical application of physics principles in textile manufacturing. It served as an enriching experience that complemented classroom learning and encouraged students to explore the diverse applications of physics in industry.

## **Feedback of the students:**

It was great visit and we got the hands-on learning opportunity, gaining practical insights into the operation of power loom and hand loom industries.-  
B.Akhila- MPCs -3rd year

We got the knowledge about the processes involved in textile production, including weaving techniques, machinery usage, and production scale.-  
y.vinika- MPCs -3rd year

# Academic year 2020-21

## Student seminar

### On the topic

## Aberrations in Optics

**Date of the program:** 26-02-2021

**Seminar given by:** Bhukya Sandhya, MPCs -2nd year

### Objectives of the seminar:

- Understanding the various types of aberrations in optics, such as spherical aberration, chromatic aberration, coma, astigmatism, and distortion.
- Exploring the causes and effects of each type of aberration on optical systems and image quality.
- Discussing methods and techniques for detecting and measuring aberrations in optical systems.

### Brief review about the seminar:

Sandhya's seminar delved into the intricate world of aberrations in optics, shedding light on the imperfections that affect optical systems. She began by explaining the fundamental concepts of aberrations and their classification, including spherical aberration, chromatic aberration, coma, astigmatism, and distortion.

Throughout her presentation, She provided clear examples and illustrations to elucidate each type of aberration, emphasizing their impact on image quality and optical performance. She also discussed various methods for minimizing aberrations, such as using corrective lenses, optimizing lens designs, and implementing advanced imaging techniques.

Student's insightful analysis and articulate explanations captivated the audience, fostering a deeper understanding of aberrations in optics among the attendees. Her seminar served as a valuable learning experience, highlighting the importance of addressing aberrations in optical systems for achieving high-quality imaging and precise scientific measurements.



## **Recommendations:**

Students suggested that incorporating more interactive elements into the seminar, such as quizzes, group discussions, or interactive demonstrations, to keep attendees engaged and encourage active participation.

# Webinar on the topic superconductivity

By

N.Ajay Kumar, Asst. Professor (c)

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**Date of the program:**12-01-2021

**Participants:** MPC and MPCs final year students

**Mode of the program:** online

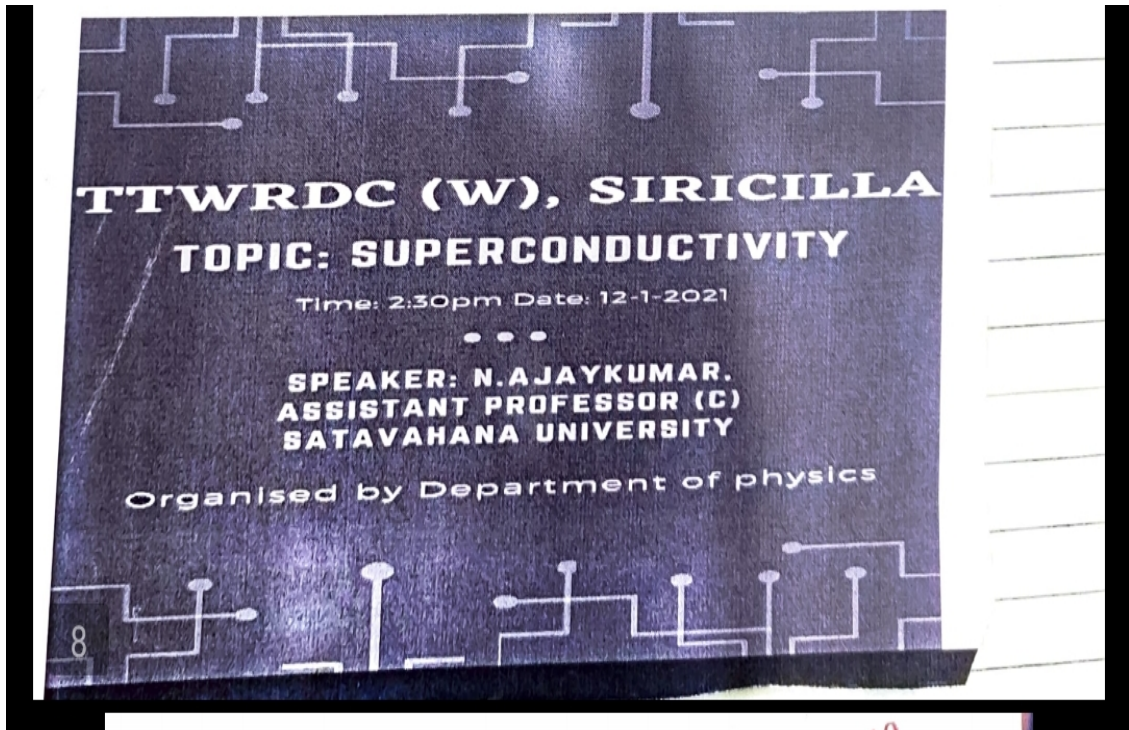
**Objectives of the program:**

- To Provide participants with a comprehensive understanding of the principles of superconductivity, including the phenomenon of zero electrical resistance and the Meissner effect.
- Showcase the diverse range of applications of superconductivity in various industries, such as healthcare (MRI machines), transportation (maglev trains), and energy (superconducting power cables).

**About the program:**

The webinar on Superconductivity conducted by Ajay Kumar, Assistant Professor (C) at University PG College, Godavarikhani provided valuable insights into this fascinating field of physics. With a focus on both theoretical concepts and practical applications, the webinar aimed to enrich participants' understanding of superconductivity.

Sir delivered the fundamental principles underlying superconductivity, including the Meissner effect, critical temperature, and Cooper pairs formation. Participants gained a deeper understanding of the quantum mechanical phenomena governing superconductors.



### **Feedback of the students:**

The webinar was valuable and informative. It was really interesting to know the applications of super conductivity in various fields like healthcare and energy-  
Mamatha- MPCs -3rd year

# Orientation program on national level exams

**Date of the program:**13-07-2020

**Participants:** MPC and MPCs final year students ( pg physics students)

**Mode of the program:** Online

## Objectives of the program:

The primary objective of the orientation program was to provide students with comprehensive guidance and insights into preparing for and excelling in the IIT JAM (Joint Admission Test for M.Sc.) and JEST (Joint Entrance Screening Test) examinations, specifically in the field of physics.

## About the program:

The orientation program on IIT JAM (Joint Admission Test for M.Sc.) and JEST (Joint Entrance Screening Test) in Physics aimed to provide comprehensive guidance to students aspiring for higher education in Physics. The program covered various aspects including exam structure, preparation strategies, and career prospects.

Conducted orientation program on various science entrance exams like IIT JAM, JEST to improve awareness on national level exams.

Discussed about Detailed insights were provided regarding the exam pattern, marking scheme, and syllabus for both IIT JAM and JEST examinations. Emphasis was placed on understanding the weightage of topics to optimize study plans.

**Syllabus Analysis:** In-depth analysis of the syllabus for physics entrance exams such as IIT JAM, JEST and also discussed about state level pg entrance exams syllabus, highlighting key topics and areas of focus.

**Study Material and Resources:** provided Guidance on selecting appropriate study material, reference books, and online resources for effective preparation.

# IIT JAM Complete Guide

Using the JAM score, you can get into IITs and NITs for MSc courses or getting Shortlisted for IISERs and NISER for int Ph.D. courses.

How to Get into IITs – IIT JAM Eligibility Criteria.

IIT JAM Eligibility Criteria: -

1. Candidates must hold a bachelor's degree
2. Foreign nationals are also eligible for JAM exam
3. General/OBC candidates must hold at least 55% in their Bachelors's.
4. For ST/Sc category it should be 50%.
5. There is no upper age limit in IIT JAM.
6. Candidates who are pursuing the qualifying examination have to submit the proof of passing the qualifying examination to the admitted institute by September 30, 2020

Close Participants (18)

Search

VK	Vanisri Kandukuri (Host, me)			
A	Achallasada			
AG	Akhila Gudise			
BM	Bhargavi mpc			
BV	Bhukya Varsha			
HB	himani babu			
L	Laxmi			
MA	M. Anusha			
M	M.shirisha			
MG	Mayuri G			
NR	N ramya			
PC	poojitha ch			

Invite Mute All ...

### Feedback of the students:

- The session was effective and useful for our career building -Achala, MPCs -3rd year
- Good material provided for our reference.it's helpful for us in preparing for the exam-Mayuri - MPC 3rd year

# Academic year 2019-20

## field visit to substation at peddur, Siricilla

**Date of the visit:** 25-1-2020

**Participants :** MPCs 3rd year students

### **Objectives:**

- ▶ To Provide students with a hands-on learning opportunity to understand the functioning of a substation and its role in the power distribution system.
- ▶ To Bridge the gap between theoretical knowledge and practical application by allowing students to observe real-world equipment and operations.

### **Overview of field visit:**

The final year MPCS students from the Department of Physics recently conducted a field visit to the Peddur substation as part of their academic curriculum.

The visit aimed to provide students with practical exposure to the concepts of power transmission and distribution, as well as to familiarize them with the operation and maintenance of electrical substations.

During the visit, students were given a guided tour of the substation facilities, where they had the opportunity to observe various components such as transformers, circuit breakers, switch gear, and control systems. They learned about the role of substations in transforming and distributing electricity from high voltage transmission lines to lower voltage distribution lines, ensuring reliable power supply to all villages near by the substation.



### **Feedback of the students:**

- 1.** This visit makes us clear understanding of the electricity production and distribution to all villages.- Vandhana, MPCs 3rd year
- 2.** We understood the importance of various electrical components like resistors, capacitors, transistors, transformers, control systems applications- Kavya, MPCs -3rd year

## Academic year 2018-19

### Super student Competition

**Name of the participant:** M.Akhila, MPCs -1st year

**Topic explained:** Newton's laws of motion

#### Objectives of the program:

- To foster academic excellence and overall development among the students.
- To encourage the students to showcase their skills and talents to all the people through media.

#### About the program:



Sr. Sankaran's Super Student Live Lecture delivered by M. Akhila, a first year student at TTWRDC (Women's College) in Sircilla, was an inspiring and informative event. These lectures often feature accomplished individuals sharing their knowledge and experiences to motivate and guide students towards achieving academic and personal success. It's a fantastic opportunity for students to gain valuable insights and learn from someone who has excelled in their field.



thermodynamic processes. She explained the significance of the Carnot cycle in understanding the theoretical limits of heat engines and its implications in various engineering applications. The seminar provided a comprehensive overview of the Carnot engine's theoretical framework and practical considerations, engaging the students with clear explanations and relevant examples.

**Practical Implications:** The presenter discussed the practical implications of Carnot efficiency in various engineering applications. She highlighted the importance of optimizing heat engine designs to approach the theoretical Carnot efficiency, thereby maximizing energy conversion efficiency and minimizing environmental impact.

Overall, it was an informative presentation that enhanced the understanding of thermodynamic principles among the attendees.