Telangana Tribal Welfare Residential Degree College for Women,Thangallapally, Rajanna Sircilla

(Affiliated Satavahana University)

Teaching Learning Practices

Department of Physics

Faculty members

K.Vanisri (HOD)

S.Kavitha

M.Sravanthi

Academic year 2022-23

Development of solar induction stove

(Encouraging students to get innovative ideas in science and technology)

Date of the project work: 23-08-2023 to 21-09-2023

Student name: Ajmeera Navya, MBZC 3rd year

Mentor name: 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.

Methodology Adopted:

- Experimental learning.
- Learning by doing.

Brief description about the project:

An innovative project named solar based induction stove was done by A.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.

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

Methodology:

Learning by doing

Principle: Hooke’s law states that the strain of the material is proportional to the applied stress with in the elastic limit of that material.

A Project Report

on

'Verification of Hook's law'

Submitted by

Anjumalika (220771044681025)

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Under the guidance

Of

K Vanisri, M.Sc, SET, (PhD)

HOD, Department of Physics

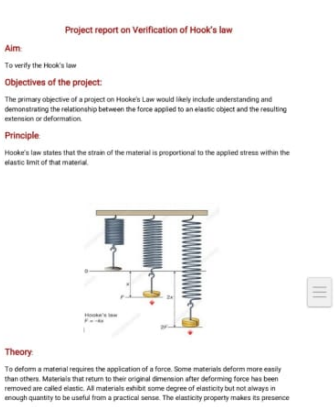
Department of Physics

Telangana Tribal Welfare Residential Degree College(W), Rajanna Sircilla.

(Affiliated to Satavahana University)

Academic year (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:

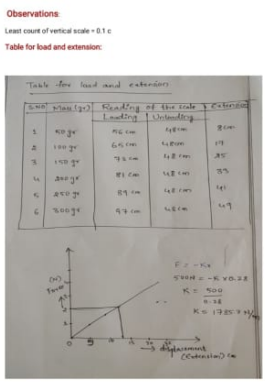
The primary objective of a project on Hooke's Law would likely include understanding and demonstrating the relationship between the force applied to an elastic object and the resulting extension or deformation.

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 c

Table for load and extension:

Table for load and extension

Outcomes:

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

Classes using ICT PPT tools

Date of the class:12-5-2023

Topic: DC and AC motors

Students: MPCs 2nd year

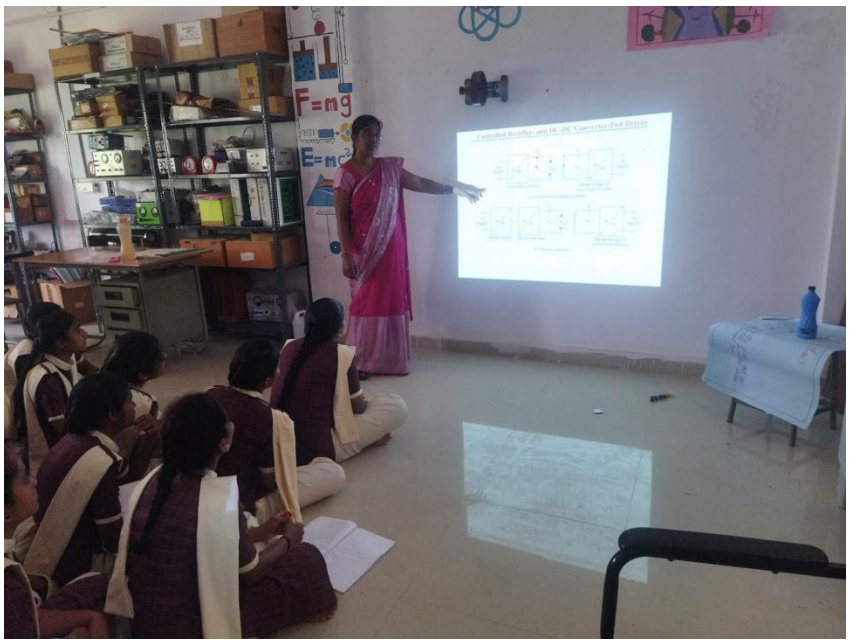
Methodology used:

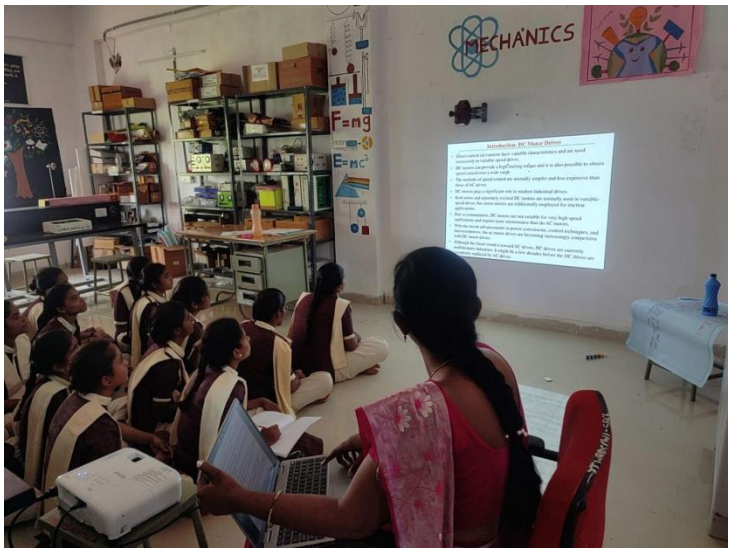
Teaching with power point presentation- ICT teaching

Brief description about the class:

To make students curious about the subject and to feel new way teaching, power point presentation classes were taken by department of physics faculty. Students were very interested in this type of teaching because they can observe the working of devices like DC and AC motors with animations and also how the motor can rotate with changing magnetic flux.

They can't understand the concept behind the motor rotation with traditional type of teaching. Hence we have decided to take I CT-PPT teaching to make the students more clear about the concept.





Outcomes:

Differentiation between DC and AC Motors: Students learn to differentiate between DC and AC motors in terms of their applications, advantages, and limitations. This includes understanding where each type of motor is commonly used and why.

ICT Skills: Depending on the mode of teaching (such as through PowerPoint presentations), students develop ICT skills, including how to create and deliver effective presentations, use multimedia resources, and access online information related to motors and through the animation of motors students understand the principle behind the rotation of the motors.

Feedback of the students:

From the animation of motors we understood the concept behind the rotation of the motors- M.Anila, MPCs 2nd year

This type teaching creates interest in the subject.-P.Rani- MPCs 2nd year

Practical knowledge through new innovative projects

Date of the program: 2-3-2023

Location:TTWRDC(W), thangallapally

Participated students: Y.Vinika, MPCs 2nd year, A.Navya, MBZC 3rd year

Project names:

- Rescue of children from bore wells -Explained by Y.Vinika, MPCs 2nd year using ICT tools.
- Development of Solar based induction stove- Explained by A.Navya, MBZC 3rd year

Objectives of the project:

- To encourage the students to think towards new innovative ideas.
- To motivate the students to use technical tools to teach about the concept for easy understanding.

Methodology adopted:

Explanation using interactive boards and visual examples-ICT teaching

About the project:

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 borewells 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 borewell 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 was explaining the topic on interactive board)

Outcomes of the program:

Idea Generation: Participants can brainstorm and propose various innovative projects that integrate ICT tools and methodologies into teaching practices.

Innovation in Teaching: Through open discussions, participants explore emerging trends, cutting-edge technologies, and innovative approaches to teaching and learning, leading to the development of new instructional strategies and methods.

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
- Using interactive boards will create interest and enthusiasm in the subject -B. Kalyani-MPC 3rd year

Exploring the knowledge with poster presentations

Date of the program:2-3-2023

Participated students: E.Vaishnavi, MPC 2nd year

Objectives of the program:

- To provide an informative overview of the fundamentals of electricity, including its generation, transmission, and utilization, aimed at enhancing the audience's understanding of this crucial aspect of modern life.
- To raise awareness about the importance of electricity in various aspects of daily life, from powering homes and businesses to driving technological advancements, and to highlight the need for sustainable energy practices.
- To celebrate and showcase students' achievements and creativity in exploring the topic of electricity through their poster presentations, recognizing their efforts and contributions to the field of science and technology.

Methodology adopted:

Explaining the concept with pictorial representation by preparing the posters on the topic.

Brief review about the presentation:

The poster presentation on electricity production by Vaishnavi aimed to provide insights into current methods of electricity generation while also exploring innovative approaches for future sustainable production. She explained various sources of electricity, highlighting their advantages, challenges, and potential for meeting future energy demands.

Awareness program to the school children on basic science

concepts through experiments

Date of the program:27-2-2023

Location: seminar hall

Participants: 8th & 9Th school students of Shubodaya high school and ZPHS thanagallapally.

Objectives of the program:

- Introduce basic scientific concepts through engaging experiments.
- Promote curiosity and interest in science among school children.
- Provide an interactive learning experience outside of traditional classroom settings.

Methodology adopted:

Explaining the concept with small practicals.

About the program:

Students demonstrated a series of basic science experiments covering various basic physics concepts such as Gravitation (Newton laws), Magnetic properties, density of various liquids, Periscope etc., These experiments were carefully selected to be safe, interactive, and easily replicable, ensuring active participation from the school children.

(Student explaining magnetic properties to the students)

(Inviting near by school students)

Feedback of the students:

1.It will create interest on the science- Mrudhula, 10th class, zphs, Thangallapally

2. This will improves curiosity about science- Swathi,10th class,shubodaya high school

Master student competitions Using ICT PPT tools

Date of the program:24-2-2023

Student name:N. Anjumalika, MPCs -2nd year

Location: TTWRDC(W), Mahaboobnagar

Objectives of the seminar:

To provide participants with a clear understanding of the fundamental principles behind transport phenomena, including mass, momentum, and heat transfer.

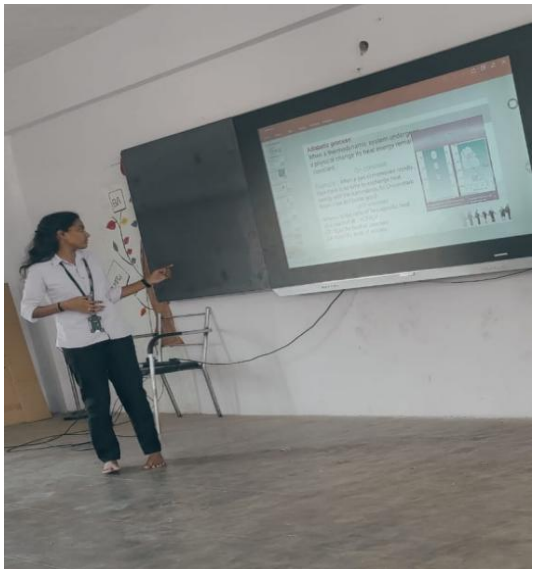
Adopted methodology:

The methodology adopted for the student seminar using ICT PowerPoint tools proved to be effective in fostering digital literacy, presentation skills, and academic engagement. By integrating hands-on training, peer collaboration, and instructor guidance, students were equipped with the necessary knowledge and skills to create compelling and impactful presentations in a digital environment. The seminar served as a platform for showcasing student talent, promoting intellectual discourse, and advancing digital learning initiatives within the academic community.

Exploring Learning Methodologies: To introduce various methodologies employed in studying and analyzing transport phenomena, such as experimental techniques and real time applications

Brief description about the program:

Anjumalika delivered a comprehensive seminar on transport phenomena in thermodynamics to second-year Master students. She elucidated the intricate interplay between heat, mass, and momentum transfer in various engineering systems, illustrating practical applications and theoretical frameworks. Her presentation adeptly navigated through diffusion, conduction, and convection processes, offering insightful analysis and engaging examples.



Student experience and her views about this competition:

Anjumalika, who given seminar using I CT-PPT tools expressed that it was great opportunity by teaching using ppt presentation, it was improved my computer knowledge and created interest about the subject.

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

Date:14-12-2022

Participants: MPCs 1st 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.

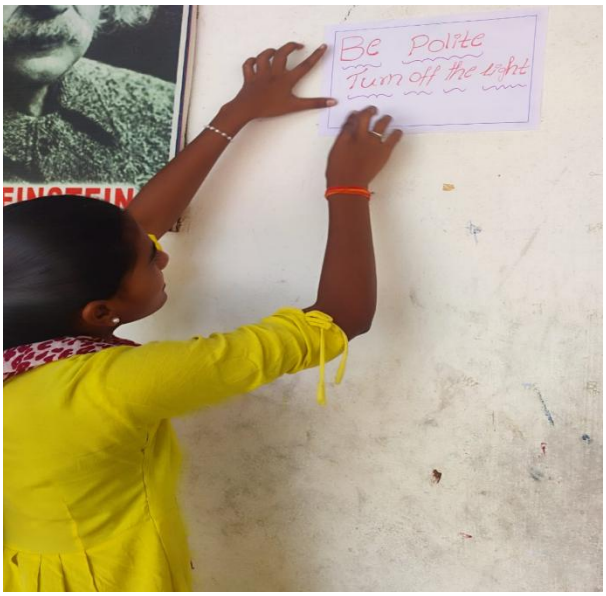
Methodology:

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.

Student Seminar

On the topic Thermal properties and laws of thermodynamics

Date of the seminar:24-8-2022

Participants: MPCs -2nd year students

Seminar given by: M.Anila, MPCs -2nd 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 -2nd year

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

Academic year 2021-22

Project work on determination of wavelength

Date: 6-5-2022

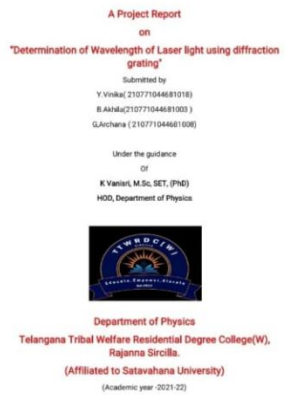
Students: Vinika, Archana, Akhila- MPCs 1st year

Objectives:

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

Methodology adopted:

Experimental learning



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

Submitted by
Y.Vinika(210771044681018)
B.Akhila(210771044681003)
G.Archana (210771044681008)

Under the guidance
Of
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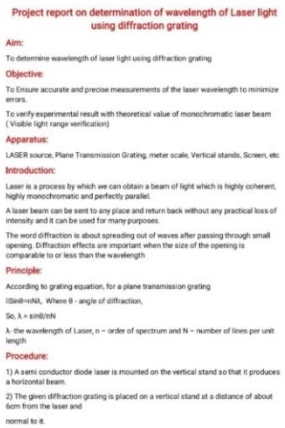
HOD, Department of Physics

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

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

So, $\lambda = \sin\theta/nN$

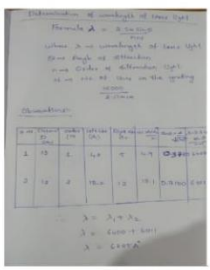
λ - the wavelength of Laser, n – order of spectrum and N – number of lines per unit length

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 6cm 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 A°

Wavelength of LASER beam =6205 A°

Learning the Concept by seeing Visually

(Mechanics behind the power loom and hand loom machinery)

Date of the program:12-02-2022

Students participated in the program: MPCs 2nd year students

Objectives of the program:

To provide students of physics with real-world insights into the application of mechanical principles in textile manufacturing. The trip aimed to enhance their understanding of topics such as force, motion, energy, and friction through practical observation and interaction with industry professionals.

Location:

The field trip took place at Power loom and Hand loom Industries,located at Siricilla. These facilities are renowned for their contributions to the textile industry, utilizing both traditional hand loom techniques and modern power loom machinery.

Learning Methodology:

Learning the concept by real life experience (By visual experience)

About the program:

Introduction to Power loom and Hand loom Machinery:

Upon arrival, students were greeted by knowledgeable staff members who provided an overview of the history and significance of power loom and hand loom machinery in textile production. They explained the basic mechanics behind the operation of these machines, emphasizing concepts such as pulleys, gears, and levers.

Guided Tour of the Facilities: Students were divided into groups and accompanied by industry experts for a guided tour of the production facilities. They had the opportunity to witness firsthand the intricate mechanisms involved in weaving and fabric production. They observed how raw materials were transformed into finished textiles through a series of mechanical processes.

(Students observing prepared clothes after weaving)

Demonstration of Mechanical Principles:

Throughout the tour, industry professionals conducted demonstrations to illustrate various mechanical principles at work. For example, students witnessed the application of force and friction in the movement of weaving machines. They also learned about the role of energy transfer in powering the machinery and the importance of maintaining optimal operating conditions for efficiency.

Interactive Sessions:

Students engaged in interactive sessions where they could ask questions and participate in hands-on activities. They gained practical experience by operating simplified versions of power loom and hand loom machines under supervision. These activities helped reinforce their understanding of mechanical concepts and their application in real-world scenarios.

(Students observing the power loom machinery)

(Hands on experience under the guidance of experts)

Recommendations given by students:

Based on the success of this field trip, it is recommended that similar experiential learning opportunities be incorporated into the curriculum on a regular basis. Hands-on experiences in real-world settings can significantly enhance students' comprehension and retention of complex scientific principles. Additionally, partnerships with industry stakeholders should be fostered to facilitate ongoing engagement and collaboration in educational initiatives.

Academic year 2021-22

Virtual Labs

(Experimental Learning using online resources)

Date: 2-7-2021

Topic: Finding time period of Compound Pendulum

Participants: MPC and MPCs 1st year

Objectives:

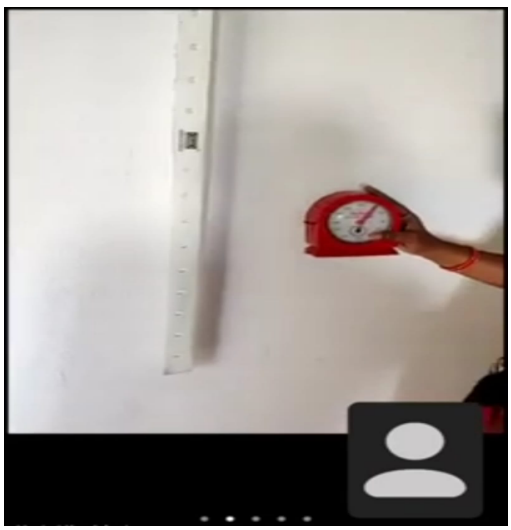
- To grasp the fundamental principles behind the compound pendulum and its behavior in different conditions.
- To understand the concept of compound pendulum in real world applications to find frequency and time period of specific events.

Brief description about the program:

To make the students to learn the subject during corona lock down and to improve student's experimental knowledge, department of physics conducted virtual lab activity for the first year students on the experiment "Finding of time period and frequency of compound pendulum"

Class was taken by K.Vanisri, Lecturer, department of physics.

Class link:https://youtu.be/bRGaCf11sPE



Outcomes:

- Students got the experimental knowledge about compound pendulum.
- Students measured the period of oscillation of the compound pendulum, which is the time it takes for the pendulum to complete one full cycle. This can be done by timing multiple oscillations and calculating the average period.

Academic year 2020-21

Best Student Competition conducted by Head office, Gurukulam

(Teaching using online resources)

Seminar on the topic Optical Fibers

Date: 10-5-2021

Student name:M.Akhila- MPCs 3rd year

Objectives:

- To understand the fundamental principles of optical fibers, including light propagation, total internal reflection, and signal transmission.
- To Explore the various components and types of optical fibers, including single-mode and multi-mode fibers, and their applications in telecommunications, medicine, and sensing technologies.

Methodology:

Teaching using online resources (Learning with audio and video aids)

About the program:

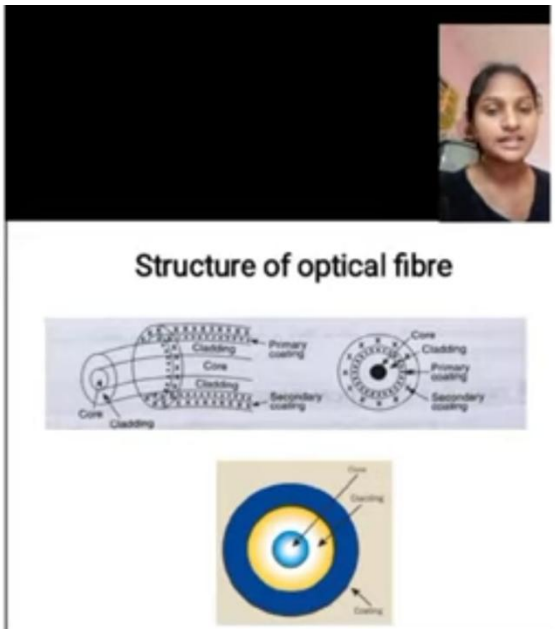
As in the part of best student seminar competition conducted by head office, TTWREIS, our student M.Akhila- Mpcs 3rd year selected as best student for her seminar presentation on the topic Optical fibers.

She explained about various properties like light reflection, refraction, diffraction, interference and the principle behind the optical fibers I.e., total internal reflection etc.,

She also explained the parts of optical fiber.

Class link:

https://youtu.be/JBn7JhBCIDQ?si=OGEy1vZHUP3St8pk



Outcomes:

Students got deeper understanding about the topic.

Students understood the real time applications of optical fibers I.e., where the optical fibers are used in the applications.

Village learning Center(VLC)

(To educate the school children during lockdown period)

Date of the program:19-4-2021

Students as Teachers: M.Swarna, MPCs -2nd year

Location (at student home during lockdown): Veernapalli, Rajanna siricilla

Methodology adopted: Learning by doing

Importance of the program :

The Village Learning Center plays a crucial role during the lockdown period by ensuring continued access to education for children in rural areas. It helps prevent learning loss, promotes academic progress, and provides a sense of normalcy amidst uncertainty. Additionally, it fosters community engagement, empowers local youth leaders, and highlights the importance of education as a fundamental right, even in challenging times.

About Village learning centre (VLC):

The Village Learning Centre at Veernapally, led by student Swarna during the lockdown, exemplified dedication and community support. Swarna's efforts facilitated education for children, bridging the gap during challenging times. The initiative showcased the power of grassroots initiatives in ensuring access to education, even in remote areas.

Other students activities in Village learning centers

Feedback of the students:

Students who participated as student teacher expressed gratitude to the gurukulam for this opportunity (initiation taken by gurukulam officials). They felt happy to be part of this program. Because during lockdown many children lost education, by this program we helped school children to not lost their knowledge and education.

Navigating Education During the COVID Lockdown

Teaching using Online resources

Student seminar using Zoom online platform

Date:17-3-2021

Student name: M.Anila, MPCs 1st year

Objectives:

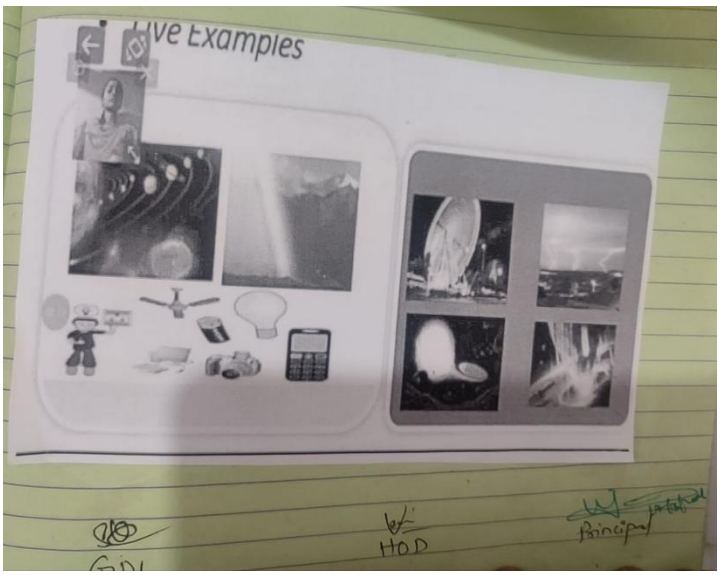
- Understand the fundamental principles of Newton's Laws of Motion.
- To Explore real-world applications and examples of Newton's Laws.

Methodology:

Learning with audio and visual aids and real time applications.

Brief description about the program:

Department of physics arranged a student seminar in the month of March, 2021. The seminar was presented by M.Anila (MPCs)-First year on 17-3-2021. She explained the topic Newton's laws of motion in the mechanics. She explained the basic concepts about force, work, momentum etc.,



Outcomes:

- Enhanced Understanding: Students understood the concept by seeing visual aids in online class.

- Participants gain proficiency in using Zoom's features for online learning, including screen sharing, virtual whiteboards, and breakout rooms, preparing them for future remote collaboration and virtual education environments.

Online class using Zoom platform

Given by K.Vanisri, DL in physics

Date of the class: 6-5-2021

Objectives:

To make the students to understand the basic concepts about statistical mechanics using visual examples

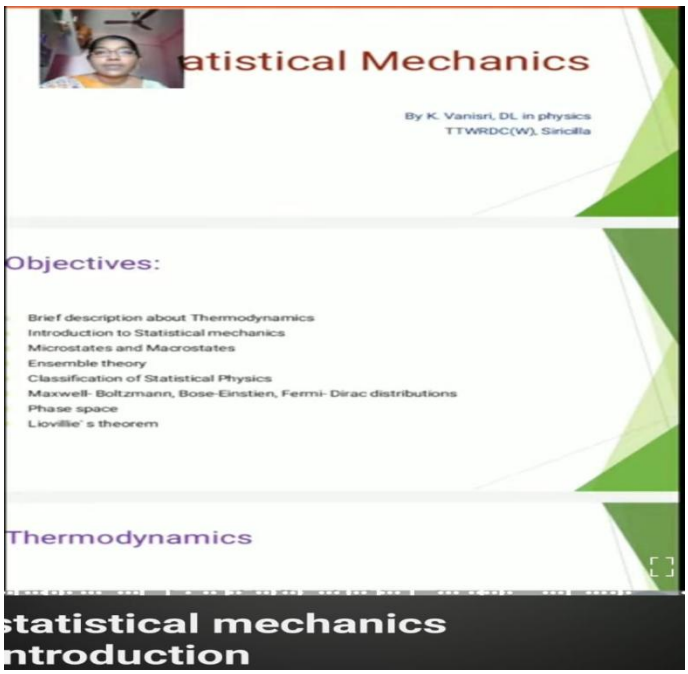
Methodology:

Learning with audio and visual aids(Blended learning)

Brief description:

The online class on "Introduction to Statistical Mechanics" conducted via the Zoom platform provided an insightful and interactive learning experience for participants. Class was taken by K.Vanisri, Lecturer, Department of physics.

She explained about the introduction of statistical mechanics, micro states, macro states, classical and quantum statistics and difference between them. Also explained about phase space and ensemble theory, types of ensembles.



Class link:

https://youtu.be/JBn7JhBCIDQ?si=OGEy1vZHUP3St8pk

Outcomes:

Students gained a good understanding of fundamental concepts in statistical mechanics, including micro states, macro states, probability distributions, and the relationship between statistical mechanics and thermodynamics. Through clear explanations and illustrative examples, participants developed a strong conceptual foundation in the subject matter.

Online class using Zoom platform

Given by S.Kavitha, Lecturer,Department of physics

Date: 7-5-2021

Topic: Band theory of solids

Objectives:

To make the students to understand the concept of band theory of solids and semiconductors.

Methodology:

Learning with audio and visual aids(Blended learning)

Video lecture method

Brief description:

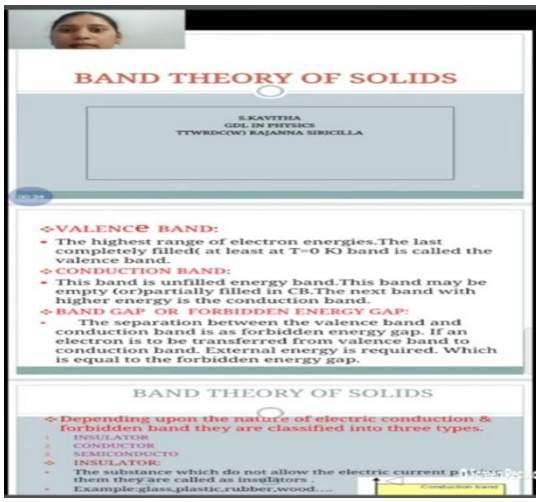
The online class on "Band theory of solids" conducted via the Zoom platform provided an insightful and interactive learning experience for participants. Class was taken by S.kavitha, Lecturer, Department of physics.

Key points covered:

- Introduction to Band Theory
- Types of bands
- Types solids depending on the energy gap.

Class link:

https://youtu.be/GeyfhZc0yG0?si=B5CcmYWE9Eq2DVQ5



Outcomes:

Students should gain a fundamental understanding of band theory, including concepts such as energy bands, band gaps, and the distinction between conductors, insulators, and semiconductors.

They also got the knowledge about online class techniques like video sharing, question raising etc

Academic year 2019-20

Project work on Water Overflow alarm

Date: 22-2-2020

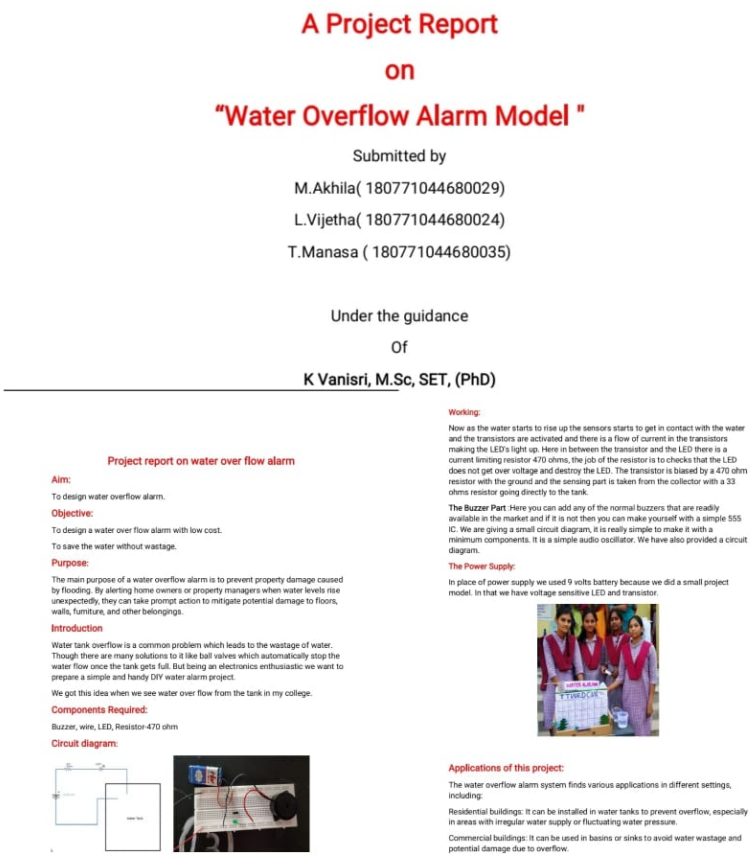
Students:M.Akhila, L.Vijetha, T.Manasa - MPCs 2nd year

Objectives:

- To design a water over flow alarm with low cost.
- To save the water without wastage.

Methodology:

Learning by doing(Experimental learning)



A Project Report

on

"Water Overflow Alarm Model "

Submitted by

M.Akhila(180771044680029)

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Under the guidance

Of

K Vanisri, M.Sc, SET, (PhD)

Project report on water over flow alarm

Aim:

To design water overflow alarm.

Objective:

To design a water over flow alarm with low cost.

To save the water without wastage.

Purpose:

The main purpose of a water overflow alarm is to prevent property damage caused by flooding. By alerting home owners or property managers when water levels rise unexpectedly, they can take prompt action to mitigate potential damage to floors, walls, furniture, and other belongings.

Introduction

Water tank overflow is a common problem which leads to the wastage of water. Though there are many solutions to it like ball valves which automatically stop the water flow once the tank gets full. But being an electronics enthusiastic we want to prepare a simple and handy DIY water alarm project.

We got this idea when we see water over flow from the tank in my college.

Components Required:

Buzzer, wire, LED, Resistor-470 ohm

Circuit diagram:

Working:

Now as the water starts to rise up the sensors starts to get in contact with the water and the transistors are activated and there is a flow of current in the transistors making the LED's light up. Here in between the transistor and the LED there is a current limiting resistor 470 ohms, the job of the resistor is to checks that the LED does not get over voltage and destroy the LED. The transistor is biased by a 470 ohm resistor with the ground and the sensing part is taken from the collector with a 33 ohms resistor going directly to the tank.

The Buzzer Part :Here you can add any of the normal buzzers that are readily available in the market and if it is not then you can make yourself with a simple 555 IC. We are giving a small circuit diagram, it is really simple to make it with a minimum components. It is a simple audio oscillator. We have also provided a circuit diagram.

The Power Supply:

In place of power supply we used 9 volts battery because we did a small project model. In that we have voltage sensitive LED and transistor.

Applications of this project:

The water overflow alarm system finds various applications in different settings, including:

Residential buildings: It can be installed in water tanks to prevent overflow, especially in areas with irregular water supply or fluctuating water pressure.

Commercial buildings: It can be used in basins or sinks to avoid water wastage and potential damage due to overflow.

Conclusion:

In conclusion, the water overflow alarm project provides a simple yet practical solution for detecting water overflow. By using a metallic wire as a sensor and a buzzer as an alarm, it effectively alerts users about potential overflow situations. This project report highlighted the introduction, working principle, applications, advantages, and conclusion of the water overflow alarm system. By implementing this project, users can significantly reduce water wastage, prevent property damage, and enhance water management in different settings.

Substation visit to know the concept behind the topic

Date of the visit: 25-1-2020

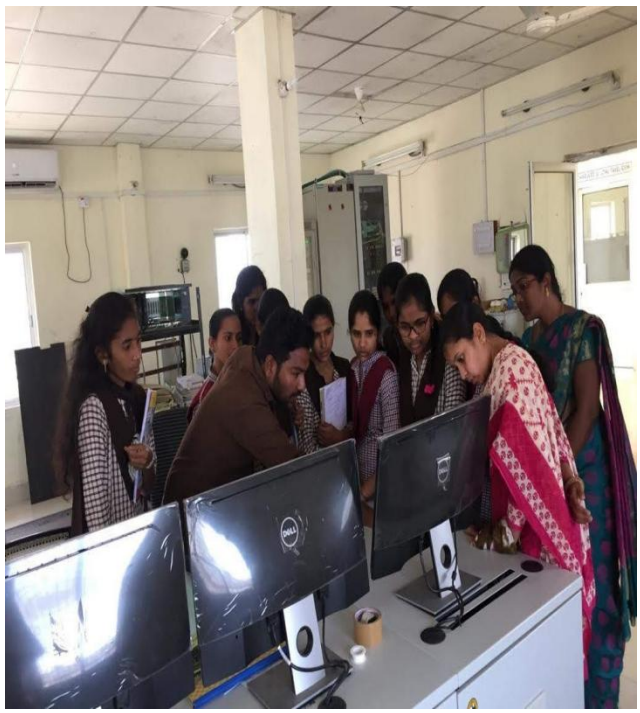
Students who went to field trip: MPCs 3rd year students

Objectives of the program:

- 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.

Methodology:

- Learning by visuals
- Taking field survey from experts
- Getting real time experience about electricity



(Students observing the distribution of current to the villages from substation control room)

Brief review about the 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

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.

Methodology Adopted:

Teaching using online resource - ICT teaching

About the program:

Mudavath Akhila from MPCs selected for super student live lecture in T-sat channel.She explained about Mechanics topic Newton laws and their applications.

Sr. Sankaran's Super Student Live Lecture delivered by M. Akhila, a first year student at TTWRDC (Women's College) in Siricilla, 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.

Outcomes:

This program improved confidence on the subject and avoided stage fear to teach in front of the students