



Two-Week Workshop

on

Awareness of Renewable Energy Resources Availability in Locality

organized by IEEE Student Branch IIT Mandi in collaboration with IEEE PES-IAS and PELS-IES
Chapter Delhi Section held at Govt. ITI (Grade-A), Mandi during 22nd Sept. to 5th Oct. 2021

Submitted by

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The objective of the Workshop

The main objective of this workshop was to make young minds aware of renewable energy resources available in the locality. The world has to face devastating effects like pollution, an increase in greenhouse gases etc due to the increasing consumption of crude oil-based fuels. These fuels are non-renewable and will not be able to fulfil needs in near future. To prevent these issues, renewable energy resources play an important role in the survival of mankind.

Keeping these facts in mind, a workshop on renewable energy resources was conducted at Industrial Training Institute (ITI) (Grade-A), Mandi, H.P, India to increase awareness among the young student community who will be the torchbearers of the future. This event was a 2-week workshop wherein students (divided into teams) from ITI Mandi made a scaled-down prototype of the various project ideas proposed by them based on renewable energy theme. This event was conducted by volunteers of IEEE Student Branch IIT Mandi (Dr Rajesh Pindoriya, Rishi Kant Thakur and Jigar Faria) under the aegis of IEEE PES-IAS and PELS-IES Joint SB Chapter, IIT Mandi in collaboration with IEEE PES-IAS and PELS-IES Delhi Section from 22nd September to 5th October 2021.

General Introduction of Workshop and Presentation on Renewable Energy Resources

Recently, IEEE SB IIT Mandi organized a two-week workshop on “*Awareness of Renewable Energy Resources Availability in Locality*”, at ITI (Grade-A) Mandi. Himachal Pradesh is naturally a source of renewable energies especially solar, hydro and wind energy which can be further processed to make it usable for mankind. Considering this fact, IEEE SB IIT Mandi volunteers planned an initiative to make young minds aware of these resources in Himachal Pradesh and further to enhance their knowledge, integrate this program for prototype development competition. The financial support for this program was provided by IEEE SB IIT Mandi, IEEE Delhi Section and ITI Mandi.

On 22nd Sept 2021, i.e., the very first day of the workshop, the IEEE SB IIT Mandi volunteers organised an awareness session of 5 hours in front of 150 students and faculty members of the Electrical, Mechanical, and civil trades of ITI Mandi, in which Dr. Rajesh M. Pindoriya had given their presentation on Solar energy and Biomass renewable energy





resources. Thereafter, Mr. Rishi Kant Thakur had given a presentation on Design Consideration in Wind energy harvesting and hydropower plant, including the case study of the Dehar hydropower project of 990 MW. After this, Mr. Jigar Faria had given a presentation on the nitty-gritty of prototype development and report making. Workshop advisor Shivendra Doegar, Principal ITI Mandi also gave his students some tips for prototype development and resources available in their premises. That day was the beginning of the prototype development competition with a total of 8 teams having 38 students and 3 instructors (Mr. Harish, Mr. Bhawan and Mr. Kunj Bihari) of ITI Mandi. WhatsApp groups were also created for communication with instructors and students for any type of support. For two weeks, queries of hundreds of students were resolved which had arisen during prototype development. Dr. Rajesh M. Pindoriya also made a visit after a week of commencement of the workshop to ITI Mandi to foresee the prototype development work and help the students in their various difficulties.

Continuous Guidance to Students from IEEE Volunteers

The volunteers of IEEE SB IIT Mandi provided continuous guidance to project members of ITI Mandi on how to design projects, technical support etc. They were facing many problems while designing the projects, such as the type of electric motor to be used for the wind turbine, selection of solar panels, head of storage for hydro-power plant and many more. IEEE SB IIT Mandi volunteers provided continuous support to them to resolve these issues. Volunteers took continuous feedback and progress for 15 days.

Evaluation of Projects by Experts

On 6th October, students had submitted their report of the prototype developed. For prototype evaluation, on 7th Oct 2021, Prof. S.C. Jain (Emeritus Professor IIT Mandi) and Kailash Srivastava (Adjunct professor, IIT Mandi) were invited. The evaluation was done on the following five points:

- 1) Technical knowledge related to the project and related area.
- 2) Demonstration, report organization and explanation skill.
- 3) Teamwork involvement.
- 4) Project stage (mid stage/near to completion/completed).
- 5) Effect of product on society.

A total 8 prototypes were demonstrated which are as follows:



Group-1: Automatic Street Light.

Group-2: Windmill.

Group 3: Solar Water Pump House.

Group-4: Hydro Power Plant.

Group-5: Electricity Generation using Speed Braker.

Group-6: Windmill.

Group-7: Solar Power Irrigation System.

Group-8: Generate Electricity using Rainwater Harvesting.

After detailed evaluation, results were declared in Award Ceremony on 13th Oct 2021. Due to the tie between two teams at 2nd position, a total of 4 teams were the winners. Group 3 took the 1st position, Group 4 and 7 took the 2nd position and Group 8 took the 3rd position. Winners were awarded with mementoes and Certificate of Excellence and diaries and pens along with Certificate of Participation were given to the remaining teams. Coffee mug and Certificate of Appreciation were given to the instructors and mementoes and Certificate of Appreciation were given to the volunteers. Overall feedback was taken in the end from the participating students and instructors which will be beneficial for IEEE SB IIT Mandi volunteers for organizing such events in more efficient ways soon.

Award Ceremony of Workshop

We organized an award ceremony of the 2-week IEEE workshop on 13th Oct. 2021.

Group No	Project Name	Name of Trainee	Remarks
Group-3	Solar Water Pump House	Subhash	1 st position
		Hem Singh	
		Abhishek	
		Gaurav Thakur	
		Sourav Chandel	
Group-4	Hydro Power Plant	Kalpna Kumari	2 nd position
		Chandravati	
		Sunita Devi	
		Hoshiyar Singh	
Group-7		Sachin Thakur	2 nd position



	Solar Power Irrigation System	Lalit	
		Dinesh Kumar	
		Vishal Thakur	
		Yuv Raj	
Group-8	Generate Electricity using Rainwater Harvesting	Chiranjil Lal	3 rd position
		Ankit Thakur	
		Ajay Kumar	
		Naveen	
		Raj Kumar	

Conclusion

Keeping in mind IEEE's mission of fostering technological innovation and excellence for the benefit of humanity, IEEE Student Branch (SB) Chapter IIT Mandi in collaboration with IEEE Delhi Section and Industrial Training Institute (ITI) Mandi organized a 2-week workshop titled "Awareness of Renewable Energy Resources Availability in Locality" for the sophomores of Electrical trade at ITI Mandi, Himachal Pradesh (HP), India. It was necessary to familiarize the students with renewable energy resources such as wind, hydro and solar which are available in abundance in HP as these students will be the torchbearers of the future. With the volunteers of IEEE SB having sound technical knowledge, they took the responsibility of helping the students in getting acquainted with the necessary technical knowledge to help them build working prototypes basis the theme mentioned above. They were continuously guided throughout the process and various issues/hurdles that were faced by the students were solved through various communication mediums. This workshop ensured that the students understand the nitty-gritty of building the prototypes and the possible challenges that they might face while such prototypes are implemented on an actual scale. The various projects built by these students would directly benefit the masses if implemented on a larger scale as energy generation and utilization is and will be of utmost importance for humanity.



Highlights of the Workshop

a) Inaugural Session







b) Continuous Guidance and Follow-up Session







c) Evaluation of Projects by Experts











d) Award Ceremony of Workshop









मंडा कसरा

सोलर वाटर पंप हाऊस प्रोजैक्ट सबसे अत्वल



मंडी : आई.टी.आई. मंडी में आयोजित कार्यशाला के समापन समारोह में उपस्थित प्रतिभागी।

(एजेंडर)

आई.टी.आई. मंडी में 2 सप्ताह तक चली कार्यशाला संपन्न

मंडी, 13 अक्टूबर (रजनीश): राजकीय औद्योगिक प्रशिक्षण संस्थान (आई.टी.आई.) मंडी में स्थानीय नवीकरण ऊर्जा स्रोतों पर चल रही जागरूकता कार्यशाला बुधवार को संपन्न हुई।

समापन समारोह में प्रतिभागियों द्वारा प्रदर्शित किए गए प्रोजैक्ट का अवलोकन कार्यक्रम के मुख्यातिथि आई.टी.आई. मंडी के प्रो. सतीश चंद्रा ने किया। इस मौके पर वे प्रशिक्षुओं से रू-ब-रू हुए तथा बनाए गए प्रोजैक्ट्स की खूबियों और खामियों का वर्णन कर प्रशिक्षणाथियों को प्रोत्साहित किया।

मुख्यातिथि ने कहा कि पूर्णतया आत्मनिर्भर भारत की स्थापना में यह एक सार्थक पहल है।

इस मौके पर सोलर वाटर पंप हाऊस ने प्रथम, हाईड्रो पावर प्लांट व सोलर पावर

इरिगेशन सिस्टम द्वितीय और तृतीय स्थान पर इलेक्ट्रोमिटी प्रोड्यूसड बाय रेन चार्टर हावैस्टिंग सिस्टम रहे।

आई.टी.आई. प्रधानाचार्य शिवेंद्र डोगर ने बताया कि संस्थान के लिए यह सौभाग्यशाली है कि आई.टी.आई. मंडी और आई.टी.आई. मंडी के बीच तकनीकी हस्तांतरण का जो संबंध स्थापित हुआ है, वह संस्थान के प्रशिक्षणाथियोंको तकनीकी जगत में नवीकरण ऊर्जा स्रोतों के दोहन और उनका लघु स्तर पर स्वरोजगार प्राप्त करने में नए अध्याम स्थापित करेगा।

इस अवसर पर डा. राजेश, ऋषिकांत डाकुर, जिगर फारिया, कार्यक्रम संयोजक

एवं समूह अनुदेशक लता देवी, समूह अनुदेशक भीम दास, अनुदेशक कुंज बिहारी, दिनेश, देवी राम, हरीश, दीपाली, पोहलो राम, प्रेम, नीलम व प्रतिभा उपस्थित रहे।

इन्हें किया सम्मानित

इस मौके पर इलेक्ट्रिशियन ट्रेड्स के वर्किंग मॉडल प्रोजैक्ट के प्रोजैक्ट इंस्ट्रक्टर हरीश व भुवन, वर्किंग मॉडल प्रोजैक्ट ग्रुप लीडर्स सुभाष व हेम सिंह तथा टीम के सभी सदस्यों कल्पना कुमारी, चंद्रावती, सविन, ललित, चिरंजी लाल व अंकित को सर्टीफिकेट और स्मृतिचिह्न भेंट कर सम्मानित किया गया।

आपदाओं के दौरान बचाव करने के तरीके बताए

नेरचौक (स.ह.): राजकीय वरिष्ठ माध्यमिक पाठशाला गलना में अंतर राष्ट्रीय आपदा जोखिम न्यूनीकरण दिवस पर मॉक ड्रिल की गई। कार्यक्रम का आयोजन उपप्रधानाचार्य कर्म सिंह की अध्यक्षता में किया गया, जिसमें स्कूली बच्चों को भूकंप व अन्य प्राकृतिक आपदाओं के दौरान बचाव करने के तरीके बताए तथा कोरोना महामारी से बचाव के लिए सचेत किया। इस अवसर पर विन्नकला, नारा लेखन और निबंध लेखन प्रतियोगिताएं भी करवाई गईं।

आईटीआई मंडी में नवीकरणीय ऊर्जा पर वर्कशॉप



मंडी। मंडी द्वारा औद्योगिक प्रशिक्षण संस्थान मंडी में मंगलावर को आईटीआई में इलेक्ट्रीशियन ट्रेड में शिक्षा ग्रहण करने वाले छात्रों के साथ नवीकरणीय ऊर्जा पर एक वर्कशॉप का आयोजन किया गया। जिसमें आईआईटी मंडी के प्रोजेक्ट ऑफिसर राजेश पंडोरिया ने अपनी टीम के साथ आईटीआई प्रशिक्षुओं को नवीकरणीय ऊर्जा पर बनाए प्रोजेक्ट की विस्तार से जानकारी दी। उन्होंने कहा कि प्रदेश में कितने नवीकरणीय ऊर्जा के सोर्स हैं जिस पर वह प्रोजेक्ट तैयार कर रहे हैं। आईटीआई मंडी में इस प्रोजेक्ट को लेकर एक कार्यशाला का आयोजन किया गया जिसमें बच्चों को नवीकरणीय ऊर्जा को कैसे यूज किया जाए इसके संदर्भ में जानकारी दी। उन्होंने कहा कि इस थीम को लेकर आईटीआई प्रशिक्षुओं को एक सप्ताह का समय दिया जाएगा जिसमें प्रतिभागी इस नवीकरणीय ऊर्जा पर अपन प्रोजेक्ट तैयार करेंगे और जिनके सही प्रोजेक्ट पाए गए उन्हें सप्ताह के अंत में सम्मानित भी किया जाएगा। वहीं जिला के पॉलीटेक्निक कॉलेज सुंदरनगर व अन्य आईआईटी में भी इसी तरह की कार्यशालाओं का आयोजन किया जाएगा।

हिमाचल दस्तक की खबरें पढ़ें अब एक क्लिक पर। अभी लॉगिन करें www.himachaldastak.com
epaper.himachaldastak.com

9 हिमाचल दस्तक



I would like to thank Prof. Bharat Singh Rajpurohit (Advisor of IEEE IAS-PES Joint Chapter IIT Mandi) for his continued support to successful organized workshop. Thank you so much IEEE PES-IAS and PELS-IES Delhi Section for the financial support because of which a successful event was conducted.



If you want to see more information about this workshop, then please visit to:
<https://rmpindoriya.weebly.com/ieee-day-2021.html>

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