Circular

Ref. No. AJU/AD/ENGG/222/2025-26 **Date: 17.04.2025**

This is to inform all the faculty members & scholars that Department of Electrical and Electronics Engineering, School of Engineering & IT, is going to organize a " 5 days Faculty Development Programme Titled- Smart and Sustainable Renewable Energy Systems with Next-Gen Power Electronics."

Event Details
Date- 21st April to 25th April, 2025.
Time of the event- 10:00 am - 1:00 pm
Mode of Delivery- Online Mode

Registration Details

- **Registration Fee:** Free
- **Deadline for Registration:** 20/04/2025
- **Link for registration :** https://forms.gle/MsEbj4SvTmektRqK9

Event Convener-

Dr. Ashwini Kumar (dr.ashwini@arkajainuniversity.ac.in)

Event Coordinators-

Dr.Md. Irfan Ahmed (dr.irfan@arkajainuniversity.ac.in)
Prof. Adarsha Rana (adarsha.r@arkajainuniversity.ac.in)
Prof. Taniya Ghosh (taniya.g@arkajainuniversity.ac.in)
Prof. Manjur Ansari (manjur.a@arkajainuniversity.ac.in)

Dr. Ashwini Kumar
Assistant Dean
School of Engineering & IT
Arka Jain University, Jharkhand

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5 DAYS FDP ON "SMART AND SUSTAINABLE RENEWABLE ENERGY SYSTEM WITH NEXTGEN POWER ELECTRONICS"

Date of Event	**21/04/2025 to 25/04/2025**
Name of the Event	**5 Days National Level FDP on "Smart and Sustainable Renewable Energy System with Nextgen Power Electronics"**
Type of the Event	**Technical Skill Development**
Conducted by	**Department of Electrical and Electronics, School of Engineering & IT, ARKA JAIN UNIVERSITY JHARKHAND**
Resource Person	**Dr. Somnath Mishra** **Mr. Rakesh kumar** **Dr. Amit Prakash Sen** **Dr. Prateem Pan** **Mr. Samarjit Singh** **Dr. Md Irfan Ahmed** **Mr. Harprit Singh** **Dr. Kasinath Jena** **Dr. Anup Kumar** **Dr. Harsh Wardhan Pandey**
Convener	**Dr. Ashwini Kumar**
Co-Ordinator	**Dr. Md Irfan Ahmed** **Prof. Adarsha Rana** **Prof. Taniya Ghosh** **Prof. Manjur Ansari**
No. Of Participants	**54**

OBJECTIVE: The Faculty Development Program (FDP) on **"Smart and Sustainable Renewable Energy Systems with NextGen Power Electronics"** was conceptualized with the goal of enhancing the academic and practical understanding of renewable energy systems among faculty members, researchers, and industry professionals. As the global focus shifts toward sustainable development and clean energy, it becomes essential for educators and practitioners to stay abreast of the latest advancements in technology, systems integration, and policy frameworks. This FDP aimed to bridge the knowledge gap by providing a focused platform for learning, discussion, and collaboration on emerging trends in renewable energy and the pivotal role of advanced power electronics in enabling smart energy solutions.

A key objective of the FDP was to impart a holistic view of smart and sustainable energy systems that incorporate solar, wind, battery storage, and hybrid configurations, powered by intelligent control mechanisms and modern power electronic interfaces. The sessions were designed to offer participants in-depth insights into system design, real-time monitoring, energy efficiency, grid integration, and protection strategies necessary for the seamless functioning of future energy infrastructures. By including topics such as AI-assisted energy systems, multilevel inverters for photovoltaic applications, and electric vehicle charging infrastructure, the program aimed to align academic understanding with current industry needs.

Another significant aim of the FDP was to promote cross-disciplinary research and academic-industry collaboration. Through lectures by eminent experts from premier institutions and organizations, the program fostered a deeper appreciation of how collaborative innovation can accelerate the adoption of clean energy technologies. It also encouraged faculty members to integrate real-world applications and sustainability goals into their teaching and research agendas.

Furthermore, the FDP was intended to help participants develop a clear understanding of policy directions, challenges such as the duck curve in power distribution, and the importance of building energy-efficient infrastructure. As these aspects play a vital role in shaping the future of energy consumption and conservation, the program offered an opportunity for attendees to explore not just the technical, but also the socio-economic and regulatory dimensions of renewable energy adoption.

In summary, the FDP aimed to empower educators and professionals with the necessary knowledge, skills, and perspectives to contribute meaningfully to India's and the global community's renewable energy goals. It served as a catalyst for initiating future research, curriculum development, and innovation in the areas of smart grids, sustainable energy, and advanced power electronics.

DETAILS:

The five-day Faculty Development Program held from April 21 to April 25, 2025, was structured with two expert sessions each day, covering a diverse range of topics in the field of renewable energy systems and power electronics.

On Day 1 (April 21, 2025), the program began with an insightful session by Dr. Somnath Mishra, Assistant Professor at KISS Deemed to be University, who presented on “Solar Power and Its Role in Achieving Net-Zero Emissions” from 10:00 AM to 11:00 AM. The evening session, from 7:00 PM to 8:00 PM, was delivered by Dr. Md Irfan Ahmed, Assistant Professor at AJU, who discussed “Emerging Trends of Electric Vehicles and Its Charging Infrastructure.”

On Day 2 (April 22, 2025), Mr. Rakesh Kumar, Manager at Damodar Valley Corporation, conducted a session from 1:00 PM to 2:00 PM on “Smart Meter in Renewable Energy.” This was followed by Mr. Harprit Singh, HoD and Senior Lecturer at Gumla Polytechnic College, who spoke from 4:00 PM to 5:00 PM on “Integrated Renewable Energy Systems: Harnessing Nature’s Power.”

On Day 3 (April 23, 2025), the morning session featured Dr. Amit Prakash Sen, Associate Professor at AJU, who addressed the topic “AI-Assisted Renewable Energy” from 10:00 AM to 11:00 AM. The evening lecture was delivered by Dr. Kasinath Jena, also an Associate Professor at AJU, on “Multilevel Inverter for PV Application” from 7:00 PM to 8:00 PM.

Day 4 (April 24, 2025) began with a presentation from Dr. Prateem Pan, Assistant Professor at BIT Mesra, Ranchi, who spoke from 10:00 AM to 11:00 AM on “Resilient Microgrid Protection Strategies for Smart and Sustainable Energy Systems.” The evening session, from 7:00 PM to 8:00 PM, was taken by Dr. Anup Kumar, Associate Professor at AJU, on “Energy Efficiency in Buildings.”

On the final day, Day 5 (April 25, 2025), the FDP continued with a morning session by Mr. Samarjit Singh, Assistant Professor from Yashoda Technical Campus, Satara, Maharashtra, who presented on “Emerging Trends of Renewable Energy Sources and Their Applications” from 10:00 AM to 11:00 AM. The concluding session was conducted by Dr. Harsh Wardhan Pandey, Assistant Professor at Bharat Institute of Engineering and Technology, Hyderabad, who discussed “Duck Curve in Indian Power System” from 2:00 PM to 3:00 PM. Each session was well-attended and followed by interactive Q&A, making the FDP a comprehensive and enriching learning experience for all participants.

OUTCOMES:

The five-day Faculty Development Program (FDP) on *"Smart and Sustainable Renewable Energy Systems with NextGen Power Electronics"* yielded highly positive and impactful outcomes. Participants gained a deep understanding of cutting-edge technologies and strategies in the renewable energy domain, particularly in the integration of solar and wind systems, smart grid applications, multilevel inverters, AI-driven energy management, and energy-efficient infrastructure.

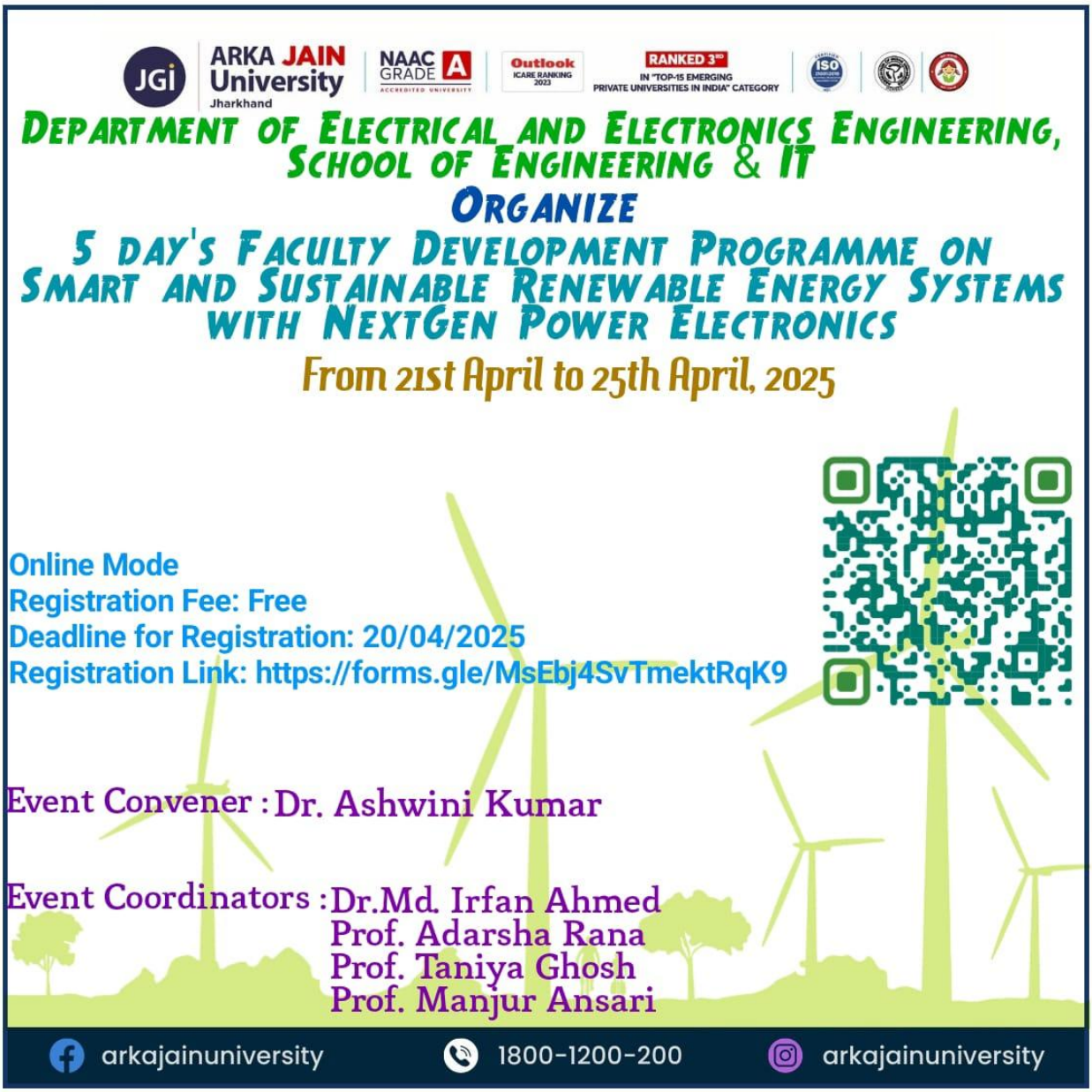
One of the significant outcomes was the enhanced awareness among faculty members and researchers regarding the importance of transitioning to sustainable energy practices and how next-generation power electronics play a crucial role in this transformation. The sessions not only provided technical insights but also highlighted the importance of practical implementation and policy-level considerations, such as electric vehicle infrastructure, smart metering, and the duck curve challenge in grid management.

The FDP successfully fostered interdisciplinary collaboration and networking among participants from various institutions and professional backgrounds. It encouraged participants to pursue collaborative research, incorporate modern energy concepts into their curriculum, and initiate academic-industry partnerships for future innovation. Many attendees expressed a renewed motivation to undertake research in the areas discussed and to guide students in projects aligned with national and global energy sustainability goals.

Feedback collected from the participants indicated a high level of satisfaction with the content, structure, and delivery of the sessions. The mix of academic and industry perspectives provided a well-rounded learning experience. The exposure to real-world case studies and future trends in energy systems helped participants better understand the challenges and opportunities in the field.

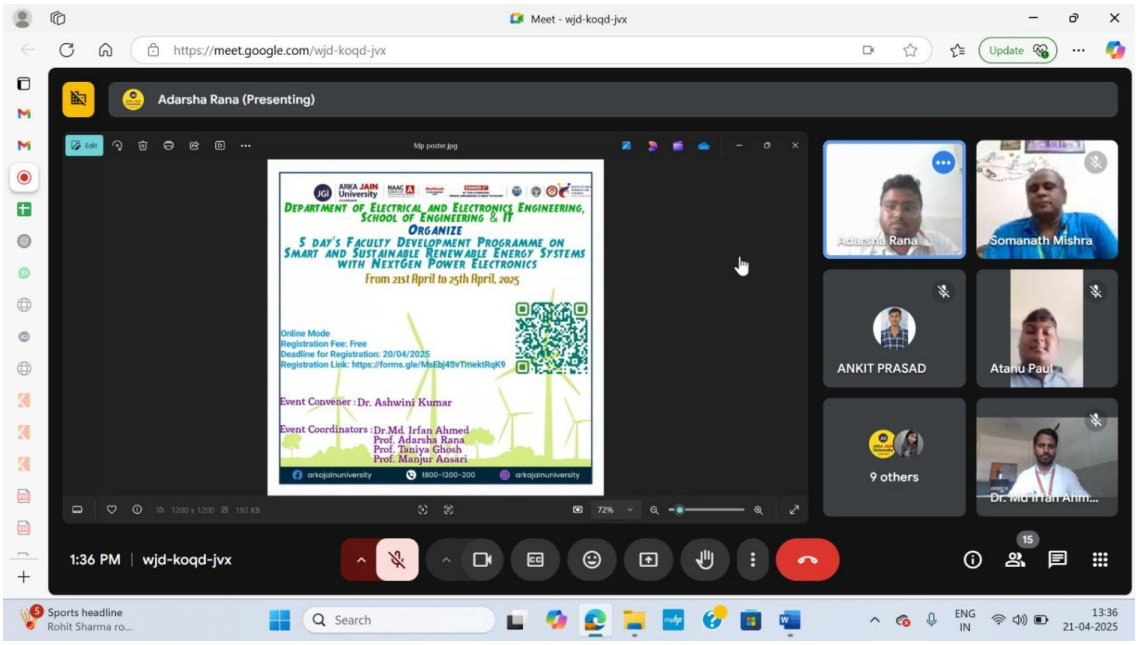
In conclusion, the FDP achieved its objective of capacity building in the area of smart and sustainable renewable energy systems. It empowered participants with relevant knowledge, tools, and perspectives to contribute meaningfully to teaching, research, and development in the field of clean energy and advanced power electronics.

POSTER OF THE EVENT

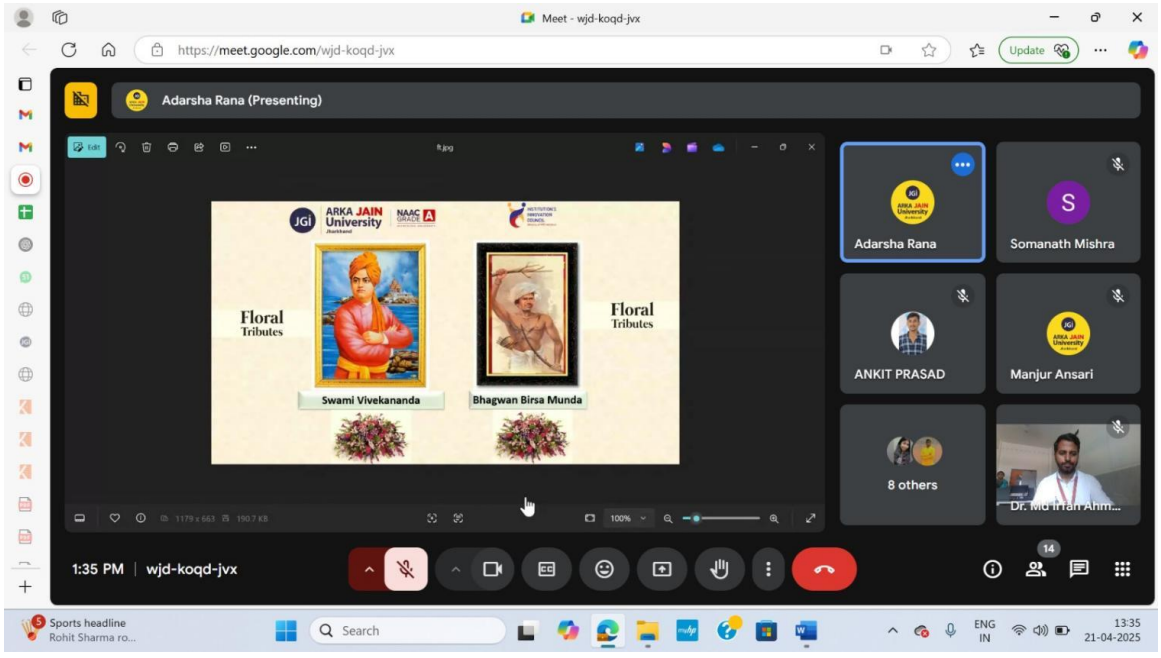


Poster of the Expert Lecture: 5 Days National Level FDP on "Smart and Sustainable Renewable Energy System with Nextgen Power Electronics"

PHOTOS OF THE EVENT

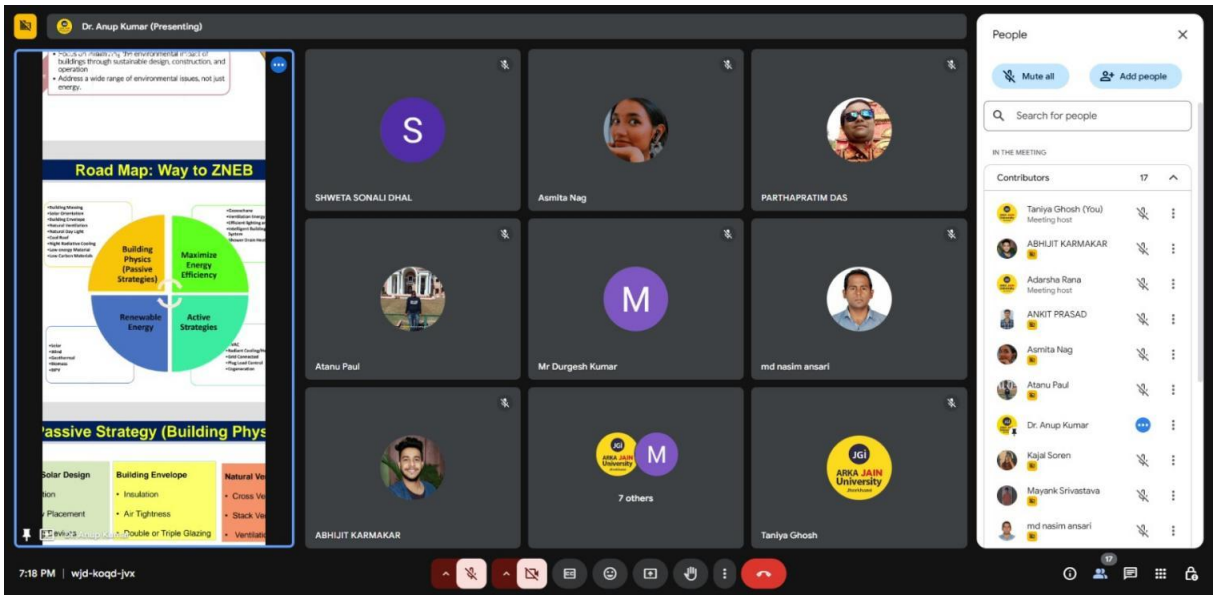


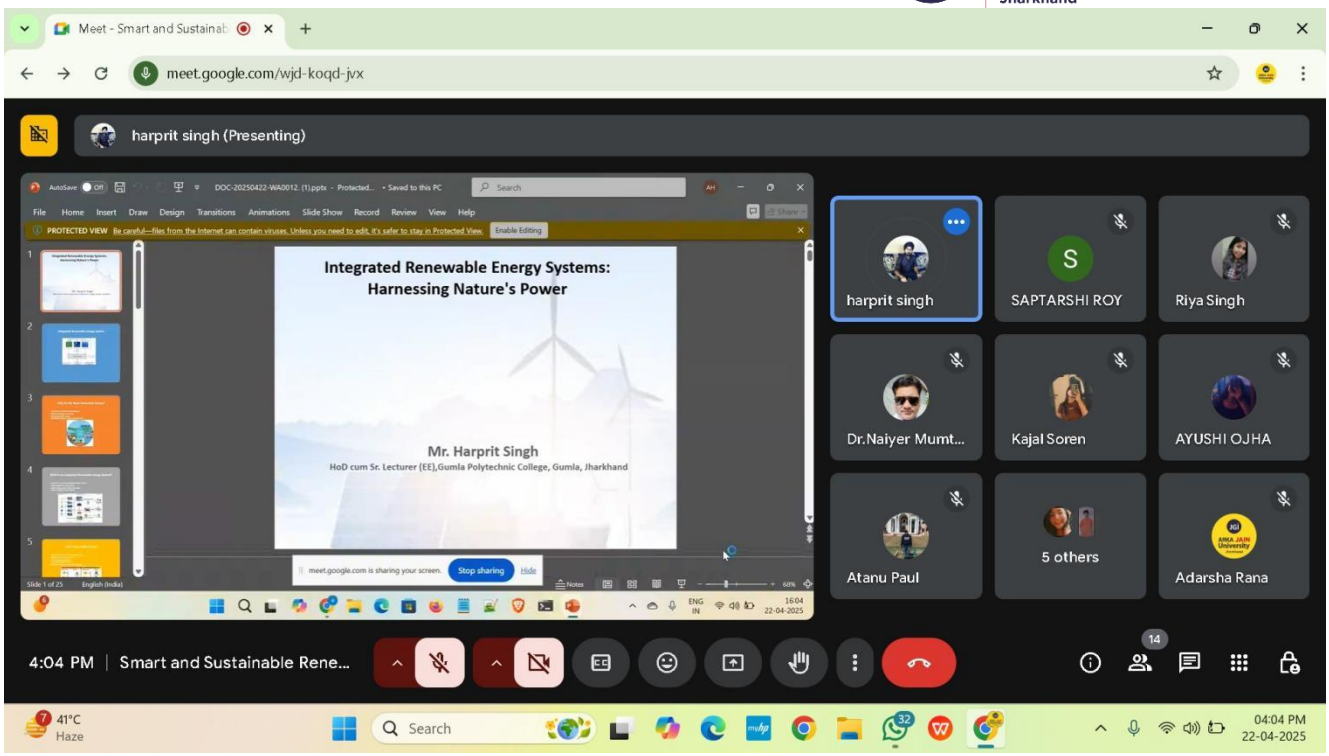
Inauguration Session with the Coordinators, Resource Person and Participants



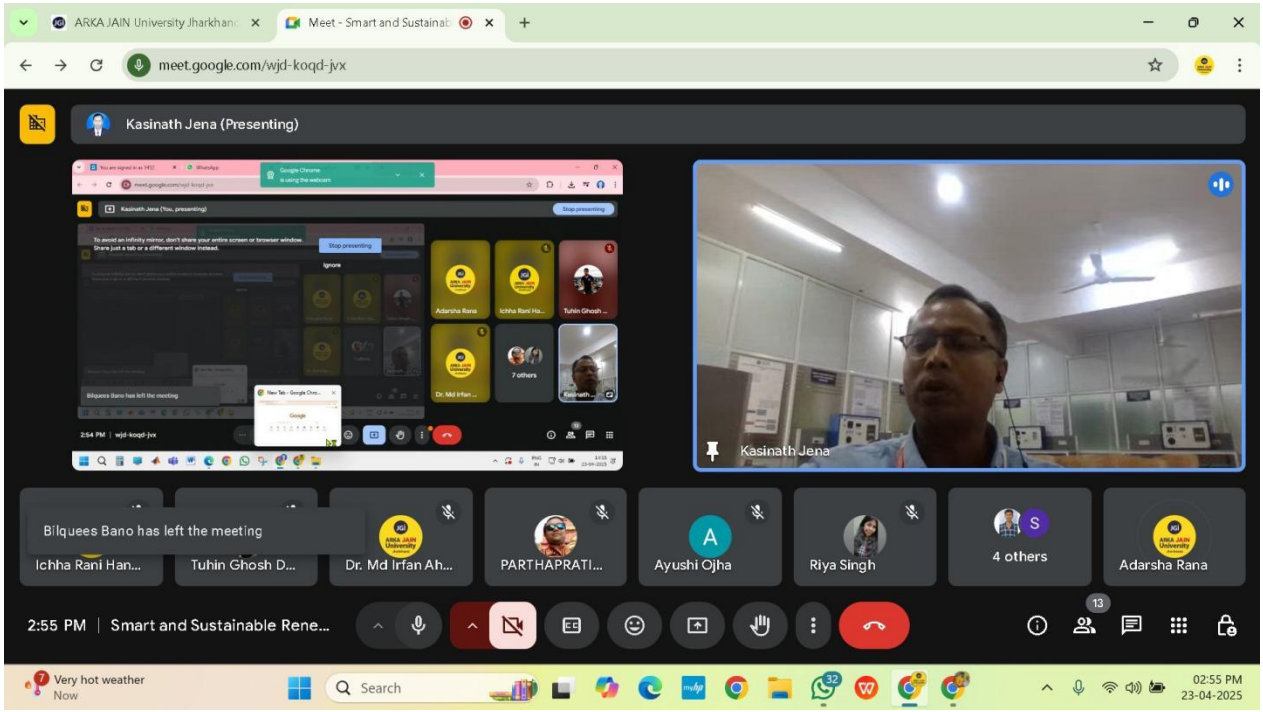
Inauguration Session with the Coordinators, Resource Person and Participants

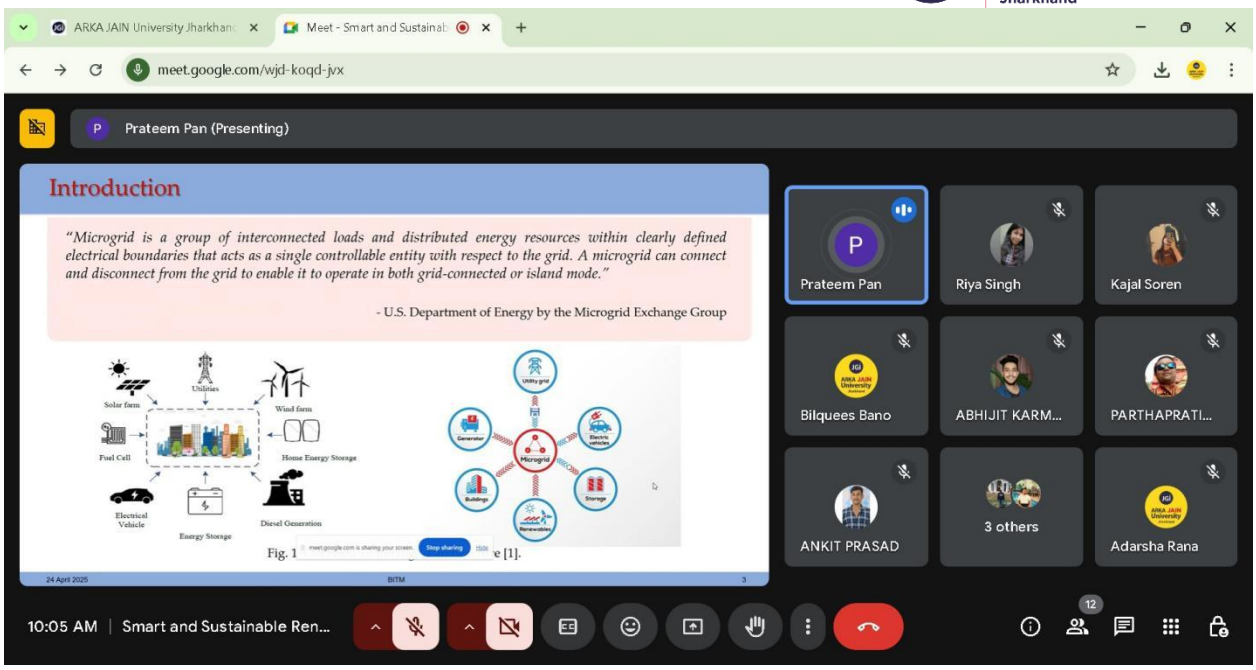
Resource Person take the session





Resource Person take the session





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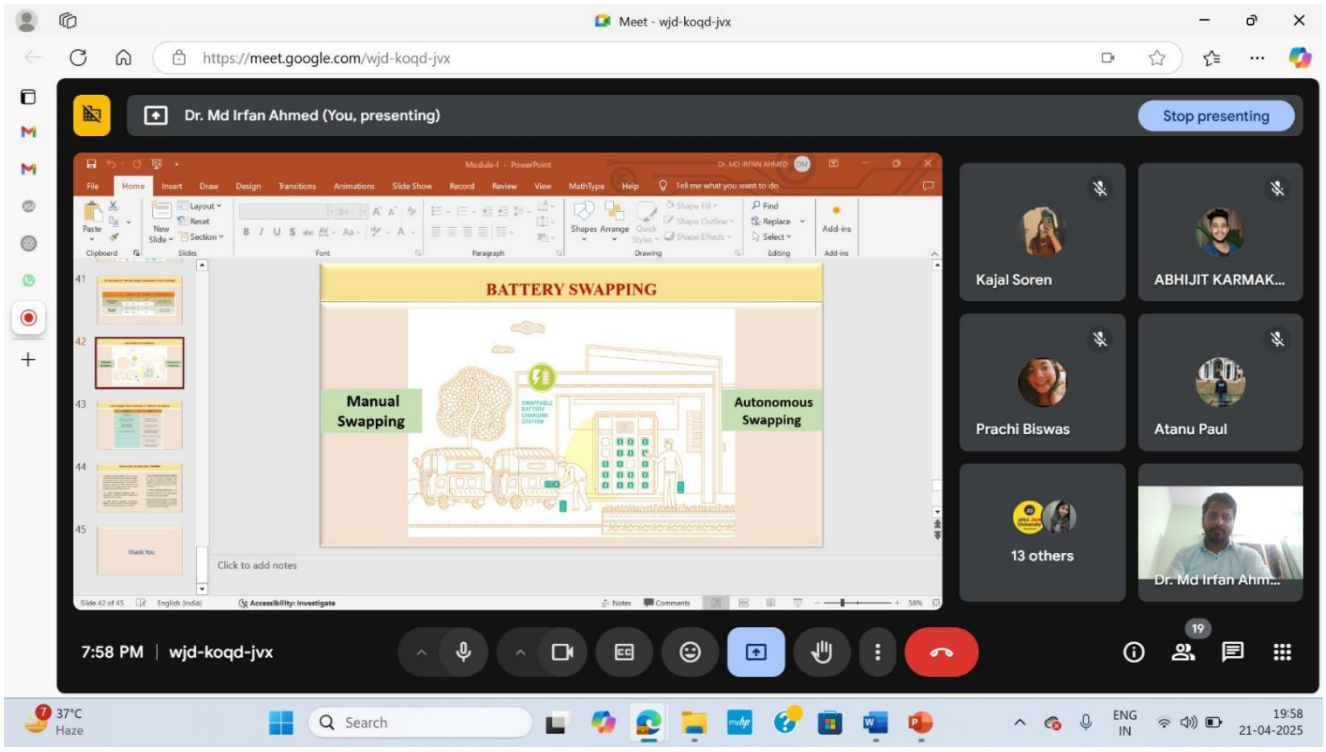

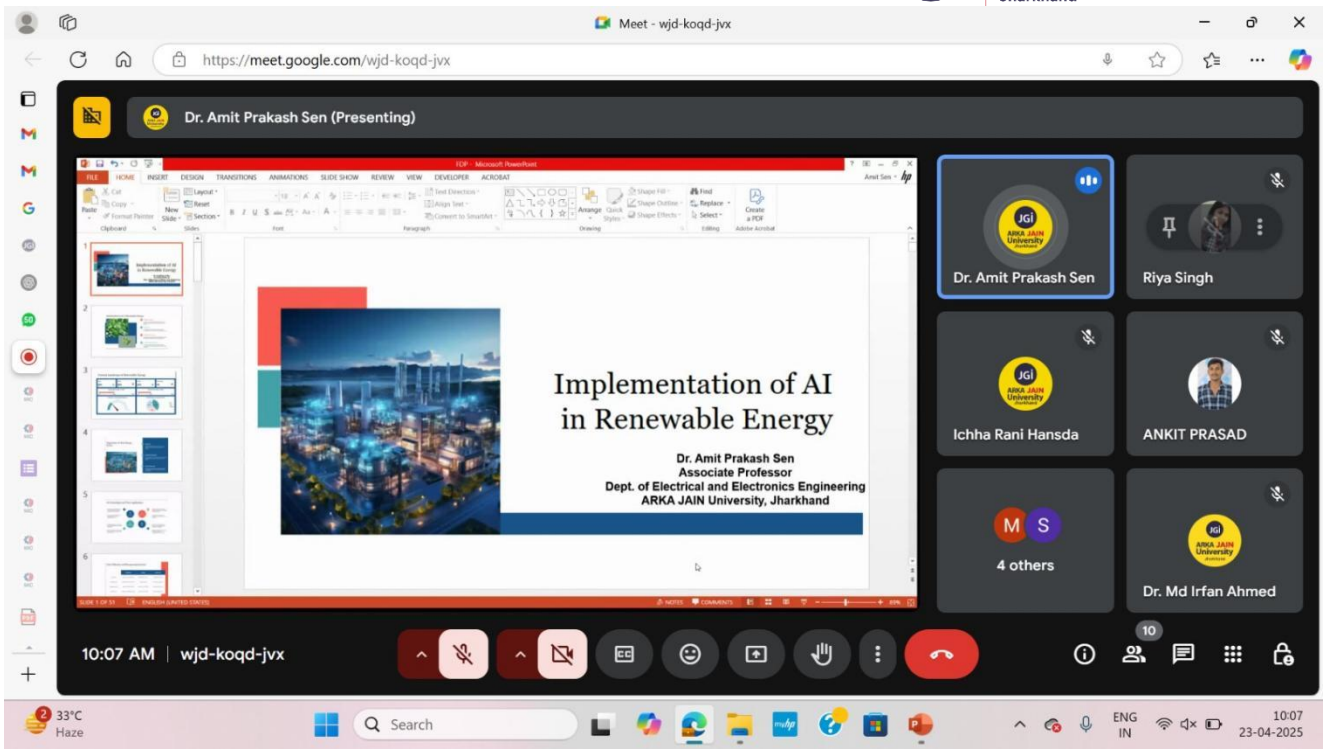

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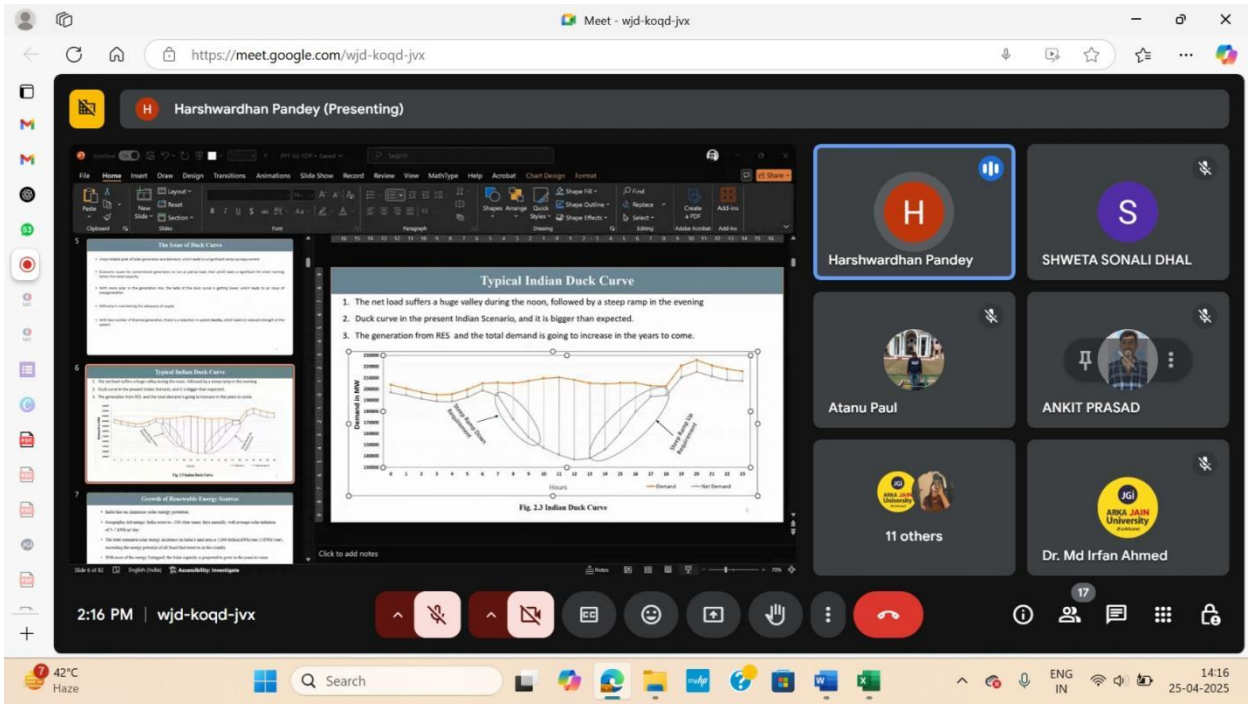

Resource Person take the session

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FEEDBACK OF THE STUDENTS

NAME	Institution	Designation	The content were relevant to the sessions within the program	The presentations were effective	Learning objectives of the program clearly communicated and achieved	The program enhanced your teaching, research, or administrative skills/knowledge	Overall how satisfied are you with the Faculty Development Program?
ADARSHA RANA	ARKA JAIN UNIVERSITY	ASSISTANT PROFESSOR	5	5	5	5	5
Nivedan Mahato	ARKA JAIN University	Assistant Prof	4	4	4	4	4
PRIYARANJAN KUMAR SINGH	Ramgarh Engineering College Murubanda Ramgarh Jharkhand	Assistant professor	4	4	4	4	4
Sanjay Kumar	Gumla polytechnic college Gumla	Lecturer	5	4	5	5	4
Dr. Prem Nath Suman	ARKA Jain University	Assistant professor	4	4	4	5	4
Dr. Durgesh Kumar	Sarala Birla University , Ranchi	Assistant Professor	4	3	4	4	3
Dr. Naiyer Mumtaz	Cambridge Institute of Technology Tatisilwai Ranchi	Associate Professor	5	5	5	5	5
TANIYA GHOSH	ARKA JAIN UNIVERSITY	ASST.PROFESSOR	5	5	5	5	5
Priyanshu kumar	Arka jain university	Diploma eee 4th sem	1	1	2	2	2
Atanu Paul	Arka Jain University	Diploma (EEE) - 4th semester	4	4	4	5	4
Rishant kumar singh	Arka jain university	Diploma eee 4th sem	2	1	1	3	2
Dr. Anupam Kumari	Arka Jain University Jharkhand	Associate Professor	4	4	4	4	4
TUHIN GHOSH DASTIDAR	ARKA JAIN UNIVERSITY	Student	5	5	5	5	5
PARTHA PRATIM DAS	CAMBRIDGE INSTITUTE OF TECHNOLOGY, RANCHI	ASSISTANT PROFESSOR	4	4	4	4	4
MD iqbal Ansari	ARKA jain university jharkhand	LAB Assistant	5	5	5	4	5
MD NASIM ANSARI	ARKA JAIN UNIVERSITY JHARKHAND	Lab Assistant	4	4	5	4	4
Bilquees Bano	Arka Jain Universiry	Lab	4	4	5	4	5

		Assistant					
Dr. Saptarshi Roy	Mirmadan Mohanlal Government Polytechnic	Lecturer in Electrical Engineering	5	5	5	5	5
ABHIJIT KARMAKAR	Arka Jain University	Diploma Student	5	5	5	5	5
Shweta Sonali Dhal	Arka Jain University	Phd Scholar	4	4	4	4	5
Arshad khan	Arka jain university	Student	1	1	1	1	1
Ayushi ojha	Arka jain University	Scholar	5	5	4	5	5
Riya Singh	Arka Jain University	Scholar	5	5	5	5	5
Ankit Prasad	Arka Jain University	Scholar	5	5	5	5	5
Dr. Sultana Parween	Jamia Hamdard	Assistant Professor	1	1	2	1	1
Dr. Sultana Parween	Jamia Hamdard	Assistant Professor	1	1	2	1	1
Kajal Soren	Arka Jain University	Electrical and electronics engineering	5	5	5	5	5

The content were relevant to the sessions within the program

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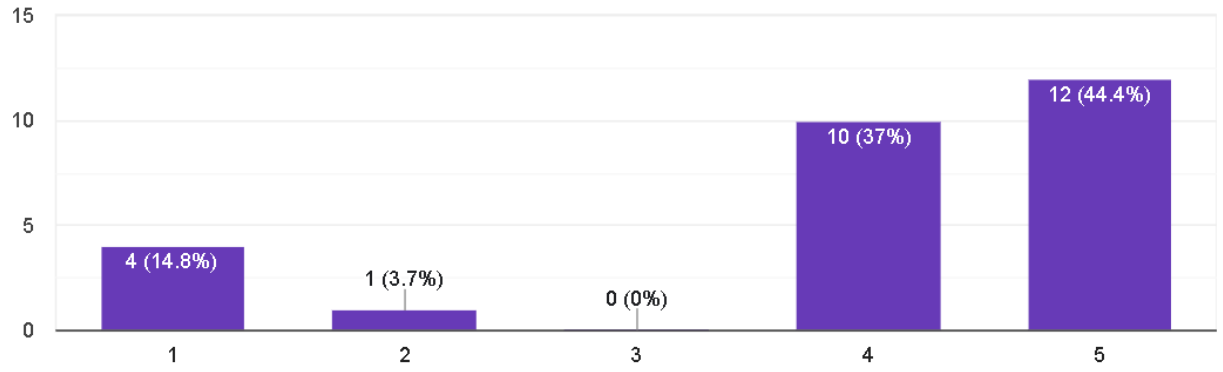
27 responses



The presentations were effective

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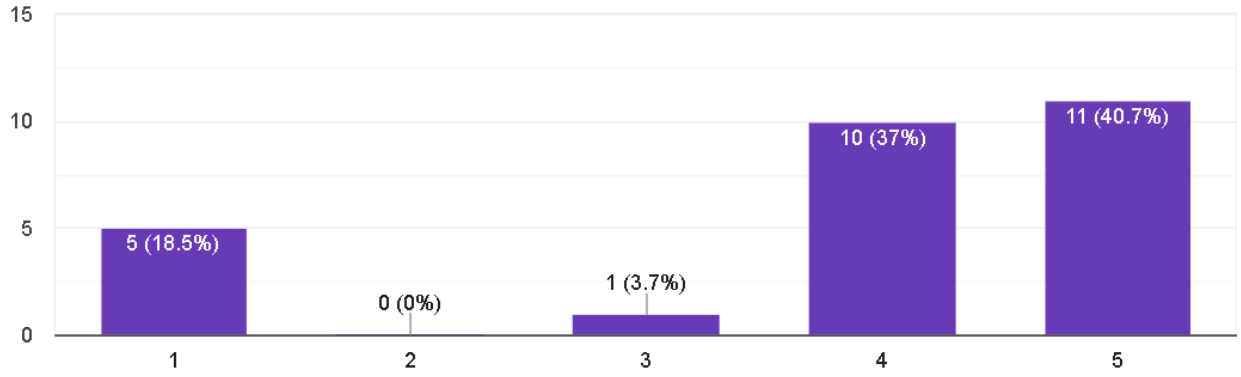
27 responses



Learning objectives of the program clearly communicated and achieved

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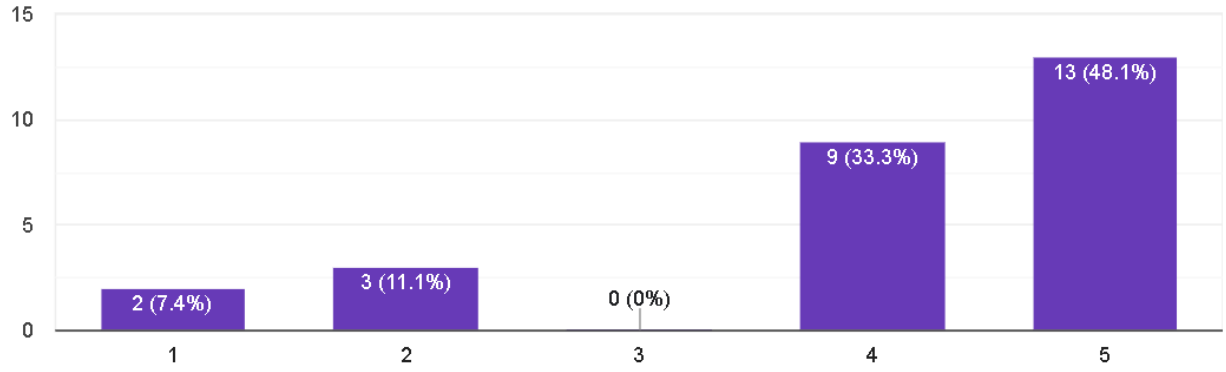

The program enhanced your teaching, research, or administrative skills/knowledge

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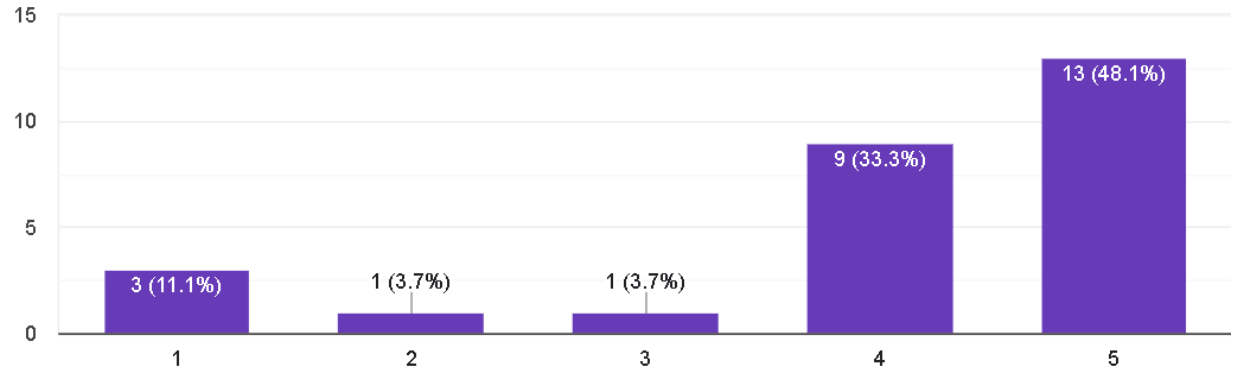

Overall how satisfied are you with the Faculty Development Program?

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