

**Report on Faculty Development Programme In “Remarkable
Advancements & Innovations In Electrical & Electronics
Engineering” Held on 10.01.2022 – 14.01.2022**

Date of Event	10.01.2022 to 14.01.2022
Name and Type of Event	National Level 5 days Faculty Development Programme in “REMARKABLE ADVANCEMENTS & INNOVATIONS IN ELECTRICAL & ELECTRONICS ENGINEERING”
Conducted by	Mr. Kumaresh Pal, Mr. MD Sazzad
No. Of Participant	32

A National Level 5 days Faculty Development Programme in “REMARKABLE ADVANCEMENTS & INNOVATIONS IN ELECTRICAL & ELECTRONICS

ENGINEERING" was organized to provide a platform to sharing the knowledge on various fields in Electrical & Electronics Engineering for the students/ faculties/ Industry Personnel of EE/ EEE branch/ domain. The aim of this programme is to enrich the knowledge of faculties/ Industry personnel/ Academicians through interaction with eminent personalities from industries and academics. The knowledge sharing will improve the technical learning process with recent trends, innovations, advancements & researches in the field of Electrical & Electronics Engineering to the faculties/students/Industry personnels/Academicians and ultimately will benefit the society. On 1st day in inaugural session, Prof. Ashwini Kumar, Asst. Dean, Dept. of Engg., AJU welcomed all the dignitaries, chief guest & all participants of the FDP with his gracious words. Our Chief Guest, Dr. Kumari Namrata, Associate Professor cum Associate Dean(SW), Department of Electrical Engineering, NIT Jamshedpur expounded the value of loyalty and commitment one should have towards research & innovations. She also stated that one should always strive to be self-reliant and be updating one's research skills according to the need of the society to stay relevant with the times. And then after 13 session talks were slotted where different guest speakers delivered talk on different topics for 5 days. And at the last in valedictory session our Guest of Honour, Dr. N.K. Rout, Professor cum Director (Research UG), School of Electronics Engineering, KIIT University, Bhubaneswar addressed the dignitaries & participants with his gracious words. A feedback cum assessment test form was filled by the participants.

About Institute

ARKA JAIN University, Jharkhand aspires to become an educational hub for millions of young minds across the country and abroad by empowering talent via creative learning experiences. The institution has flourished marvelously over the last few years and is located in India's first industrial town, Tatanagar or Jamshedpur, named after visionary businessman Shri J.N. Tata, founder of Tata Group. ARKA JAIN University educates every prospective student about further education and professional options. Its ever-changing and open-minded structure encourages students to go above and beyond in their field of study, guiding them to become ethically sound persons. ARKA JAIN University, Jharkhand is on its path to becoming one of the top universities in eastern India as a result of its relentless pursuit of achievement and perseverance. The institution, which spans 25 acres, has spared no expense in offering cutting-edge facilities in a variety of sectors such as education, sports, entrepreneurship, research, and its other activities. ARKA JAIN University is a very eco-friendly campus with cutting-edge infrastructure. It takes pleasure in providing well-equipped labs, workshops, and libraries to assist students in meeting the highest academic, research, and professional requirements. The Institution's primary goal is to provide students with solid knowledge, wisdom, experience, and training at the academic level of the highly competitive worldwide industrial sector. The infrastructure facilities and cutting-edge equipment, together with a plethora of qualified, talented, and motivated faculty, contribute to a pleasurable and simple learning experience.

The JHARKHAND State Legislature founded ARKA JAIN University in February 2017 under the "ARKA JAIN University Act." According to Sections 2(f) and 22(1) of the UGC Act, 1956, the Institution is a government-recognized university with the authority to issue degrees. The University's spacious campus is located at Gamharia, Dist: Seraikela – Kharsawan, 13 kilometers from the steel city of Jamshedpur. The University provides multidisciplinary programs that are all geared to be industry- relevant.

ABOUT SCHOOL OF ENGINEERING AND IT

AJU School of Engineering & Information Technology is established with an aim to provide quality education and entrepreneurship development. ARKA JAIN University is an intellectual destination that draws inspired students from diverse backgrounds. AJU Bachelor of Technology (B.Tech) is an AICTE approved professional Engineering undergraduate degree of 4 Years duration program offered in 5 different disciplines. Our B.Tech program offers a variety of programs that involve theoretical and practical learning in equal measure. It is one of the most preferred courses and in great demand by the students looking forward to molding their interest and ambition not only in India but for vacancies abroad aiming for a lucrative career. This professional course has made developments & created numerous opportunities in the field of engineering and information technology. The university is committed to providing an excellent Academic curriculum, Laboratory facilities, Workshops, Seminars, Assignments, Industrial visits, and Opportunities for various Experiments, Research, and Placement support.

The facilities of the campus are excellent – providing an environment to help students excel. These include a fully computerized library, industry-standard laboratories, modern lecture halls, well-equipped tutorial rooms, and a comprehensive range of sports and recreational activities.

ACKNOWLEDGEMENT

We sincerely acknowledge to following dignitaries for the successful completion of the FDP.

Prof (Dr.) S. S. Razi- Vice-Chancellor ARKA JAIN University

Mr. Amit Kumar Shrivastav- Director ARKA JAIN University

Dr.AngadTiwarly-Director(Campus)ARKA JAIN University

Mr. Jasbir Singh Dhanjal- Registrar ARKA JAIN University

Mr. Ashwini Kumar, Assistant Dean, School of Engineering and IT, ARKA JAIN University

Dignitaries from Industries and academia

Participants from different parts of the country

Program Convener and coordinators

Members of Organizing Committee

ABOUT THE NATIONAL LEVEL FACULTY DEVELOPMENT PROGRAMME

ARKA JAIN University conducts Faculty Development Programme every year to keep the faculty members abreast of the latest developments in teaching, pedagogy, research and innovations. It empowers them with knowledge and skill to lead in academics.

The objective of this FDP is to make aware and enhance the recent innovations, research based outcome in recent trends of Electrical and Electronics domain for the technical teachers upon the various key technologies used these days. The following are the broad topics, going to be covered in this FDP:

1. Renewable Energy.
2. Application of SCADA in Power System.
3. Electric Vehicles.
4. Biomedical Instrumentations.
5. Deep Learning & Machine Learning.
6. Pattern recognition.
7. Control Engineering.
8. Computer Vision.
9. IOT in Power System.
10. Power System operation & Control.
11. Industrial Automation.
12. Signals & Systems.
13. Advancements in converters.
14. Power System Stability Improvements.
15. Nano Electronics.
16. Microgrid & Smart Grid.
17. Distributed Generation.
18. Electronics Waste Management.
19. HVDC transmission & FACTS.
20. Design of PV system.
21. Cadence Tool for VLSI.
22. Wireless sensors & network

One of the key features of this FDP is that, along with discussing the advanced research topics and cutting edge technologies, it will encompass fundamental aspects of Electrical and Electronics Engineering domain technologies.

We are highly honoured to have Nationally & Internationally acclaimed faculty members/ Academicians from premier institutions as resource persons in this FDP. Industry personals, Faculty members of UGC/AICTE recognized Universities and Engineering colleges all over India & abroad, Research scholars, M. Tech./B.Tech final year students can participate & gain knowledge with this FDP.

Mode of Delivery:

Resource Persons for this FDP will deliver the online lectures and hands-on sessions through, Google-Meet platform. The essence of the FDP is to improve the research, innovative & teaching ability of the teachers and enabling the learners to

learn. The theme of the FDP is a way in building capacity of making better teachers. Lectures can be presentation mode, Discussions and hands-on sessions. Ultimate goal of the FDP is to develop the faculty members in the new pedagogy and emerging areas of science and technology.

OBJECTIVES OF FDP “ RAIEEE-2022”

The objective of this programme is to provide good opportunities for the different experts, academia, professional and faculty members to have an insight about remarkable advancement and innovations in Electrical and Electronics Engineering. Further this program will help the faculty members to strengthen their technological base by bringing research culture and promoting creative adaptation, innovation and utilization through interaction between institutes of learning. This online FDP will be useful for faculties, students, and professionals from different disciplines.

ABSTRACT

A 5 days National Level Faculty Development Programme on “REMARKABLE ADVANCEMENTS AND INNOVATIONS IN ELECTRICAL AND ELECTRONICS ENGINEERING-2022” organised by Department of Engineering, ARKA JAIN University, Jharkhand from 10th Jan to 14th Jan 2022. The aim of this programme is to enrich the knowledge of faculties/ Industry personnel/ Academicians through interaction with eminent personalities from industries and academics. The knowledge sharing will improve the technical learning process with recent trends, innovations, advancements & researches in the field of Electrical & Electronics Engineering to the faculties/students/Industry personnels/Academicians and ultimately will benefit the society. On 1st day in inaugural session, Prof. Ashwini Kumar, Asst. Dean, Dept. of Engg., AJU welcomed all the dignitaries, chief guest & all participants of the FDP with his gracious words. Our Chief Guest, Dr. Kumari Namrata, Associate Professor cum Associate Dean(SW), Department of Electrical Engineering, NIT Jamshedpur expounded the value of loyalty and commitment one should have towards research & innovations. She also stated that one should always strive to be self- reliant and be updating one’s research skills according to the need of the society to stay relevant with the times. And then after 13 session talks were slotted where different guest speakers delivered talk on different topics. And at the last in valedictory session our Guest of Honour, Dr. N.K. Rout, Professor cum Director (Research UG), School of Electronics Engineering, KIIT University, Bhubaneswar addressed the dignitaries & participants with his gracious words.

Organizing Committee

We had formed an Organizing Committee for the smooth conduct of the FDP.

CHIEF PATRON

Prof. (Dr.) S.S. Razi, V.C AJU

ADVISORY COMMITTEE

Mr. Jasbir Dhanjal, Registrar, ARKA JAIN University

Dr. Angad Tiwary, Dean Student Welfare, ARKA JAIN University

Mr. Arvind Kumar, Programme Co-ordinator, ARKA JAIN University

Dr. Anupam Kumari, Asst. Prof., Department of Engineering, ARKA JAIN University

Dr. Binod Kr. Choudhary, Asst. Prof, Department of Engineering, ARKA JAIN University

CONVENER

Prof. Ashwini Kumar, Asst. Dean, Department of Engineering, School of Engineering & IT, ARKA JAIN University Email - ashwini.kumar@arkajainuniversity.ac.in

CO-ORDINATOR

1. Prof. Kumaresh Pal, Assistant Professor, Department of Engg; AJU Email- kumaresh.p@arkajainuniversity.ac.in |Mob. – 8092448736

2. Prof. Md. Sazzad, Assistant Professor, Department of Engg; AJU Email- md.sazzad@arkajainuniversity.ac.in |Mob. – 7992388150

ORGANIZING COMMITTEE

Dr. Binod Kr. Choudhary, Asst. Prof, Department of Engineering, ARKA JAIN University

Dr. Keerti Rai, Asst. Prof., Department of Engineering, ARKA JAIN University

Prof. Kundan Kr. Pramanik, Asst. Prof. Department of Engineering, ARKA JAIN University

Prof. Amit Prakash Sen, Asst. Prof., Department of Engineering, ARKA JAIN University

Dr. Anupam Kumari, Asst. Prof., Department of Engineering, ARKA JAIN University

Prof. Shatabisha Sinha, Asst. Prof. Department of Engineering, ARKA JAIN University

Prof. Nivedan Mahato, Asst. Prof., Department of Engineering, ARKA JAIN University

TECHNICAL COMMITTEE

Mr. Chandan Kumar, Technical Assistant. Department of Engineering, ARKA JAIN University

Ms. Soni Kumari, Technical Assistant, Department of Engineering, ARKA JAIN University

Ms. Mallika Kumari, Technical Assistant, Department of Engineering, ARKA JAIN University

Internal Resource Person:

1. Dr. Binod Kumar Choudhary, Assistant Professor, Department of Engg; AJU
2. Dr. Akshay Kumar, Assistant Professor, Department of Engg; AJU
3. Prof. Kumaresh Pal, Assistant Professor, Department of Engg; AJU
4. Prof. Md. Sazzad, Assistant Professor, Department of Engg; AJU
5. Prof. Kundan Kr. Pramanik, Assistant Professor, Department of Engg; AJU
6. Prof. Amit Prakash Sen, Assistant Professor, Department of Engg; AJU

External Resource Person:

1. Dr. Abhilash Ravi kumar, Assistant Professor, Department of Electronics and Communication Engineering, School of Engineering, Amrita Vishwa Vidyapeetham, Bengaluru Campus.
2. Prof. Saket Saurabh, Assistant Professor, EEE Katihar Engineering College, Department of Science & Technology, Patna
3. Dr Amrit Mukherjee, Assistant Professor, University of South Bohemia, Ceske Budejovice , Czech Republic
4. Dr. Rajesh Panda, Assistant Professor, Indian Institute of Engineering, Science & Technology, Shibpur, Howrah
5. Dr. Amar Kumar Barik, Assistant Professor, Institute of Technology, Nirma University, Ahmedabad
6. Prof. Keshav Prasad Patel, Business Development Manager, Sai Design & Software Solutions, Bhopal, MP
7. Mr. Sandeep A. Kale, Assistant Professor, Dept. of Electrical Engineering, Jhulelal Institute of Technology, Nagpur
8. Dr. Naiyer Mumtaz, Assistant Professor, Dept. of Electrical & Electronics Engineering, Cambridge Institute of Technology, Ranchi, Jharkhand

This FDP was conducted for Five Days with the active participation of more than 30 participants.

Inaugural Function (10 Jan 2022)

On January 10, 2022, the FDP began with tremendous zeal. All the participants & dignitaries joined the same through Google Meet. We inaugurated with lightning candles followed by Saraswati Vandana.

Day-1, Session-1: Dr. Anupam Kumari & Ms. Shatabhisa Sinha was Session Chair, they welcomed all the people to the programme. Prof. Ashwini Kumar Sir, Asst. Dean, Dept. of Engg., AJU welcomed all the dignitaries, chief guest & all participants of the FDP with his gracious words. Our Chief Guest, Dr. Kumari Namrata, Associate Professor cum Associate Dean(SW), Department of Electrical Engineering, NIT Jamshedpur expounded the value of loyalty and commitment one should have towards research & innovations. She also stated that one should always strive to be self-reliant and be updating one's research skills according to the need of the society to stay relevant with the times. Mr. Kumaresh Pal, coordinator, RAIEEE-2022 had introduced the theme & schedule of five days different sessions.

Day-1, Session 2: Mr. Amit Prakash Sen was Session Chair, he welcomed the guest speaker to the session of programme. Resource person Dr. Rajesh Panda from IEST Shibpur, West Bengal delivered the talk on “Recent trends on Microgrid Systems” & well explained the challenges & recent developments in the area of Microgrid.

Day-1, Session 3: Dr. Binod Kr. Choudhary was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Prof. Amit Prakash Sen from AJU delivered the talk on “Deep Learning & its application in health care” providing us the detailed overview how deep learning can be used to assist medical professionals & researchers to discover the hidden opportunities in data & to serve the health cares.

Day 2 (11 Jan 2022)

Day-2, Session I: Mr. Kumaresh Pal was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Dr. Abhilash Ravikumar from Amrita Vishwa Vidyapeetham University, Bangalore delivered the talk on “Electronics of materials- A computational approach”. Here he shared his research knowledge about computational approaches to materials design both theoretical & practical aspects based on electronic structures, interatomic potentials & hybrid methods.

Day-2, Session II: Mr. Amit Prakash Sen was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Dr. Amrit Mukherjee from University of South Bohemia, Czech Republic delivered the talk on “Wireless sensors & network” sharing with us the importance & role in our daily life or in Industries or at any other place. How much we are dependent on it?

Day-2, Session III: Dr. Keerti Rai was the Session Chair, she welcomed the guest speaker to the session of programme. Resource person Prof. Sandeep A. Kale from

Jhulelal Institute of Technology, Nagpur delivered the talk on “Transmission Network Congestion in Deregulation Power system”. He discussed with us the side effects of congestion, the problem arises with it & the possible ways to manage the congestion. He also enlightened us about the recent trends evolved to manage the congestion.

Day 3 (12 Jan 2022)

Day-3, Session I: Dr. Binod Kr. Choudhary was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Prof. Saket Sourab from Katihar Engineering College, Bihar delivered the talk on “Recent developments in Solar Energy” & elaborated the current technologies being used in harvesting solar power/energy. He also discussed the recent researches & developments made in the field of solar energy & also validated it with various datas.

Day-3, Session II: Mr. Md. Sazzad was the Session Chair, he welcomed the guest speaker to the session of programme. Dr. Binod Kr. Choudhary from AJU delivered the talk on “Recent advancement in hybrid Renewable Energy”. He shared his priceless knowledge about hybridization of these renewable energy resources & application in a power plant. And how this trend attracted the attention of researchers in recent years.

Day-3, Session III: Dr. Keerti Rai was the Session Chair, she welcomed the guest speaker to the session of programme. Resource person Prof. Md. Sazzad from AJU delivered the talk on “Power System Restructuring and Deregulation”. In his talk he smoothly covered all the aspects of deregulation of electrical power system in Indian market & worldwide as well. He provided the comprehensive coverage of the recent technological advances that is helping continuously redesign of the electricity market.

Day 4 (13 Jan 2022)

Day-4, Session I: Mr. Kundan Kr. Pramanik was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Prof. Kumaresh Pal from AJU delivered the talk on “Application of SCADA in Electrical Power System”, providing the brief idea regarding the SCADA, its importance in various applications. The recent functionalities added to the SCADA systems. And the current advancements made in SCADA Systems.

Day-4, Session II: Mr. Kumaresh pal was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Dr. Akshay Kumar from AJU delivered the talk on “Automatic generation control of tidal power generator integrated hybrid power system”. He shared his research work & explained the recent control strategies made for control of generation of hybrid power system penetrated with tidal power generation.

Day-4, Session III: Mr. Kumaresh Pal was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Dr. Amar Kr. Barik from Nirma University delivered the talk on “Distributed Generation and Microgrids”. He discussed the various Distributed generations that are being used in recent trends with microgrid, its advantages. The various problems occurs in DG penetrated systems & the methodologies required to remove it.

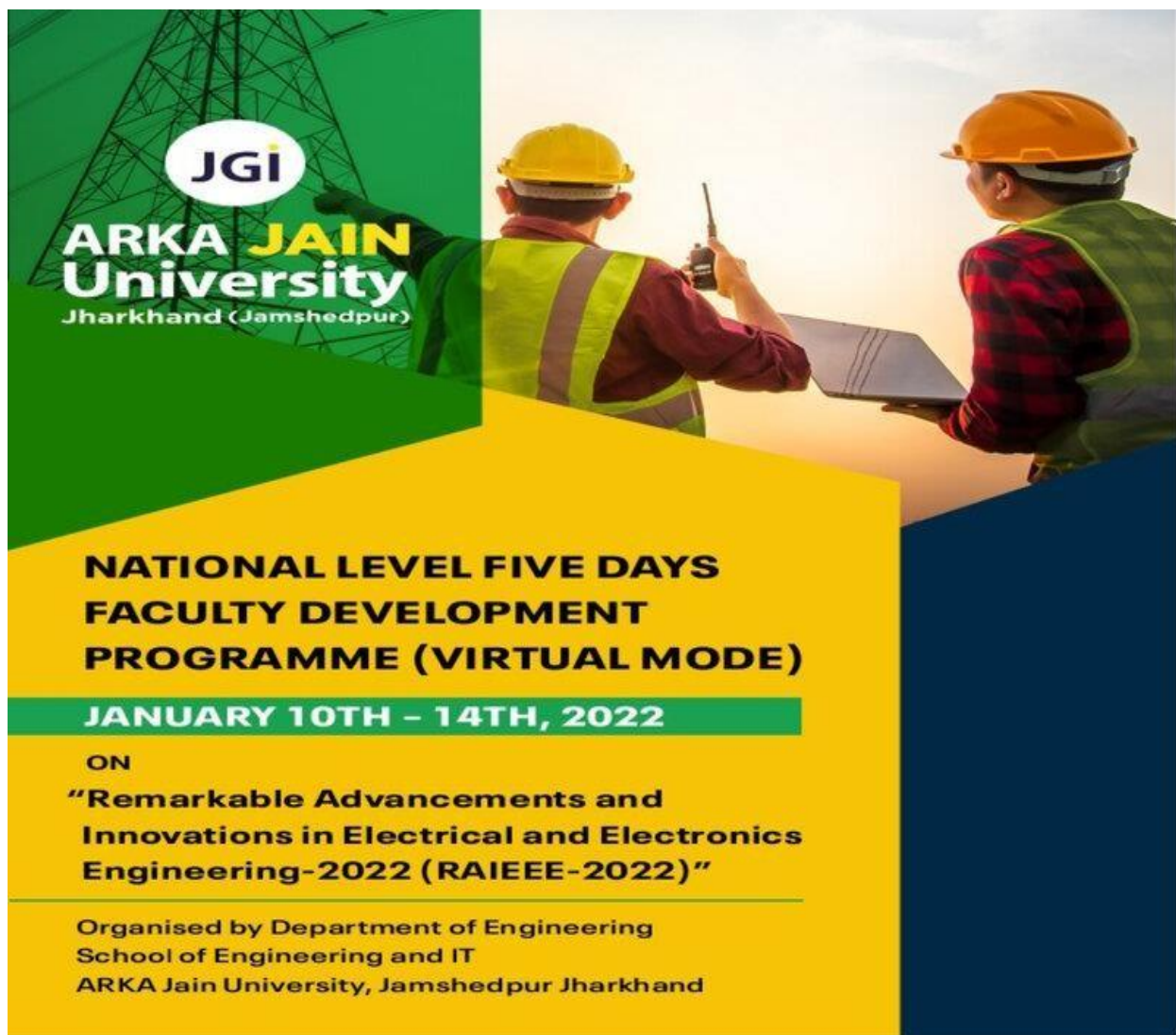
Day 5 (14 Jan 2022)

Day-5, Session I: Ms. Shatabhisa Sinha was the Session Chair, she welcomed the guest speaker to the session of programme. Resource person Prof. Kundan Kr. Pramanik from AJU delivered the talk on “Introduction to the Fuzzy Logic system in Industrial automation” & explained in a well manner way how the Fuzzy logic system is beneficial for Industrial Automation & its recent developments made.

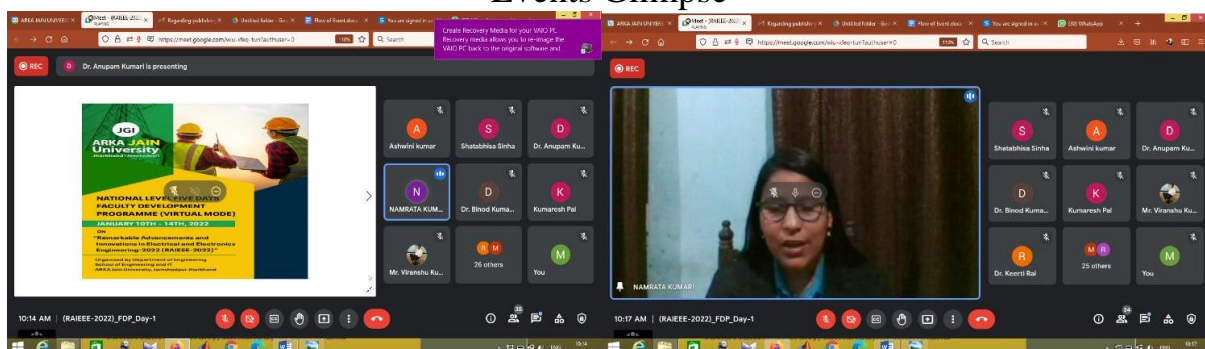
Day-5, Session II: Mr. Kumaresh Pal was the Session Chair, he welcomed the guest speaker to the session of programme. Resource person Dr. Naiyer Mumtaz from CIT, Ranchi delivered the talk on “Reliable power availability at low cost of Integrated Renewable Energy System” providing us a sound knowledge of hands on working knowledge on Homer Software. He also discussed the reliability of power availability in a renewable energy system.

Day5, Session-3: Valedictory - Dr. N.K. Rout, Professor cum Director (Research UG), School of Electronics Engineering, KIIT University, Bhubaneswar, was the Guest of Honour. He graced the Valedictory ceremony with his valuable words. Mr. Kumaresh Pal, Coordinator RAIEEE-2022 expressed sincere gratitude towards University Managements, all the dignitaries, invited guests & speakers, all participants from different states & countries, and the members of the Organising Committee. Finally, the FDP was concluded with vote of thanks & National Anthem.

Poster of the Event



Events Glimpse



REC Abhilash Ravikumar is presenting

MoS₂ electronics !

MoS₂ based sensors

MoS₂ quantum transistors

MoS₂ based spintronic devices

Nature Nanotechnology volume 6, pages147-150(2011)

Nanoscale, 2015,7, 18364-18378

Phys. Chem. Chem. Phys., 2018,20, 10286-10291

Dr. Abhilash Ravikumar, Nanoelectronics Research Lab, Amrita Vishwa Vidyapeetham, Bengaluru, India

AMRITA VISHWA VIDYAPEETHAM

10:47 AM | (RAIEEE-2022)_FDP_Day-2

Kumaresh Pal, Abhilash Ravik..., Yadendra Pal s..., Dr. Binod Kuma..., kuldip sahu, syed rashid, Rakhi Chakrabo..., 11 others, You

10:47 11-01-2022

REC

Abhilash Ravikumar

11:03 AM | (RAIEEE-2022)_FDP_Day-2

Kumaresh Pal, 16 others, You

In-call messages

Let everyone send messages ☒

Messages can only be seen by people in the call and are deleted when the call ends.

<https://forms.gle/11ObXVR7xuDaddyD9>

You 10:58 AM
Feedback link for Day-2, session-1:
<https://forms.gle/11ObXVR7xuDaddyD9>

Amit Prakash Sen 11:02 AM
which software is used for simulation sir. i could not follow

Send a message to everyone

11:03 11-01-2022

ARKA JAIN UNIVERSITY

Meet - (RAI) x PLAYING

Feedback & A Invitation as Bios - Google Bios_Prof. Am You are signed (28) WhatsApp Transient Stat Transient Stat

https://meet.google.com/wiu-xfeq-tun?authuser=0 110%

REC A Amit Prakash Sen is presenting

JGI Literature Survey

- Presently many COVID positive patients were found with no clinical symptoms but having positive Covid-19 results. At the point when somebody is perceived as an individual under examination, at that point lower respiratory samples thereby accumulated for further pathogenic testing. This testing depends on reverse transcription-polymerase chain reaction (RT-PCR).
- From the earliest starting point of the pandemics, the effectiveness of RT-PCR testing has been subject to different elements which includes the accessibility and availability of the testing packs in the influenced area. All the more significantly, the outcomes acquired through RT-PCR testing are flawed because of quality, constancy and reproducibility of the detection kits.

Amit Prakash S... keerti rai Dr. Binod Kuma... kuldip sahu padmaja tripathy Megha Srivasta... S. SAMIKSHYA ... 8 others You

2:40 PM | (RAIEEE-2022)_FDP_Day-1

14:40 10-01-2022

Participants Feedback

Feedback forms were made available for each session and final feedback along with the final quiz was organized. The feedback form consisted of feedback about the session, the rating of the session out of five points, five-point was assigned for the excellent session and point one was assigned to just a good session.

Feedback & Attendance (RAIEEE-2022) DAY-1

Remarkable Advancements and Innovations in Electrical and Electronics Engineering-2022 (RAIEEE-2022)

Email *
Valid email
This form is collecting emails. [Change settings](#)

PARTICIPANT NAME *
Short answer text

Mobile Number *
Short answer text

WhatsApp/Telegram Number *
Short answer text

Gender *
☐ Male
☐ Female
☐ Prefer not to say

Designation *
Short answer text

Institute / Organization *
Short answer text

Department *
Short answer text

How was the session (Describe in one or two sentence) *
Long-answer text

Give Rating for Session (5 for best , 1 for just ok) *
☐ 5
☐ 4
☐ 3
☐ 2
☐ 1

Organization of The FDP
27 responses

Rating	Percentage
Excellent	66.7%
Very Good	33.3%
Good	0%
Satisfactory	0%
Poor	0%

How was the session (Describe in one or two sentence)
27 responses

Nice

Good

GOOD

EXCELLENT

Amazing n informative

Nice session

very good

Its really good

good

Technical Support
27 responses

Rating	Percentage
Excellent	59.3%
Very Good	33.3%
Good	7.4%
Satisfactory	0%
Poor	0%

Link for the final quiz and Feedback is given below.

<https://forms.gle/t18NGCptZufnutpDA>

Final Feedback & Assessment Test of (RAIEEE-2022)

Remarkable Advancements and Innovations in Electrical and Electronics Engineering-2022 (RAIEEE-2022)

Email *

Valid email

This form is collecting emails. [Change settings](#)

PARTICIPANT NAME

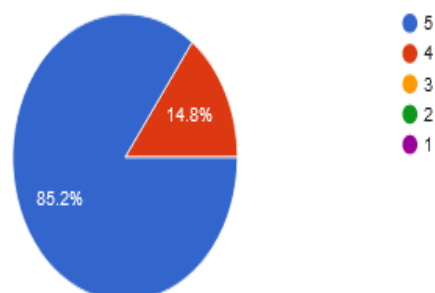
Short answer text

Mobile Number

Short answer text

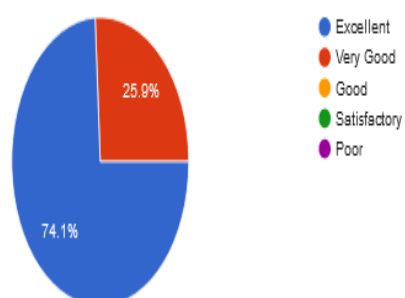
Give Rating for the Organising FDP (5 for best , 1 for just ok)

27 responses



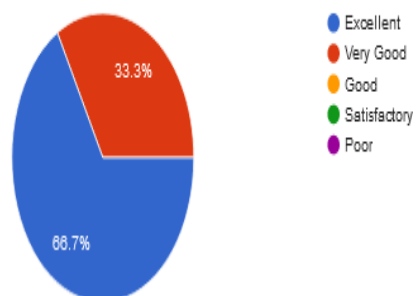
Overall presentation skill of resource persons

27 responses



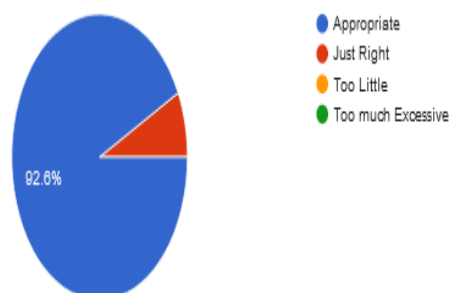
Overall quality of resource persons

27 responses



Whether the content of the course appropriate?

27 responses



How would you rate the quality of content of the course?

27 responses

