



**J.C. Bose University of Science and Technology,**  
**YMCA, Faridabad**

1.	Name of Activity (Title)	AICTE Training and Learning Academy ATAL FDP
2.	Type of Activity (FDP/Lecture/Technical/conference etc.)	FDP
3.	Name of department/ Section/ cell conducting the activity	Electrical Engineering Department
4.	In coordination with (if any)	-
5.	Date of Conduct	January 29, 2024 to February 3, 2024
6.	Name of Activity Coordinator (s)	Dr. Rashmi Agarwal and Dr. Yogendra Arya
7.	Amount Spent	Total expenditure from AICTE- 2,05,622/-
8.	Funding/ grant from (University/ Industry/ UGC/ AICTE/ DST/ TEQIP/ Outside Society/ agency/others (mention)	AICTE
9.	Target audience	Faculty member and PG/PhD students
10.	No. of beneficiaries	33
11.	Name of Outside guests	Given in the report below
12.	Any other information	Report Enclosed containing details of notices/flyers/list of attendee etc.
13.	Also, attach two/ three good-quality photographs	Enclosed

**REPORT on AICTE ATAL FDP**

**FDP Title:** Advancing Renewable Energy Technologies for Sustainable E-mobility  
**Date:** Jan. 29, 2024 to Feb. 3, 2024  
**Institute Name:** Department of Electrical Engineering, J.C. Bose University of Science and Technology, YMCA, Faridabad, Haryana

A week-long Faculty Development Program was conducted by the Department of Electrical Engineering, under the aegis of JC Bose university of Science and Technology, YMCA and sponsored by All India Council for Technical Education (AICTE) on “Advancing Renewable Energy Technologies for Sustainable E-mobility” from January 29, 2024 to February 3, 2024.

Below is the brochure of the program.

**AICTE SPONSORED ATAL**  
 FACULTY DEVELOPMENT PROGRAM ON  
**ADVANCING RENEWABLE ENERGY TECHNOLOGIES FOR SUSTAINABLE E-MOBILITY**  
 29.01.2024 - 03.02.2024

**ORGANISED BY**  
 DEPARTMENT OF ELECTRICAL ENGINEERING  
 J.C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
 YMCA, FARIDABAD, HARYANA  
 (NAAC 'A+' ACCREDITED  
 HARYANA STATE GOVERNMENT UNIVERSITY)

### RESOURCE PERSONS

- |  |  |
|--|--|
| <b>Prof. Bhim Singh</b><br>IIT Delhi               | <b>Prof. Sanjay Agrawal</b><br>CSVTU, Chattisgarh  |
| <b>Prof. Sukumar Mishra</b><br>IIT Delhi           | <b>Prof. Naqui Anwer</b><br>TERI SAS, Delhi        |
| <b>Prof. Purna Gaur</b><br>NSUT, West Delhi Campus | <b>Dr. Avnish Tripathi</b><br>IIT, Delhi           |
| <b>Prof. Rachana Garg</b><br>DTU, Delhi            | <b>Dr. Shivani Sharma</b><br>Hitachi Energy, India |
| <b>Prof. Mukhtiar Singh</b><br>DTU, Delhi          | <b>Prof. M. Rizwan</b><br>DTU, Delhi               |

### ADVISORY COMMITTEE

- Prof. Sandeep Gover**, Dean Institutions  
**Prof. Rajkumar**, Dean FET  
**Prof. P.R. Sharma**  
**Prof. Rajesh Kr. Ahuja**  
**Prof. Poonam Singhal**

### ORGANISING COMMITTEE

- |                            |                          |
|----------------------------|--------------------------|
| <b>Dr. Sakshi Kalra</b>    | <b>Ms. Shipra Jain</b>   |
| <b>Mr. Nitin Goel</b>      | <b>Mr. Atma Ram</b>      |
| <b>Dr. Shakuntla</b>       | <b>Ms. Rachna Dhir</b>   |
| <b>Dr. Anubha Gautam</b>   | <b>Ms. Bharti Thakur</b> |
| <b>Mr. Satvinder Singh</b> |                          |



### ABOUT UNIVERSITY

J.C. Bose University of Science and Technology, YMCA is a state government-owned university in Faridabad. Established in 1969, it was a joint venture of the National Council of YMCAs of India, Govt. of Haryana, and Central Agencies for Development Aid (Bonn, Germany). In 1996, the state government of Haryana took complete control of this institution. It was granted university status in 2009 and named YMCA University of Science and Technology (YMCA UST). The university is recognised by the University Grants Commission (UGC) Act 1956 u/s 22 for offering degree programmes. It holds 'Grade-A+' accreditation from NAAC and is a member of the Quality Council of India (QCI) and the Association of Indian Universities (AIU). Besides this, university has 18 engineering colleges in Faridabad and Palwal affiliated with it.

### ABOUT DEPARTMENT

The Department of Electrical Engineering (NBA accredited) is committed to impart technical education in the most efficient manner to its students. It was established in the year 2012 (earlier combined with Electronics Engineering Department and known as EEE Department running since the inception of YMCAIE). The department has equipped itself with workshops/labs and syllabus for achieving engineering education excellence, from the support of excellent faculty of the Department, JCBUST, YMCA has established itself as well known entity in the field of Electrical education. The syllabus of the Department composed of the fundamental concepts blended with the ultra modern topic to impart quality technical education, the lab/workshops consists of the basic instrument to software/simulators for providing the student a feel for industrial work environment. The department of Electrical Engineering is running various UG, PG and Ph.D. programs.

## About AICTE's ATAL Programme:

AICTE Training and Learning (ATAL) Programme is an initiative by AICTE which aims at empowering faculty to achieve goals of Higher Education such as access, equity and quality. The objective is to create an Academy that will coordinate and support the delivery of superior technical education across the country. Additionally, it helps technical colleges advance research by using information and communication technology, which in turn equips technical instructors and technicians to support entrepreneurship and innovation. It was felt Training, with latest tools and technologies is vital to keeping an institute competitive and more productive.

### FDP OBJECTIVE

The objective of faculty development program on Advancing Renewable Energy technologies for Sustainable E-mobility is the transition transportation sector towards a more environmental friendly and sustainable future. This goal involves the integration of renewable energy sources with electric mobility in order to reduce greenhouse gas emissions, combat climate change, and improve air quality.

### FDP ABSTRACT

Renewable energy technologies play a critical role in enabling sustainable e-mobility, contributing to the reduction of greenhouse gas emissions and promoting cleaner transportation solutions. This transition toward renewable energy sources is vital in mitigating the environmental impact of traditional fossil fuel-based transportation systems. Key renewable energy technologies, such as solar, wind, and hydroelectric power, offer promising solutions for powering electric vehicles and supporting sustainable e-mobility initiatives. There will be also hands on training on related topic.



### IMPORTANT INFORMATION

- No registration fees.
- There are limited seats and the participants are selected on the basis of eligibility criteria of AICTE and first come first serve basis.
- There will be a quiz at the end of FDP.
- For the award of certificate, minimum attendance criteria of 80% and a minimum score of 60% in quiz shall be fulfilled.
- It's mandatory for all participants to submit feedback after each session.



#### PATRON

Prof. Sushil Kumar Tomar  
Vice Chancellor, J.C. Bose UST, YMCA,  
Faridabad, Haryana

#### CHAIRPERSON

Prof. Anju Gupta

#### COORDINATOR

Dr. Rashmi Agarwal (9891595209)  
Associate Professor

#### CO-COORDINATOR

Dr. Yogendra Arya (9891484801)  
Associate Professor

Department of Electrical Engineering  
J.C. Bose University of Science and  
Technology, YMCA, Faridabad,  
Haryana

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A week-long Faculty Development Program was conducted by the Department of Electrical Engineering, under the aegis of JC Bose university of Science and Technology, YMCA and sponsored by All India Council for Technical Education (AICTE) on “Advancing Renewable Energy Technologies for Sustainable E-mobility” from January 29, 2024 to March 3, 2024.

The inaugural session was graced with the presence of Prof. Rakesh Mudgal, an illustrious alumnus of the university and the Vice Chancellor of D.Y. Patil Education Society (Deemed to be University) as the Chief Guest. He was accompanied by Prof. Bhim Singh from IIT Delhi as the Guest of Honour. Hon’ble Vice Chancellor Prof. Sushil Kumar Tomar presided over the session. The event was attended by significant academicians such as Prof. Sandeep Grover, Dean Institutions, Prof. Raj Kumar, Dean FET, Prof. Anju Gupta, Chairperson, Electrical Engineering and other esteemed faculty members.

The ceremony commenced with the lighting of the lamp by the dignitaries, followed by the resonant rendition of the University kulgeet. Dr. Rashmi Agarwal, the Program Coordinator, provided a concise overview of the program, setting the stage for Prof. Anju Gupta to extend a warm welcome to the distinguished guests and participants. Vice Chancellor Prof. Tomar shared valuable insights into renewable energy resources, emphasizing their role in advancing sustainable e-mobility.

Chief Guest Prof. Rakesh Mudgal emphasized the imperative shift from non-renewable to renewable energy sources. He delved into the critical significance of renewable resources, articulating how their adoption could pave the way for a cleaner and more sustainable future. The programme was skillfully coordinated by Dr. Rashmi Aggarwal and Dr. Yogendra Arya.

In his keynote address, Prof. Bhim Singh, a distinguished fellow of the Indian National Academy of Engineering, expounded on the program's main theme. He highlighted the transformative potential of renewable resources in addressing the current pollution crisis and resource depletion. He expanded on the frontiers of renewable energy technologies and their applications in sustainable e-mobility.

Dr Shivani Sharma from Hitachi Energy Ltd. disseminated upon topics of energy transition and grid integration policies.

The second day of program comprised of insightful lectures delivered by Prof. Purna Gaur from NSUT and Prof Rizwan from DTU that delved into the technological aspects of e-mobility, including battery technologies, and charging infrastructure.

Era Bajpai, an enthusiastic trainer associated with Typhoon Hill, made the sessions more interactive by taking some hands on drills.

The challenges and opportunities associated with developing robust charging networks and battery technologies that balance range, cost, and performance were explained elaborately by Prof. Rajesh Ahuja and Mr. Alok Bhatnagar on third day.

Professor Mukhtiar Singh from DTU, highlighted the new opportunities for innovation and collaboration in areas such as energy storage and Professor Naquie Anwer from Teri University explored and informed about the role of policy and regulation in promoting e-mobility adoption.

In continuation Prof. Sanjay Agarwal has focused upon advancing renewable energy technologies, and the final day concluded with detailed knowledge by Dr. Avanish Tripathi, IIT Delhi on Industry Academia Collaboration in E-mobility. The event reached to its glorious completion with an industrial visit to OMEGA CKK, Manufacturers, EV Vehicles.

**The speakers for the six days FDP on “Advancing Renewable Energy Technologies for Sustainable E-mobility” were:**



1



**Prof. Bhim Singh**

Dr. Bhim Singh is a Professor in the Department of Electrical Engineering at IIT Delhi.

2



**Dr. Shivani Sharma**

She is Principal Technical Consultant Hitachi Energy.

3



**Prof. Prerna Gaur**

Prof. Prerna Gaur is Director, West Campus, NSUT, New Delhi.

4



**Prof. Md. Rizwan**

He is professor of Electrical Engineering at Department of Electrical Engineering, DTU, Delhi.

5



**Prof. Alok Bhatnagar**

Prof. Bhatnagar is Prof. of Practice (POP) at Department of Electrical Engineering, J.C. Bose University of Science & Technology, YMCA, Faridabad.

6



**Prof. Rajesh Kr. Ahuja**

Prof. Ahuja is Professor of Electrical Engineering, J.C. Bose University of Science & Technology, YMCA, Faridabad.

7



**Prof. Mukhtiar Singh**

Prof. Singh is Professor of Electrical Engineering at Department of Electrical Engineering, DTU, Delhi.

8



**Prof. Naqui Anwar**

Dr. Naqui Anwer is Professor and Head of the Department of Sustainable Engineering at TERI School of Advanced Studies, New Delhi.



### Prof. Sanjay Agrawal

Prof. Sanjay Agrawal is currently on Deputation as Pro Vice Chancellor, Chattisgarh Swami Vivekanand Technical University, Bhilai.

The Schedule of the FDP list of participants is given as:



### Dr. Avinash Tripathi

Dr. Avinash Tripathi is working as an Assistant Professor at Department of Energy Science and Engineering, IIT Delhi.

### AICTE's Training and Learning (ATAL) Faculty Development Program on

**“Advancing Renewable Energy Technologies for Sustainable E-Mobility” (29.01.2024-03.02.2024)**

organized by

Department of Electrical Engineering

J.C. Bose University of Science and Technology, YMCA, Faridabad

DATE/ TIME	SESSION-I 9:30 am-12:00 pm	SESSION-II 12.00 pm- 01:00 pm	Lunch 1:0-2:0pm	SESSION-III 2:00 pm to 4.30 pm	Practical session 4.30 pm to 5.30pm
29.01.2024	Advancing Renewable Technologies for Sustainable E-Mobility <b>Prof. Bhim Singh IIT, Delhi</b> (*starts with the end of inauguration session)	Article Discussion	Lunch 1:00 to 2:00 pm	Energy Transition and Grid Integration Aspects of E-Mobility <b>Dr. Shivani Sharma, Principal Technical Consultant, Hitachi Energy</b>	Typhoon HIL-Fundamentals, Products and Technology & Basic Drive Model Demonstration
30.01.2024	Optimisation of Solar PV Array for Maximum Output Power under Partial Shading Conditions for eMobility <b>Prof. Purna Gaur, Director NSUT, New Delhi</b>	Article Discussion	Lunch 1:00 to 2:00 pm	EV Technology Current Trends and Future Prospects <b>Dr. M. Rizwan Professor, DTU, Delhi</b>	Example model demonstration: - Electric Vehicle (G2V and V2G) Battery Management Systems
31.01.2024	Charged for Tomorrow Empowering Sustainability through Electric Vehicles <b>Prof. Alok Bhatnagar JCBUST, YMCA</b>	Article Discussion	Lunch 1:00 to 2:00 pm	EV Architecture and Design <b>Dr. Rajesh Kumar Ahuja JCBUST, YMCA</b>	Hands-On For Electric Vehicle Model Using Signal Processing Components
01.02.2024	Electric Vehicles and Smart Integration of their Charging Infrastructure <b>Dr. Mukhtiar Singh Professor, DTU, Delhi</b>	Article Discussion	Lunch 1:00 to 2:00 pm	Electric Vehicle Necessities and Challenges India's Perspectives <b>Prof. Naqui Anwer TERI School of Advanced Studies New Delhi</b>	Hands-On For Electric Vehicle Model Using Signal Processing Components
02.02.2024	Industrial Visits Omega Seiki Mobility, Greater Faridabad, Haryana		Lunch 1:00 to 2:00 pm	Hybrid Photovoltaic Thermoelectric System Proposed Solution to Charge Electric Vehicle <b>Prof. Sanjay Agrawal, Pro Vice Chancellor, Chhattisgarh SVTU</b>	Hands-On For Electric Vehicle Model Using Signal Processing Components/Solar MPPT Boost Charger Demonstration
03.02.2024	Electric Vehicle Architecture Charging Infrastructure and Motor Drives <b>Dr. Avinash Tripathi, IIT, Delhi</b>	Reflection Journal	Lunch 1:00 to 2:00 pm	MCQ, Feedback and Interactions	Valedictory Session

*Rashmi Agarwal*

**Coordinator**

Dr. Rashmi Agarwal  
Associate Professor, Department of Electrical Engineering  
JCBUST, YMCA, Faridabad

*Arya*

**Co-Coordinator**

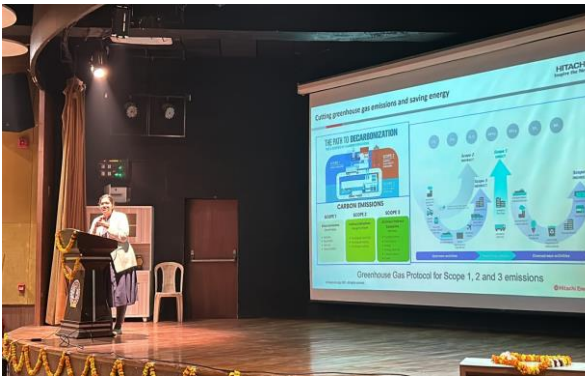
Dr. Yogendra Arya  
Associate Professor, Department of Electrical Engineering  
JCBUST, YMCA, Faridabad

**The list of participants is as under:**

<b>Sr.No.</b>	<b>Participant Name</b>	<b>Mobile No.</b>	<b>Institute Name</b>	<b>Designation</b>
1	Dr. Awdhesh Kumar Poddar	7206357101	ADGITM New Delhi	Assistant Professor
2	Ms. Priyanka Singh	9958031457	ADGITM New Delhi	Research Scholar
3	Mr. Phani Kumar K.S.V	9652974377	CVR College of Engineering	Assistant Professor
4	Dr. Kavita Singh	9818051582	Rawal Institute of Engineering and Technology, Faridabad	Assistant Professor
5	Mr. Satvinder singh	9319246899	JCBUST, YMCA, Faridabad	Assistant Professor
6	Mr. Atma Ram	9467959798	JCBUST, YMCA, Faridabad	Assistant Professor
7	Mrs. Shipra Jain	9582182997	JCBUST, YMCA, Faridabad	Assistant Professor
8	Mrs. Anubha Gautam	9990287227	JCBUST, YMCA, Faridabad	Assistant Professor
9	Mrs. Bharti Thakur	9654035561	JCBUST, YMCA, Faridabad	Assistant Professor
10	Rafeque Ahmad	9873321262	JMI,	Research Scholar
11	Yogendra Arya	9896576692	JCBUST, YMCA, Faridabad	Associate Professor
12	Sakshi Bangia	8860988607	JCBUST, YMCA, Faridabad	Associate Professor
13	Dr. Kalpana Sheokand	8920544024	JCBUST, YMCA, Faridabad	Assistant Professor
14	Neha Khurana	9416996545	UIET, MDU	Assistant Professor
15	Sanjeev	7206286371	UIET, MDU	Research Scholar
16	Chetan Bhardwaj	7876292728	UIET, MDU	Research Scholar
17	Vivek	9996322654	UIET, MDU	Research Scholar
18	Rohit Tripathi	9958268783	JCBUST, YMCA, Faridabad	Assistant Professor
19	Kapil Kumar	9817324925	UIET, MDU	Research Scholar
20	Sheilza Jain	9818886957	JCBUST, YMCA, Faridabad	Assistant Professor
21	Khalid Amin	7065233621	Jamia Millia Islamia	Research Scholar
22	Md Shahbaz Alam	9709299285	Jamia Millia Islamia	Research Scholar
23	Md Kamal Uddin	9064022900	Jamia Millia Islamia	Research Scholar
24	Pragalbha Kant	8802420277	TRIELC Institute of education Pvt Ltd.	Faculty
25	Pankaj Dahiya	9958446721	Delhi Technological University	Assistant Professor
26	Huzaiifa Naz	9319936046	Jamia Millia Islamia	Research Scholar
27	Mahendra Kumar Sharma	9560243808	Jamia Millia Islamia	Research Scholar
28	Sarfraz	9671325332	NGF College of Engineering and Technology	Assistant Professor
29	Abdul Azeem	9719194004	Delhi Technological University	Research Scholar
30	Dr. Vinod Sharma	9306641643	NGF College of Engineering and Technology	Associate Professor
31	Miss Rachna	8585872708	DTU	Research Scholar
32	Mrs. Archana. Aggarwal	9971350816	Jamia Millia Islamia	Research Scholar
33	Parag Kavthekar	9871307355	BOSCH LTD	Trainer



Some of the glimpses of the program are given as:







**The group photo of the participants at the valedictory session:**

It was a great Initiative by ATAL Academy. I am thankful to AICTE for giving me this opportunity to conduct offline FDP for faculty members and research scholars of technical institute of India free of cost. I got huge response as well as lots of compliment of arranging this FDP, contents and hands on.