



Department of Electrical Engineering
(NBA Accredited)
J.C. Bose University of Science and Technology,
YMCA, Faridabad
(NAAC Accredited 'A' Grade)

Strategic Plan (2021-2026)

About the Department

The Department of Electrical Engineering (NBA Accredited) is one of the flagship departments of the JC Bose University of Science & Technology, YMCA. The department 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 well-equipped and spacious laboratories with all modern facilities for experimentation. The lab/workshops consist of the basic instrument to software/simulators for providing the student a feel for industrial work environment. The syllabus of all the subjects is composed of the fundamental concepts blended with the ultra-modern topic to impart quality technical education in the field of Electrical Engineering. Department of Electrical Engineering is running UG, PG and Ph.D. programs. All the programmes are approved by AICTE. These programmes are enlisted below:

Four Year B.Tech. Programmes in Electrical Engineering:- 60 seats

Two Year M.Tech. Programmes in Power Electronics and Drives:- 18 seats

Ph.D. Programmes:- There are 8 faculty members having doctoral degree out of total 16 faculty members in the department and 06 are PhD pursuing. PhD Programmes are available in the areas of power systems, power electronics & machine drives, electrical machines, electrical vehicles, microgrids, power quality, power system stability, FACTS devices, AI, machine learning, renewable energy systems, power quality, control systems, internet of things (IOT), green technology etc.

Vision

Electrical Engineering Department congregates the challenges of new technological advancements to provide comprehensively trained, career focused, morally strong accomplished graduates, cutting edge researchers by experimental learning which contribute to ever changing global society and serve as competent engineers.

Mission

To commit excellence in imparting knowledge through incubation and execution of high quality innovative educational programs.

To develop the Research oriented culture to build national capabilities for excellent power management.

To inculcate and harvest the moral values and ethical behavior in the students through exposure

of self-discipline and personal integrity.

To develop a Centre of Research and Education generating knowledge and technologies which lay ground work in shaping the future in the field of electrical engineering.

STRATEGIC GOALS

- To shape a team of academicians, to achieve excellence and to offer academic programmes in Electrical Engineering at undergraduate, postgraduate and doctoral levels.
- To stimulate faculty members for higher education.
- To propose latest and innovative PG programmes.
- To advance the department as knowledge hub.
- To upgrade the present labs and introduce new labs.
- To inculcate moral values in students.
- To encourage the faculty and students for research/quality publication.
- To keep faculty members knowledgeable about the state-of-the-art developments in research, technology and teaching methods.
- To interact more with neighboring industries and institutions to exchange technological developments.

SWOC Analysis

The Department introspect itself via SWOC analysis stated as under:

Strength

- Preferred higher education destination for the students in the State counselling of Haryana.
- Synergic team of young and qualified faculty who are dedicated to intellectual pursuits and are professionally passionate to work in interdisciplinary teams.
- The Department of EE has well qualified and dedicated faculty. Department has 50% faculty members with Ph.D. degree.
- Faculty members are members of various statutory board/bodies.
- Excellent faculty retention.
- Innovative, hardworking and inquisitive students.
- Vigorous and transparent evaluation system.
- Use of ICT in teaching-learning process.
- Feedback mechanism portal on Website.

- Wi-Fi campus.
- Mentor-Mentee system is capable to solve all issues of students.
- Alumni Association containing leading entrepreneurs.
- Well- established workshops. Labs are established on par with state-of-the-art-technology.
- Conduct of value added training programmes for unemployed rural youth of the region.

Weakness

- Scope for improved inter-departmental and inter-institute/university research activities that still needs to be further reinforced.
- Potential for collaborative research with industry/R&D Labs needs to be further realized.
- More efforts are needed to increase the number of state/central government funded projects to strengthen the department.
- Number of SCIE journal paper publications need to be further improved.
- Consultancy works needs to be improved.

Opportunities

- Opportunity to impart knowledge and enhancing learning skills of students using New Education Policy NEP-2020.
- Opportunity for developing smart campus with increased availability of communication and information technology products
- Opportunity to attract students from different countries and cultures.
- Start of UG and PG courses in other emerging areas.
- Being located in NCR and industrial hub there is lot of scope of finding opportunities for signing MoUs with industries, institutes like NIT, IIT etc.
- Opportunity for corporate training, consultancy and placement.

Challenges

- Frequent changes in education policy and revised guidelines by UGC/AICTE.
- Industry ready curriculum and implementation that bridges the gap between Industry and Institution.
- NBA Accreditation.
- Development of advanced teaching & learning methodologies, personal interaction by developing smart classrooms and mechanism for effective evaluation.

Action Plan

- ✓ NBA Accreditation of B.Tech programme in 2024.
- ✓ NBA Accreditation of M.Tech programme.
- ✓ Strengthening of Training & Placement activities.
- ✓ Start of M.Tech. in Renewable Energy.

Future Goals

- ✓ To establish a SCADA Lab.
- ✓ To make MOUs for industry linked projects of students.
- ✓ To establish a NABL approved Calibration Lab.
- ✓ To establish an Electric Vehicle Lab.

Activity Calendar (2018-19)

S.No	Date	Event/Activity	Name of Guest/Speaker with address
1	26-30/11/2018	FDP on "Embedded World"	Dr. Kanika Sharma, Dept. of Electronics Engg., NITTR Chandigarh.
2	15/09/2018	Technical Quiz on "Engineers Day Celebration", 15 Sept 2018.	Prof. (Dr.) Sanjay Aggarwal, IGNOU, Delhi
3	18/02/2019	Visit To AKGEC Ghaziabad to attend a full day Technical Seminar on "Industrial IOT using Lab View"	
4	18/02/2019	Expert Lecture on "Mendeley as a Referencing Tool"	Dr. Yudhishther Pandey, REC Ambedker Nagar, UP
5	17/11/2018	Expert Lecture on "Grid operation with 100 percent renewable"	Dr. Manohar Singh (CPRI Bangalore)
6	26/10/2018	Visit to Substation Ballabgarh	

Activity Calendar (2019-20)

S.No	Date	Event/Activity	Name of Guest/Speaker with address
1.	27/02/2020	Visit to Smart Grid Knowledge Centre, Manesar, Gurgaon	
2	Session July-Dec 2019	Value Added course on "AutoCAD"	
3	Session July-Dec 2019	Value Added course on "LabVIEW"	
4	10/09/2019-11/09/2019	Visit to A5 Sub Station, Sector- 3, Faridabad	
5	26/08/2019 to	Visit to Workshop on "Advance	

	28/08/2019	Techniques in Factory Automation” in Manav Rachna International Institute of Research and studies	
6	22/08/2019	Visit to GIS Substation, Old Faridabad	
7	24/07/2019	Visit to PCB Design Workshop, Ballabgarh	
8	22/06/2020	Webinar on “Industry 4.0”	Sh. Sandeep Singh Managing (Director) Sh. Saran Sant Head- Applications & Support Lead (IIOT Projects) Reckers Mechatronics Pvt. Limited,
9	20/06/2020	Webinar on “Building Motivation and nurturing opportunities: Post Covid-19 Lockdown”	Sh. Naveen Jain Senior IAS, Chairman & MD (RSRTC)
10	19/06/2020	Webinar on “Artificial Intelligence, Machine Learning, and Robotics- A paradigm for a new generation”	Dr. Rajesh Kumar Professor (Electrical Engineering) MNIT, Jaipur Dr. Kuldeep Singh Assistant Prof. (MNIT, Jaipur)
11	06/06/2020.	Online Quiz on “Renewable energy for sustainable development in India”, in association with HVPN Faridabad (Haryana)	
12	28/05/2020 to 12/06/2020	Six days Webinar series on “PLC programming and HMI Development”	Mr. Suresh
13	08/05/2020	Webinar on “Solar Pumping Technology - A Boon for Agricultural Sector”	Sh. B.K. Bhayana, Director Product Marketing- Industrial Automation in Delta Electronics Pvt. Ltd. Gurgaon
14	04/10/2019	Expert lecture on ‘LED Lighting’	Mr. Devender Singh Bhandari, Vice President, HPL Electric and Power Ltd.
15	04.10.2019	Expert lecture on ‘Time Management’	Mr. Rajesh Gupta, Alumni 1992
16	04/10/2019	Expert lecture on ‘HVAC Systems and New Technologies’	Mr. Sanjay Mittal, Sr. GM, Johnson Controls
17	03/10/2019	Expert lecture on ‘Aerosol Advanced Fire Suppression System’	Mr. Lakhn Pal Solanki, Assistant General Manager, Airport Authority of India,
18	03/10/2019	Expert lecture on ‘Applications and types of medium voltage switchgear’	Mr. Sudhir Yadav, Alumni,
19	01/10/2019	Expert lecture on ‘Low voltage Switchgear, application, selection and co-ordination’	Mr. Nitin Rastogi
20	01/10/2019	Expert lecture on ‘LED Lighting’	Mr. Mahender Singh, Executive Director and Vice President, Havells Guangzhou International Ltd.
21	01/10/2019	Expert lecture on ‘Design of power	Mr. Vikas Sharma,

		Distribution System for a building project'	
22	30/09/2019	Expert lecture on 'Electricity, Generation and Transmission'	Mr. Inderjit Singh, Engineer, Bhakra Beas Management Board
23	30/09/2019	Expert lecture on 'Project Management'	Mr. A.K. Sen, GM, Operation Blue Star (Alumni, YMCA)
24	31/08/19	Expert lecture on 'Satellite Communication and application in Indian Economy'	Mr. Sanjay Gupta (Business Director Hughes),
25	30/08/19.	Expert lecture on 'Control System'	Prof. Ghanshyam, MNIT, Jaipur
26	29/08/19	Expert lecture on 'Electrical Safety Audit'	Mr. Bharat Bhushan Asija, Director Mables Power Engineer Pvt. Ltd.
27	27/08/19	Expert lecture on 'Industrial Safety'	Mr. Ashwani Damani, MD, Industrial Safety Engineer, FBD
28	26/08/19	Expert lecture on 'Energy Meter'	Mr. Ravinder Kumar, SDO, Electricity Board Haryana (Alumni) YMCA
29	22/08/19	Expert lecture on 'Renewable Energy Integration'	Prof. Ramesh C. Bansal, Department of Electrical and Computer Engg. At the University of Sharjah, United Arab Emirates,
30	06/08/19	Expert lecture on 'Energy Management for Buildings'	Mr. Vijay Kataria, Director Sales and Process Excellence with Schneider Electric India (Alumni)
31	23/07/19	Expert lecture on 'Introduction to ignition coils, starter relays, special purpose transformers and reactors'	Mr. Balram, Alumni 1992 batch
32	09/09/2019	Declamation Contest on "Narrative Tale on Sikh religion and their connection with the liberal thinking"	
33	18-24/07/2019	Workshop Under TEQIP-III on "Hands on Training on Design and Fabrication of PCB"	Mr. Lalit Mohan (ECE Deptt.) Ms. Kusum Arora (ECE Deptt.)

Activity Calendar (2020-21)

S.No	Date	Event/Activity	Name of Guest/Speaker with address
1	25 June - 02 July, 2021	One week Short Term Training Program on " <i>AutoCAD for Engineers with PLC Basics</i> "	Mr. Ravi Makhija, Director RVM CAD Soft
2	16-17 th April	International Conference on	Participation from research

	2021	“Advances in Sustainable Energy, Environment and Engineering”	scholars from university and universities/colleges across the country
3	01-06 March 2021	AICTE Sponsored Online FDP on “Power Electronics Applications in Microgrid and Electric Vehicle Systems”	Professors from IITs/NITs and Industry.
4	01 Feb 2021	Expert lecture on ‘Harnessing Solar Power’ by 01/02/2021.	Mr. Rajesh Walia (Alumni), Fiat Chrysler Automobile (USA),
5	01 Feb 2021	Expert lecture on ‘Protection System and IEC 61850’.	Mr. Vineet (Alumni), Siemens
6	30 Jan 2021	Expert lecture on ‘Indian standard of Lighting’	Mr. Neeraj Aggarwal (Alumni), Havells India Ltd.
7	30 Jan 2021	Expert lecture on ‘Selling skills/sales management process’	Mr. Yogender Singh Bisht (Alumni), Minosha India Limited
8	30 Jan 2021	Expert lecture on ‘Product development in an Automotive industry’	Mr. Sanjeev Sharma (Alumni)
9	29 Jan 2021	Expert lecture on ‘Basics of HVAC’	Mr. Ajay Kumar (Alumni), AHI Carrier FZC Sharjah (UAE)
10	29 Jan 2021	Expert lecture on ‘Service Modernization and retrofit’	Mr. Sunil Kumar Mago (Alumni), AHI Carrier FZC, UAE
11	28 Jan 2021	Expert lecture on ‘Substation-Containerized’	Mr. Prithpal Singh Teji (Alumni), C & S Electric Limited
12	27 Jan 2021	Expert lecture on ‘MV and LV Solutions	Mr. Kumaresh Soam (Alumni), INNOVIC Energy LLP
13	27 Jan 2021	Expert lecture on ‘Low voltage Power distribution by busways	Mr. Manish Chhabra (Alumni), Bharat Prakashan Limited,
14	02 Oct- 02 Nov 2020.	Online Mock test series on “GATE-2021-Electrical Engineering”	Online for students of final year.
15	16-20 Sept 2020	AICTE Training and Learning (ATAL) Sponsored Online One Week Faculty Development Program on “Digital Circuit Implementation using Zynq FPGA IC”	Mr Nagendra Bandi and Mr Ankur Sangal (CoreEL Technologies)
16	18-20 July 2020.	Online FDP on “Green Technology” in association with Institution of Engineers (India)	Professors from various IITs.

		Faridabad Chapter	
17	10-14 July 2020	Online SDP on “ Basic computer skills and ICT Tools ” <i>Google Classroom</i> ”	Faculty members of Electrical Engineering and Electronics Engg. Department (JC Bose UST)
18	Session Jan-June 2021	Value Added course on "Human Ethics and Professional Values “	
19	Session Jan-June 2021	Value Added course on "Simulation Using LT-Spice"	
20	Session July-Dec 2020	Value Added course on "Programming in C++"	
21	Session July-Dec 2020	Value Added course on "MATLAB"	
22	Session July-Dec 2020	Value Added course on "AutoCAD"	