Spark

Newsletter 2023

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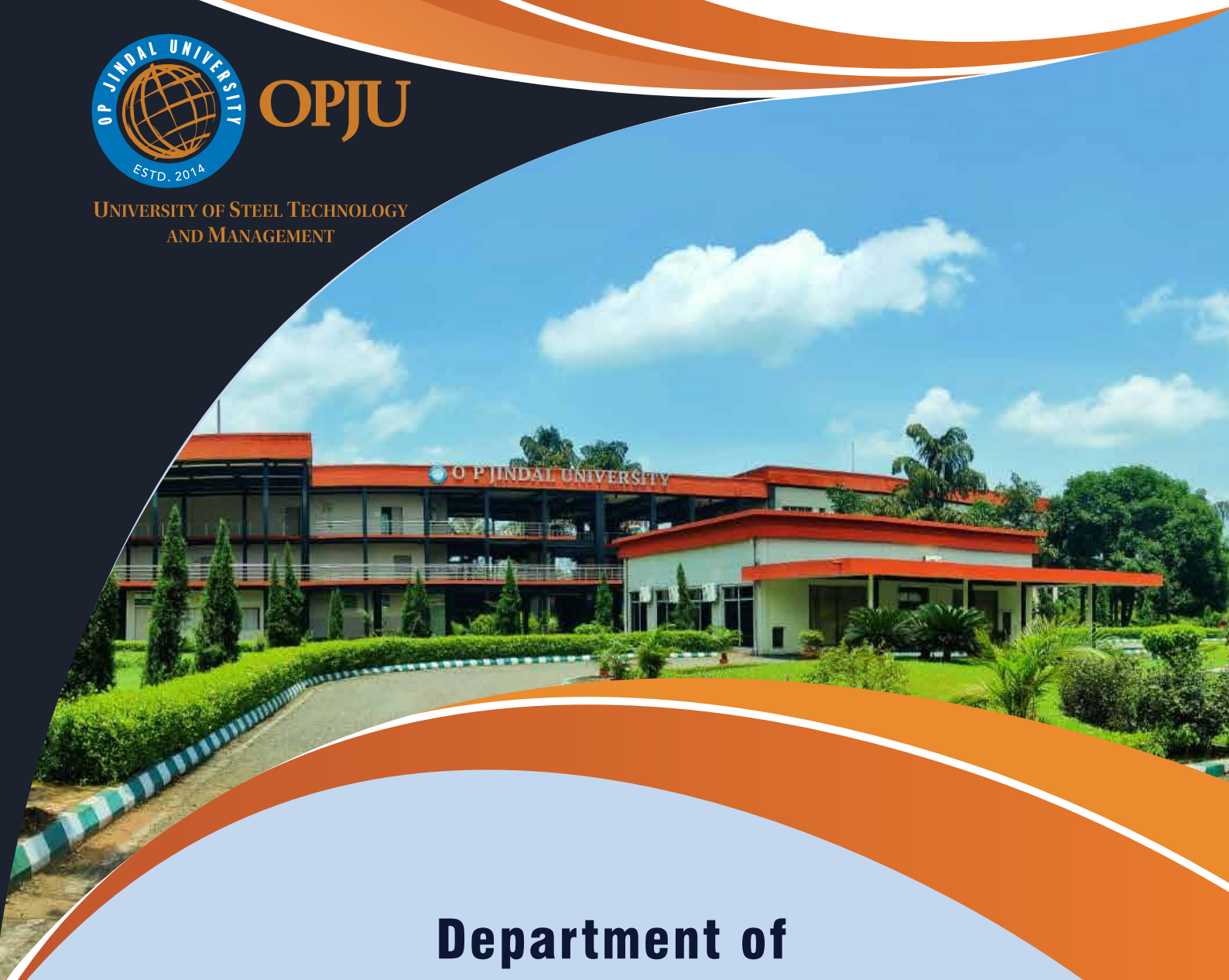
OPJU

University of Steel Technology and Management



Department of Electrical Engineering

O.P. Jindal University, Raigarh

Recognized by UGC & Approved by AICTE

Message by the Vice Chancellor

Dr. R.D. Patidar

Vice-Chancellor

Welcome to the latest edition of our esteemed Electrical Engineering Department's newsletter. Our department continues to shine as a beacon of academic excellence and innovation, shaping the future of electrical engineering. In today's ever-changing world, electrical engineering plays a pivotal role, from driving sustainable energy initiatives to pioneering cutting-edge advancements in electric vehicles. Our department remains at the forefront of addressing the pressing challenges of our society. Our dedicated faculty, researchers, and students consistently push the boundaries of knowledge, contributing to groundbreaking research and projects. Their efforts make us proud. I'm delighted to share that our university has achieved a notable ranking in the NIRF (Innovation) Band 151-300 and received the 'Most Promising Corporate-Governed University' award at the NNERU (New Normal Education Summit) in Delhi. We are also pleased to announce the establishment of a new Mining Engineering Department offering a diploma course. As we adapt our curriculum to align with the progressive National Education Policy (NEP) and prepare for the National Assessment & Accreditation Council (NAAC) evaluation, I encourage you all to continue pursuing excellence, collaborate on interdisciplinary projects, and embrace innovative technologies. By working together, we can find solutions to the challenges of our time. I am excited to witness the ongoing growth and success of our Electrical Engineering Department. Let's maintain our collaborative efforts to inspire, innovate, and make a meaningful impact on the world. Your unwavering commitment to upholding the highest standards in electrical engineering is deeply appreciated.

Message by the Head of the Department

Dr. G. Madhusudhana Rao

Head of the Department

I am delighted to launch the first edition of "SPARK," the biannual newsletter of the Department of Electrical Engineering, which is the most sought-after program among the students. I want to extend my warmest greetings to our esteemed team of faculty members, who are constantly pushing the limits of knowledge in this rapidly- evolving field. Our department is committed to providing a stimulating learning environment that encourages creativity, innovation, and critical thinking. Our department strongly emphasizes research and innovation alongside our commitment to teaching. Our faculty members are actively involved in groundbreaking research spanning areas such as Electrical Vehicles, Photovoltaic cells, Artificial Intelligence, Robust Control System design with IoT and Python, and Embedded Systems. Their passion for excellence in Electrical Engineering has contributed significantly to our department & reputation as one of the leading research hubs. With the dedication of our distinguished faculty and the talent of our students, we are driving cutting- edge research and innovation in fields. We sincerely appreciate your continuous support and encouragement, which enables us to advance the realm of computer science and shape the future of technology. Together, we will continue to make significant strides in these fields. Thank you for your ongoing support.

The Department of Electrical Engineering

Diploma in Electrical Engineering

B. Tech in Electrical Engineering

M. Tech in Power Electronics and Power Systems

Ph.D in Electrical Engineering

Brief Profile of the Department of Electrical Engineering

- The Department of Electrical Engineering at OP Jindal University shapes graduates into competent professionals and responsible citizens who would become influential leaders and noteworthy innovators in the recent technology areas of Electrical Engineering. We also endeavor to ensure that our graduates adhere to ethical values and are sensitive to environmental and social issues. The department offers education at various levels, including Diploma, B. Tech, M. Tech, and PhD. Initially, it began the B. Tech program in Electrical and Electronics Engineering at OP Jindal Institute of Technology (OPJIT) in 2008, affiliated with Chhattisgarh Swami Vivekananda Technical University (CSVTU). In 2014, OPJIT attained the status of a full-fledged University (approved by UGC AICTE) and was renamed OP Jindal University (OPJU). The university introduced the M. Tech program in Power Electronics Power Systems in 2014 and initiated the PhD program in 2017, promoting research initiatives. Consequently, the department was rebranded as the Electrical Engineering Department. The curriculum is regularly updated to inform students about the latest technologies with 22 advanced laboratories. The department has enhanced its laboratories with cutting-edge equipment and possesses advanced experimental and computational resources for research and consultancy projects in various areas of Electrical Engineering.

Strengths

- Faculties from IIT, NITs
- Industry Oriented Curriculum
- Long Tem Internship in Core Industries

  100% Placement
- More Practical Exposure
- Minor Subjects like IoT, Python, Artificial Intelligence
- Expertise in Electric Vehicles, Machine Learning, Cyber

  Security

Highlights of the Department

- **Electric Vehicle Lab**
- **Electrical Drives Lab**
- **Electrical Machines Lab**
- **Emphasis on Soft Skills Development**
- **Product Development Lab**
- **High-tech classrooms with Smart Boards**
- **High Voltage Engineering Lab**
- **Embedded Systems – ATMEL, ARM Design**
- **Highly qualified and Experienced Faculty**
- **MATLAB, Labview, Opal-Lab View, PSCAD Lab**

Events and Activities Corner

Workshops

Five days online Workshop on Power Electronics and its application using OPAL-RT

- The five-day online workshop on power electronics and its applications using **OPAL-RT** was conducted from 20.02.23 to 24.02.23 The workshop was designed to provide participants with practical knowledge and experience in the field of power electronics and its applications, i.e., electric vehicles, solar pumps, PV applications, multi-port converters, and so on. Participants learned about the latest power electronics trends, innovations, and applications. They gained a deep understanding of using OPAL-RT for simulation, real-time control, and har ware-in-the-loop testing. The workshop was led by experts from IIT, NIT, and OPAL-RT technologies and provided valuable insights and guidance throughout the session.

Five days Online workshop on Renewable Energies Plug-in Vehicles Integration in Micreogrid from 14th to 18th November 2022

- The Five-Days Online Workshop on "Renewable Energies and Plug-in Vehicles Integration in Microgrid" on 14th November- 18th November 2022, from 2.30pm to 4.30pm had been organized by the Department of Electrical Engineering, OP Jindal University,Raigarh(C.G.). The primary aim of this e-workshop is to impart research skills to beginners and improve the quality of research among the existing researchers in the thematic areas of electric vehicle control. This program will positively transform the students, research scholars, and industry participants toward research work.

Alumni Talk

- Department of Electrical Engineering organized an alumni lecture series under the Chanakya program in association with OP Jindal University Raigarh Alumni Association (OPJURAA) on "**DESIGN THINKING FOR CORPORATES**" dated 19/05/2023. The workshop aimed to create awareness about campus placement preparations, job responsibilities, and behavioral things among students and to highlight how the platform is used for industrial and academic purposes. The resource person alumni of batch 2011-2015 from OPJIT, MBA batch 2019-2021 of OPJU.

- Department of Electrical Engineering organized an alumni lecture series under the Chanakya program in association with OP Jindal University Raigarh Alumni Association (OPJURAA) on "**JUGAAD THE MODERN HACK FOR ENGINEERS**" dated 27/05/2023—the webinar aimed to create awareness about campus placements for core and software preparations. The resource person is an alumni of batch 2008-2012 from OPJIT.

- Department of Electrical Engineering organized an alumni lecture series under the Chanakya program in association with OP Jindal University Raigarh Alumni Association (OPJURAA) on "**Voltage dip immune system developed in critical drives**," dated 25/08/2023. The webinar aimed to create awareness about the issues related to power systems issues and various other problems associated with power system operations. The resource person is an M.Tech batch 18-2020 alumni from OPJU. He has work experience in the industry from 2020 to till date at JSPL, Raigarh(C.G.).

Expert Talks

- Department of Electrical Engineering organized an expert talk in association with Sri Sri University, Odisha, on **Postmodern Media and Politics of Information Communication**. The Speaker, Dr Narayan Jena, is a Teacher and Researcher at the Faculty of Arts Communication and Indic Studies at Sri Sri University Cuttack, Odisha.

Other Events

MoU

- The Department of Electrical Engineering has made an MoU with **Arka Jain University, Jharkhand**, for promoting and reinforcing cooperation, information-sharing, mutual capability development, academic and research collaboration, and knowledge enrichment.

- The Department of Electrical Engineering has made an MoU with **Government Polytechnic College, Jamshedpur**, for promoting and reinforcing cooperation, information-sharing, mutual capability development, academic and research collaboration, and knowledge enrichment.

Value Added Course

Design Thinking in Electrical Engineering

- Design thinking is a method to increase the Institution's value and bring relief to users. It emphasizes user experience over the market, design over-engineering, and customer over product. In other words, it values the customer more than the business, eventually leading to growth and expansion. Design thinking and innovation are not for the known problems or solutions but for non-existent and unique things that the world needs.

Soft Skills Impression Management

- School of Science, OP Jindal University, Raigarh organized a One Day Capacity Development Programme on "**Soft Skills and Impression Management**" on 21-April 2023 to build real capabilities rather than give the students mere academic degrees and qualifications to improve productivity among the workforce in a workplace and to offer opportunities for lifelong learning for developing various soft skills. This event would help the students to equip themselves with the skills of self-presentation and impression construction to empower them with adequate skill sets that would enable their employment in relevant sectors.

Career Building and how to excel any interview

- Interview skills are abilities or actions that make a person more effective throughout the interview process. Not all of these skills are what you may expect. Many help candidates prepare for the interview and guide them as they participate in the interview process. Excelling at job interviews often requires in-depth preparation so you can feel comfortable and confident when discussing your skills, experience, and qualifications with hiring managers.

Importance of Self- Defense training for females

- Self-defense training is a life skill that helps girls be more aware of their surroundings and be prepared for the unexpected. The girls are taught to become psychologically, intellectually, and physically strong enough to protect themselves in distress through self-defense training. The Sports Department and Internal Complaint Committee (ICC) is organizing a One Day Workshop on the" **Importance of Self Defense training for females**" for girls and female faculty and staff members on 2nd May 2023, from 10:00 AM onwards in OPJU MP Hall.

Infrastructure Development

Solar Plant

Earthing Workshop OPJU

Energy Management

Faculty Achievement

- **Dr. Ankireddy Narendra** and **Dr. Prasanta Kumar Jena** have received PhD.
- **Dr. Sandeep Biswal, Dr. Ankireddy Narendra**, and **Dr. Deepak Singh, Dr. Sushree Diptimayee Swain** have got IEEE memberships.
- **Dr. R. D. Patidar, Mr. Shashikant Kaushaley, Mr. Rakesh Patidar**, and **Mr. Kapol Nashine** have been granted the design patent entitled "**Electric Vehicle Head Light Console**".
- **Dr. G. Madhusudhana Rao, Dr. R. D. Patidar, Dr. Sushree Diptimayee Swain**, and **Dr.Prasanta Kumar Jena** have been granted the design patent entitled ''**Solar Power Charger**".
- **Dr. Sushree Diptimayee Swain** and **Mrs. Pushpanjali Shadangi** have been awarded the Best Paper Award at ISSETA 2023 at NIT Meghalaya.
- **Dr. G. Madhusudhana Rao, Dr. Sushree Diptimayee Swain, Dr. Ankireddy Narendra**, and **Dr. Prasanta Kumar Jena** have received the Best Innovation Award at ERSEM-2023.

Research and Publication Corner

International Conference

- **Dr. G. Madhusudhana Rao** presented a paper in OTCON 2.0 titled "**Automatic Bottle Filling and Capping Machine using SCADA with the Internet of Things**" at OP Jindal University, Feb 8-10, 2023.
- **Dr. G. Madhusudhana Rao** presented a paper in OTCON 2.0 titled "**Novel Technology Development for High Power Vehicle**" at OP Jindal University, Feb 8-10, 2023.
- **Dr. G. Madhusudhana Rao** presented a paper at the 2nd International Conference - ISSETA titled "**Virtual Development of Maximum Torque per Ampere by ANFIS with PI-based Induction Motor**" at NIT Meghalaya, Feb 24-25th, 2023.
- **Mr. Prasanta Kumar Jena** published a paper in OTCON 2.0 titled "**Automatic Bottle Filling and Capping Machine using SCADA with the Internet of Things**" at OP Jindal University, Feb 8-10, 2023.
- **Dr. Sandeep Biswal** and **Mrs. Bhawana Deshmukh** presented a paper in OTCON 2.0 titled "**A Short Term Recursive Matrix Pencil Based Distribution System Protection Scheme**" at OP Jindal University, Feb 8-10, 2023.
- **Dr. R. D. Patidar, Dr. Sandeep Biswal**, and **Mr. Ajay Panday** presented a paper in OTCON 2.0 titled "**A Single-Ended Protection Starting Element MTDC Power Networks**" at OP Jindal University on Feb 10, 2023.
- **Dr. G. Madhusudhana Rao** et al. have presented a paper titled "**Improving the performance of DFIG using SME to enhance the power quality**" at the International Conference on ERSEM held during 19th & 20th May 2023, at SRIT Proddatur, A.P.
- **Dr. G. Madhusudhana Rao** et al. have presented a paper titled "**Monitoring And Control Of Motor Drive Parameters Using Internet Of Things Protocol For Industrial Automation**" in the International Conference on IURAISD held during 30th and 31st May 2023, at ICFAI University, Raipur.

- **Prof. Rakesh Patidar, Dr. R. D. Patidar, Dr. Ankireddy Narendra, Dr. G. M. Rao**, and **Mr. Vikas Raghuwanshi** have presented a paper titled "**Remodeling and Simulation of Isolated Photo-Voltaic System Interfacing Induction Motor with Aggravate & Observe MPPT**" in the International Conference on ERSEM held during 19th & 20th May 2023, at SRIT Proddatur, A.P.

- **Pratik Mohanty, Prasanta Kumar Jena**, and **Dr. Ankireddy Narendra** presented a paper titled "**Review of Bi-directional DC-DC Converter**" at the International Conference on ERSEM held from 19th; 20th May 2023, at SRIT Proddatur, A.P.

- **Anjali Yadav, Dr. Ankireddy Narendra, Dr. R. D. Patidar, Dr. G. M. Rao, Prof. Rakesh Patidar**, and **Prof. Rupesh** Patel have presented a paper titled **An Artificial Intelligence-based Standalone Solar Photovoltaic Maximum PowerPoint Tracking** in the International Conference on ERSEM held during 19th; 20th May 2023, at SRIT Proddatur, A.P.

- **Dr. Sushree Diptimayee Swain, Prof. Pushpanjali Shadangi**, and **Dr. G.Madhusudhana Rao** presented a paper on " **Design and Development of DSTATCOM for Power Quality Improvement**" ERSEM 2023, 19th-20th 2023, SRIT Proddatur, AP.

- **Prof. Pushpanjali S Hota** and **Dr. Sushree Diptimayee Swain** published one book chapter on "**PSO controlled DSTATCOM** for harmonic compensation" in Springer.

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Research Achievements and Publications

- **Tiwary N, Panda A K, Naik V R N, Ankireddy Narendra, Lenka R K,"Isolated Bidirectional Dual Active Bridge (DAB) Converter for Photovoltaic System- An Overview**" in Technological Challenges and Advances in Wind and Solar Energy Applications. CRC Press, 2023 (book Chapter).

- **Dr. G. MadhusudhanaRao** published a book on **Renewable Energy Sources** with IIP Publishers in March 2023. ISBN: 978-93-5747-023-0, 2023.

- **Dr. Sandeep Biswal** has published a conference paper titled "**LSF and Golden Jackal Optimization Algorithm-based Optimal Placement and Sizing of Capacitors in Distribution System**" in IEEE 2nd International Symposium on Sustainable Energy, Signal Processing and Cyber Security (ISSSC).
- **Dr. Ankireddy Narendra** reviewed an article in IJPEDS in May 2023.
- **Dr. Sandeep Biswal** has published "**Impedance based directional relaying for smart power networks integrating with conveter interfaced photovoltaic plains**" in ELSEVEIR 2022.
- **Prof. Bhawna Deshmukh, Dr. Sandeep Biswal**, has published "**A reconstruction based adaptive fault detection scheme for distribution system containing AC microgrid**" in ELSEVEIR 2023.
- **Dr. Sandeep Biswal** has published "**Optimal Allocation of DGs in Radial Distribution Network for Power Loss Minimization based onLSF and GJO Algorithm**" in IEEE 2022.
- **Dr. Sandeep Biswal** has published "**LSF and Golden Jackal Optimization Algorithm based Optimal Placement and Sizing of Capacitors in Distribution System**" in IEEE 2022.
- **Dr. Prasanta Kumar Jena** has published " **An Optimal Scheme for Installation of PMUs and IEDs to Reinforce Electricity Market Immunity Against Data Attacks in Smart Grid**" in IEEE 2023.
- **Dr. Ankireddy Narendra** has published "**A Combinational Sequence Duty Ratio Control of SPV Fed Variable Speed Induction Motor Drive Using Field Oriented Control**" in Taylor & Francis 2022.
- **Dr. G. Madhusudhana Rao** has published "**Optimized Evaluation of Brushless Motor Drive System using Adaptive Neuro-Fuzzy, PSO & Inference of Genetic Algorithm**" in Journal of North Eastern University 2022.
- **Dr. G. Madhusudhana Rao** has published "**Design and Development of Remora Optimization Based Controller for Speed Management in Three-Phase Brushless DC Motor**" in Neuro Quantology 2022.
- **Dr. G. Madhusudhana Rao** has published ''**Designing of Neuro-Fuzzy Controllers for Brushless DC Motor Drives Operating with Multiswitch Three-Phase Topology**" in Hindawi 2022.
- **Dr. Prasanta Kumar Jena** has published "**A High Gain Z-Source Converter with Reduced Device Count for Distributed PV System**" in IEEE 2022.
- **Mr. Rakesh Patidar** has been published granted patent in "**Efficient Deep Image Compression System With Auto-Encoders for Different Sub-Band Frequencies**".
- **Mr. Shashikant Kaushaley** has been published granted patent in "**Quality of Services (QOS) Improvement System in Software Difined OIT using Deep Optimal Route Neural Network**". ".
- **Mrs. Pushpanjali Shadangdi Hota** has been published granted patent in "**An Artificial Intelligence and Machine Leaning-Based Smart Tractors, Agribots and Robotics for Remote Agricultural Operations**".
- **Dr. Prasanta Kumar Jena** has been granted patent in "**A Secure System to Protect Digital Data using Significant BIT Substitution Steganography**".
- **Dr. Sushree Diptimayee Swain, Mr. Shashikant Kaushaley, Dr. Prasanta Kumar Jena** has been published granted patent "**An IOT Based Wind Energy Generation System and Method Thereof**".

Placements and Internshps

S.No.	Name of the Students Placed	Organization	Package per annum in INR	Placement/ Internship
01	Himanshu Patel	ATS	3 LPA	Placement
02	Raj Aryan	ATS	3 LPA	Placement
03	Ashish Singh	ATS	3 LPA	Placement
04	Abhijit Singh	ATS	3 LPA	Placement
05	Sourab Singh	ATS	3 LPA	Placement
06	Avinash Kumar	ATS	3 LPA	Placement
07	Harsh Pandey	ATS	3 LPA	Placement
08	Ritisha Agrawal	Hike Education	6.5 LPA	Placement
09	V Ujjwala	Genpact	2.4 LPA	Placement
10	Neha Patel	Genpact	2.4 LPA	Placement
11	Sheetal Kumari	Genpact	2.4 LPA	Placement
12	Rashmi Kumari	Intelipaat	7.5 LPA	Placement
13	Richa Raj	Jaro Education	6.4 LPA	Placement
14	Shivam Pandey	Indiamart	3 LPA	Placement
15	Devendra Sao	ATS	2.4 LPA	Placement
16	Nitish Kumar	Jyoti Steels	2.2 LPA	Placement
17	Rohini Verma	Flipkart	3 LPA	Placement
18	Dharash	JSW	2.5 LPA	Apprenticeship
19	Jaspreet Kaur	Atmastco	2.5 LPA	Placement
20	Ayush Verma	Atmastco	2.5 LPA	Placement
21	Satish Ramharsh	Tata Steel	5 LPA	Placement
22	Suman Singh	Premier Energies	1.8 LPA	Placement
23	Harsh Kumar	MSP Steel	3 LPA	Placement
24	Abhishek Joshi	MSP Steel	3 LPA	Placement

25	Anurag Singh	RKM Powergen	2.4 LPA	Placement
26	Yashwant Sahu	RKM Powergen	2.4 LPA	Placement
27	Sejal Kumari	Vikas Group	1.4 LPA	Placement
28	Swati Kumari	Vikas Group	1.4 LPA	Placement
29	Abhishek Dhankar	Vikas Group	1.4 LPA	Placement
30	Ravi Kumar	Premier Energies	1.7 LPA	Placement
31	Karan Singh	Premier Energies	1.7 LPA	Placement
32	Ashish Singh	Zenus Group	4 LPA	Placement
33	Abhijit Singh	JSP	10 LPA	Placement
34	Sourab Singh	Flipkart	3 LPA	Placement
35	Avinash Kumar	Zenus Group	4 LPA	Placement
36	Harsh Pandey	Atmastco	2.68 LPA	Placement
37	Ritisha Agrawal	My Captain	5 LPA	Placement
38	V Ujjwala	Infojini Consulting	3.75 LPA	Placement
39	Neha Patel	AM/NS	6 LPA	Placement
40	Sheetal Kumari	India Mart	3 LPA	Placement
41	Dharashree Patnaik	Atmatsco	3 LPA	Placement
42	Jaspreet Kaur	JSP	10 LPA	Placement
43	Suman Singh	Metalman Auto	2.2 LPA	Placement
44	Abhishek Joshi	JSP	10 LPA	Placement
45	Sejal Kumari	Atmastco	2.2 LPA	Placement
46	Swati Kumari	Atmastco	2.2 LPA	Placement
47	V Ujjwala	Intellipaat	7.5 LPA	Placement
48	Neha Patel	My Captain	5 LPA	Placement
49	Dharashree Patnaik	JSP	2.4 LPA	Placement
50	Sheetal Kumari	Amalgam Steel	10 LPA	Placement
51	Sheetal Kumari	JSP	10 LPA	Placement

Community Outreach Activities

NSS Activities

NSS Outreach Activity for Final Year Students on 21st April 2023 under NSS at village Samaruma.

NSS Outreach Activities for Final year Students on 8th May 2023 under NSS OPJU at Netraheen Balvidya Mandir, Amalideeh Raigarh (C.G.)

- Department of Electrical Engineering, O. P. Jindal University, Raigarh, has organized **Awareness program on Energy conservation, Girls education**, and Swachchhata Abhiyaan at village Samaruma on 8th May 2023. At the beginning of the program, faculty coordinators highlighted the importance of awareness programs on Energy conservation, Girls' education, and blind students. They motivated them to care for themselves by maintaining hygiene and cleanliness so they could move forward in their personal and professional lives. Lastly, the School Principal thanks volunteers and program coordinators Mr. Rupesh Patel & Mr. Prasanta Kumar Jena for their efforts towards blind children.

NSS Outreach Activity for First & Second Year Students on 12st May 2023 under NSS at Orphanage Home Raigarh

- Department of Electrical Engineering, O. P. Jindal University, Raigarh, has organized an **Awareness program on primary education for girls and Swachchhata Abhiyaan** at Orphanage Home Raigarh on 12 May 2023. At the beginning of the program, Mr. Rakesh Patidar (NSS Activity, I/c) highlighted the importance of an awareness program on girls' education and Swachchhata Abhiyaan to students of the final year so that they can potentially help deprived society. Lastly, the Orphanage Home Caretaker thanks volunteers and program coordinator Mrs. Pushpanjali S. Hota and Mr. Rakesh Patidar for their efforts towards the Orphanage Home.

Department Faculty Members

Dr. R. D. Patidar is a graduate in Electrical Engineering with honors from GEC, Rewa, a postgraduate in Power Electronics with a Gold Medal by SGSITS, Indors, and a Doctorate in Electrical Engineering with specialization in Electrical Power Quality Management from IIT, Roorkee. Presently, he is working as Vice-Chancellor with OP Jindal University (OPJU), University of Steel Technology and Management, formally OP Jindal Institute of Technology (OPJIT), Raigarh (C.G.). Before becoming Vice-Chancellor, He worked as Director of OPJIT, Dean of the School of Engineering, Registrar & Pro Vice-Chancellor of OPJU. He also worked as a lecturer to the professor, Dean (Academics) & Incharge Director with Mandsaur Institute of Technology, Mandsaur, from March 1999 to December 2012, where he managed a UNDPITDC/TRC/Govt. of India project as Principal Investigator for the employment of rural people and set up a Technology Resource Centre at Manasa District Neemuch, (MP), India. He has also been associated from time to time in different capacities with central statutory/regulatory/ accreditation bodies of higher education, i.e., AICTE, UGC, DST, NAAC, etc. He published/ Presented more than 40 research papers in reputed International Journals/Conference Proceedings. His research interest includes Power Quality, Active Power Filters/STATCOM, and Renewable Energy Sources. He has more than 25 years of academic, industry, research, and academic administration work experience.

Dr. G. Madhusudhana Rao, Professor of Electrical Engineering Department in OP Jindal University Raigarh, Chhattisgarh. He has over 22 years of teaching experience, including an abroad exp. He received his Ph.D. & M.Tech from JNT University Hyderabad. He has published more than 85 research papers in international Journals and Conferences. He is a member of IEEE, ISTE, IACSIT, etc. He is a reviewer for many reputed international journals. His Area of Interest is Power Electronics and Drives, Artificial Intelligence, Renewable Energy Sources, Micro Grids, and BLDC Motor Control with Expert systems. He authored 5 books and 5 patents to his credit. He guided 6 PhD scholars, and 4 are pursuing a PhD under his supervision.

Dr. Deepak Singh was awarded a PhD in Electronics and Telecommunication Engineering from the National Institute of Technology, Rourkela, in 2017. He completed M.Tech degree in Electronics & Telecommunication Engg from Veermata Jijabai Technological Institute Mumbai, University of Mumbai in 2007, and a Bachelor in Engineering (B.E) in Electronics and Instrumentation Engineering from Samrat Ashok Technological Institute, Vidisha, RGPV Bhopal, 2002. He has more than 13 years of teaching experience and more than 2.5 years of industry experience. He has published several research papers for journals and conferences and guided graduate and postgraduate students for their research work. His current interest in research includes Digital Video Compression, Digital image & video processing, the Internet of Things (IoT), and Cloud Computing.

Dr. Sushree Diptimayee Swain has received her Ph.D. degree from the National Institute of Technology. Rourkela, India, and M.Tech from BRM University Chennal. She received her B.Tech from Biju Patnaik University of Technology, Orissa, India. She has 12 yrs of experience in teaching as well as in research. Dr. Dipti is an Associate Professor at the School of Engineering at OP Jindal University, Raigarh. She is a teacher and researcher member of professional bodies like the IEEE Society. She is an Editorial Board Member & reviews various National and international Journals of repute. She has experience as a Resource Person for multiple Workshops and Research Conferences. She has published several Research Papers in International Journal, some book chapters in Elsevier, Willey, and CRC press, and presented his research work at National and International Conferences. She has expertise in power electronics applications in power systems, renewable energies, control systems, etc.

Dr. Sandeep Biswal (Senior Member IEEE) received his Ph.D. from the National Institute of Technology Raipur, CG, India 2019. He received his Master's degree in Electrical Engineering with a specialization in Power System Engineering from VSSUT Burla, Odisha, in 2013 and his bachelor's degree in Electrical Engineering in 2009, respectively. He has published many papers in Journals of international repute, including IEEE Transactions in Power Delivery, IEEE Transactions in Industrial Informatics, EPSR, LEPES, AJSE, PCMPS, JEEEPS, IET GTD, and IET SMT. He has also published and presented many research papers at various national prestigious international conferences. He also received POSOCO PPSA 2019 in the doctoral category from IIT Delhi and PGCIL India. He is also an active reviewer of many reputed journals like IEEE Transactions of Power Systems. His main research interests are in Power System Relaying, Distribution System Protection, HVDC line Protection, Distribution System Planning, Power System Planning, and Microgrid Protection. Dr. Biswal is a senior IEEE and Life Member of ISTE (India). He is also associated with IRC IEEE and IEEE MP Section.

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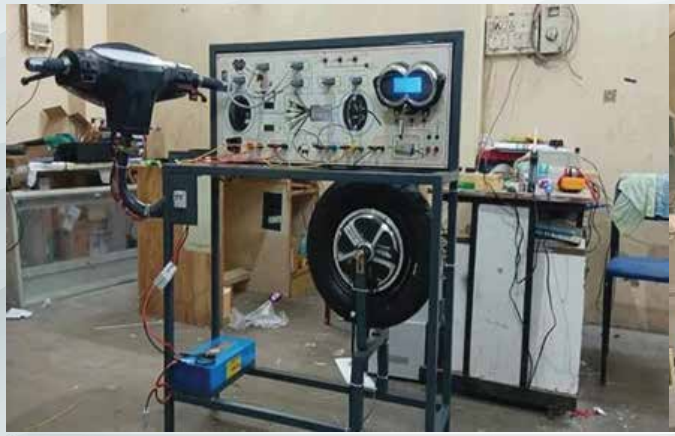

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