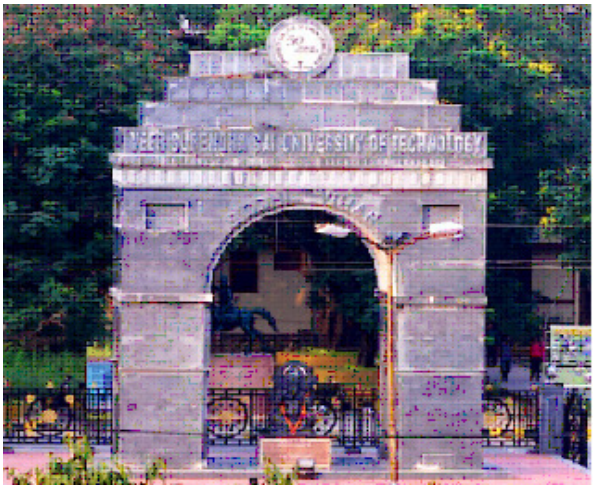
INFORMATION BROCHURE



DEPARTMENT OF ELECTRICAL ENGINEERING & EEE

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY

ODISHA, BURLA-768018

INDIA

MISSION OF THE DEPARTMENT

To produce Electrical Engineers with dynamic well rounded personalities adaptable to ever increasing demands of emerging technologies involving analytical and practical skills.

VISION OF THE DEPARTMENT

- To develop the department as a renowned academic center of learning in the discipline of Electrical Engineering.
- To establish research and development center of repute so as to encourage active participation with industry by staff and students to take on practical problems of industry and to provide feasible solutions.
- To establish tie-ups with institutions of national and international repute and to foster building up of a wide knowledge base to keep in tune with ever increasing demands of technologies.
- Developing simple, appropriate technologies, which will be instrumental in the up-liftment of rural society.

ABOUT THE DEPARTMENT:

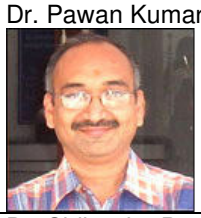
The Department of Electrical Engineering of VSSUT is one among the first branches to be instituted in 1956. While retaining its strength in traditional areas of electrical engineering, the department grew with time, reflecting the needs of a changing society and established new areas of research and teaching in electrical engineering. It has been truly a driving force to increase the industry institute interaction and has been significantly rendering services to the nation ever since. Indeed our alumni have placed themselves in Govt., public sector & private sectors and in top-notch corporate houses, which itself stands testimony to the quality of teaching. Besides, our graduates now are in great demand by the industry and every year around thirty (30) industries visit us for recruitment through our training and placement department. The placement is more than 90% during the last three years. The department has a mini library with more than five hundred books and periodicals. The department has a society named "Electrical Engineering Society" in which all students and faculty members are members. The society is conducting national level student seminar for last few years. The department has accredited by NBA in 2016. The significance of the department can be judged by the fact that the Government of Odisha has approved to open a Center of Excellence in Electrical Engineering with an approximate investment of Rs 10 crores.

STRENGTH OF THE DEPARTMENT:

- Serving the nation since last 60 years through education.
- Well qualified, experienced and dedicated faculty members
- There are 15 numbers of Ph.D holders
- Top ranking students from JEE-Mains (CBSE)
- Excellent academic result and campus placement
- Good research activities in diverse areas

- Highly placed alumni in various reputed organizations and institutions across the world
- The Department has been accredited by National Board of Accreditation (NBA) in 2016.
- Identified as Centre of Excellence by Govt. of Odisha
- Identified as QIP Centre in 2011

FACULTY DETAILS: Professor=04, Associate Professor=06, Assistant Professor=23

Power System Research Group			
Sl.No.	**Name**	**Designation & Qualification**	**Specialization**
1.	Dr. Pawan Kumar Modi 	**Professor** (EE) B.Sc. (Engg.) (NIT, Rourkela) M.E. (Hons.) (S.U.) Ph.D. (IIT, Roorkee)	Power System Engineering, Power System Planning and Reliability, Distribution System Engineering
2.	Dr. Sidhartha Panda 	**Professor** (EE) B.E. (Bangalore University) M.E. (S.U.) Ph.D. (IIT, Roorkee), FIE	Power System Stability, FACTS Devices, AGC, Soft Computing
3.	Dr. Rabindra Kumar Sahu Head of the Department 	**Associate Professor** (EE) AMIE (I.E.) M.E. (S.U.) Ph.D. (IIT, Madras), LMISTE, FIE	Power Systems, AGC, FACTS Devices, Robust Control, Soft Computing
4.	Dr. Ajit Kumar Barisal 	**Associate Professor** (EE) B.E. (S.U.) M.E. (B.E. University) Ph.D.(IIST, Howrah), MIEEE, FIE, MISTE, MOBA	Power Systems, Renewable Energy Sources, Power System Optimization & Control
5.	Dr. Ramesh Ch. Prusty 	**Assistant Professor** (EE) B.E. (BPUT) M.Tech. (VSSUT) Ph.D. (VSSUT)	Power System Engineering
6.	Dr. (Mrs.) Santi Behera 	**Assistant Professor** (EE) B.E. (OUAT) M.E. (S.U.) Ph.D. (NIT, Rourkela), MISTE, MIE	Power System Engineering

7.	Prof. Amit Mallick 	**Assistant Professor** (EE) B.Tech. (B.P.U.T) M.Tech. (VSSUT)	Power System Engineering
Control System Research Group			
8.	Dr. Bibhuti Bhusan Pati 	**Professor** (EE) B.Sc. (Engg.) (S.U.) M.E. (IISc., Bangalore) Ph.D. (Utkal), FIE, CE, MISTE, MESC, LMSSI, LMEC, MOBA	Control System Engineering
9.	Mr. Bidyadhar Rout 	**Assistant Professor** (EE) B.E. (IGIT, U.U.) M.E. (BESU, Howrah) Ph.D. (Continuing)	Control Systems, Machine Drive and Power Electronics
10.	Dr.(Mrs.) Raseswari Pradhan 	**Assistant Professor** (EE) B. Tech. (IGIT, U.U.) M. E. (Jadavpur University) Ph.D. (NIT, Rourkela)	Control Systems Engg.
11.	Mr. Bibhuti Prasad Sahoo 	**Assistant Professor** (EEE) B.Tech (NIT, Rourkela) M.Tech. (IIT, Roorkee) Ph.D. (Continuing)	Measurements& Instrumentation
12.	Mrs. Rosy Pradhan 	**Assistant Professor** (EE) B. Tech. (CET BPUT) M. Tech. (NIT, Rourkela) Ph.D. (Continuing)	Control & Automation
13.	Mr. Pratyusha Pratik 	**Assistant Professor** (EE) B.Tech.(VSSUT) M.Tech.(IIT ROORKEE)	System and Control
14.	Mr. Jatin Kumar Pradhan 	**Assistant Professor** (EE) B.Tech (VSSUT, Burla) M.Tech (NIT Rourkela) PhD IIT Bhubaneswar (Continuing)	Control System (Linear Control, Robust Control)

Power Electronics & Drives			
15.	Dr. Manish Tripathy 	**Associate Professor** B.E. (NIT, Rourkela) M.E. (S.U.) Ph.D. (IIT, Delhi), LMISTE	Power System Dynamics & Optimization, Wind Energy Systems Operation & Control
16.	Mr. Basanta Kumar Rana 	**Assistant Professor** (EE) M.E.Integrated (IISc.Bangalore) Ph.D. (Continuing)	Real time hardware & Software
17.	Mrs. Nutan Saha 	**Assistant Professor** (EE) B. Tech. (IGIT, U.U.) M.Tech. (IIEST, Kolkata) Ph.D. (Continuing)	Power Electronics
18.	Mrs. Debidasi Mohanty 	**Assistant Professor** (EE) B. Tech. (VSSUT) M.Tech. (NIT, Trichy) Ph.D. (Continuing)	Power System Engineering
19.	Mrs. Prangya Mohanty 	**Assistant Professor** (EE) B. Tech. (BPUT) M. Tech. (NIT, Rourkela) Ph.D. (Continuing)	Power Control and Drives
Instrumentation & Signal Processing			
20.	Dr. Gyan Ranjan Biswal 	**Associate Professor** (EEE) B.E., Pt. RSU Raipur M.Tech., CSVTU Bhilai Ph.D., IIT Roorkee	Power System Instrumentation
21.	Dr. Siba Prasada Panigrahi 	**Associate Professor** (EE) B. Tech (CET, Bhubaneswar), M.E. (NIT, Rourkela) Ph. D (Berhampur University)	Energy Management, Signal Processing

22.	Dr. Papia Ray 	**Assistant Professor** (EE) B.E. (B.S.A. University) M.Tech. (NIT, Jamshedpur) Ph.D. (IIT, Delhi), LMISTE, AMIE	Power Systems & Power System Protection
23.	Mrs. Sarmila Garnaik 	**Assistant Professor** (EEE) B.E. (U.U.) M.Tech. (VSSUT) Ph.D. (Continuing)	Communication System Engg.
24.	Mr. Lingraj Dora 	**Assistant Professor** (EEE) B.E. (S.U.) M.Tech. (VSSUT) Ph.D. (Continuing)	Communication System Engg.
25.	Ms. Bineeta Soreng 	**Assistant Professor** (EE) B. Tech. (CET, BPUT) M. Tech. (NIT, Rourkela) Ph.D. (Continuing)	VLSI Design & Embedded Systems
26.	Mr. Prasanta Kumar Parida 	**Assistant Professor** (EEE) B.Tech. (UCE, Burla) M.Tech. (VSSUT, Burla)	Communication System Engg.
Restructured Power System & Renewable Energy Research			
27.	Dr. Prakash Kumar Hota 	**Professor** (EE) B.E. (Distn) (REC, Trichy) M.Sc. (Engg.) (S.U.) Ph.D (Jadavpur), MISTE, FIE, CE	Industrial Power Control & Electric Drives, Power System Engineering
28.	Dr. (Mrs.) Banaja Mohanty 	**Associate Professor** (EE) B.Tech. (OUAT) M.E. (UCE Burla) Ph.D. (VSSUT)	Power System Engineering

29.	Dr. (Mrs.) Sasmita Behera 	**Assistant Professor** (EEE) B.E. (S.U.) M.E. (BPUT) Ph.D. (VSSUT) MISTE, MIE	Power Systems, Control System, Renewable Energy
30.	Mrs. Mamun Mishra 	**Assistant Professor** (EE) B.Tech. (BPUT) M.Tech. (VSSUT) Ph.D. (Continuing)	Control Systems
31.	Mr. Deepak Kumar Lal 	**Assistant Professor** (EE) B.Tech. (BPUT) M.Tech. (NIT, Jamsedpur) Ph.D. (Continuing), :LMISTE Member of IAENG, Member of ACEEE	Power System Engineering
32.	Mr. Rajat Kanti Samal 	**Assistant Professor** (EE) B. Tech. (UCE, Burla) M. Tech. (IIT Roorkee) Ph.D. (Continuing)	Hydroelectric Systems, Sustainable Energy
33.	Ms. Sagarika Rout 	**Assistant Professor** (EE) B.Tech. (BPUT) M.Tech. (VSSUT)	Power System Engineering

The Faculties of the Department also serve as member of Expert Committee AICTE/ UGC, Subject Expert in Faculty Selection Committee of various Govt./Private institutions. They are invited for specialized talk, Session Chair in Conferences, Reviewer of International reputed journals and External Examiner for M. Tech/ Ph. D.

NON-TEACHING STAFF DETAILS:

Name	Designation	Name	Designation
Sri Shyama Pada Tripathy 	Computer Programmer	Sri Deepak Kumar Biswal 	Sr. Instructor
Sri Sanjib Kumar Jena 	Jr. Instructor	Sri Sameer Kumar Behera 	Jr. Instructor
Sri Amit Kumar Sahoo 	Jr. Instructor	Sri Akadesia Meher 	Mechanic Grade-I
Sri Surendra Swain 	Mechanic Grade-II	Sri Mrutyunjay Das 	Mechanic Grade-III
Sri Rabi Narayan Kanungo 	Sr. Assistant	Sri Ashok Kumar Rao 	Head Peon
Sri Parsu Haripal 	Peon	Sri Upendra Padhan	Peon
Sri Sukanta Prusty 	Watchman	Sri Sagar Ranjan Samal 	Lab Attendant

AWARDS, HONOURS AND RECOGNITIONS:

The faculty members of this department have brought laurels at national and international levels by receiving following awards and recognition.

1. **Dr. P.K. Hota**, Dept. of Electrical Engineering has been nominated for the prestigious title**" MAN OF THE YEAR-2003"** by American Biographical Institute, USA for overall accomplishments and contributions to society.
2. **Dr. P.K. Hota**, Dept. of Electrical Engineering has been nominated for the **" American medal of HONOUR-LIMITED STRIKING-2003"** by American Biographical Institute, USA.
3. **Dr. P.K. Hota**, Dept. of Electrical Engineering has been awarded **"Certificate of Merit-2003"** by the **Institution of Engineers (India),** Kolkata for research work.
4. **Dr. P.K. Hota**, Dept. of Electrical Engineering has been selected to be listed in "The Contemporary **WHO's WHO" 2002-2003** published by The American Biographical Institute, USA on the basis of merited accomplishment and success in Contemporary Society.
5. **Dr. P.K. Hota**, Dept. of Electrical Engineering, has been awarded **"Rajalaxmi Memorial Best Engineering College Teacher Award for Orissa State -2002"** by The Indian Society for Technical Education, New Delhi for outstanding contribution to academic and student community.
6. **Dr. S. Mishra**, Dept. of Electrical Engineering has received **"INSA Medal for Young Scientist (2002)"** given by Indian National Science Academy, New Delhi.
7. **Dr. S.Mishra**, Dept. of Electrical Engineering has received **"Young Engineers Award-2002"** given by Indian National Academy for Engineers, New Delhi.
8. **Dr. S. Mishra**, Dept. of Electrical Engineering has received **"SERC Fast Track Proposal for Young Scientist 2001-2002"** given by Department of Science and Technology Government of India.
9. **Dr. P.K. Hota**, Dept. of Electrical Engineering has been awarded **"Certificate of Merit-2001"** by the **Institution of Engineers (India),** Kolkata for research work.
10. **Dr. P.K. Hota**, Dept. of Electrical Engineering has received **"Pandit Madan Mohan Malaviya Memorial Award-2000"**, given by The Institution of Engineers(India), Kolkata for research work.
11. **Dr. S.Mishra**, Dept. of Electrical Engineering has received **"Young Scientist Award"** for the year 1999 in Engineering and Technology given by Orissa Bigyan Academy, Science and Technology Department Government of Orissa.
12. **Dr. A.K.Pradhan, Dr. S.Mishra & Dr. P.K.Hota**, Dept. of Electrical Engineering received jointly **State Gold Medal – 1998** from Electrical, Electronics & Computer Science & Engg. Division, I.E. (I), Orissa State Centre for a technical paper.
13. **Dr. S. Behera** of Electrical Engg. Department has been awarded for **outstanding research paper in the field of Power Electronics IEE(I), 1997**.
14. **Shri B.K.Panigrahi** Dept. of Electrical Engineering received "**State Gold Medal – 1992",** from ORISSA ENGINEERING CONGRESS from Electrical, Electronics & Computer Science & Engg. Division, I.E. (I), Orissa State Centre for a technical paper.
15. **Prof. P.K.Hota** has received the award GOVINDA GUPTA MEMORIAL RUNNING SHIELD by the Instruction of Engineers,India, Odisha State Centre.
16. **Prof. P.K.Hota** has received the award certificate of Appreciation towards contribution in the area of Technical Education and highly commendable services.
17. **Dr. R K Sahu** has received the best paper award in IEEE International Conference on Circuit, Power and Computing Technologies (2013), T.N., India.
18. **Dr A. K. Barisal & Prof. P.K. Hota,** has received **The Union Ministry of Energy, Department of Power Prize" for best research paper award 2010 by IE (India).**
19. **Dr A. K. Barisal** has received **IEI Young Engineers Award 2010-2011" for outstanding contribution to Engg. Research.**

20. **Dr A. K. Barisal** has received **Odisha Young Scientist Award 2010 " for outstanding contribution to Engineering & Technology research by Odisha Bigyan Academy, Bhubaneswar.**
21. **Dr A. K. Barisal** has received **Young Prominent, promising & Dynamic Technocrat of the state Award 2012" Technoinsight, Rajiv Gandhi forum, Odisha.**
22. **Dr. G. R. Biswal** Recipient of **Centre for International Cooperation in Science (CICS) award to attend 2016 IEEE PES General Meeting at Boston, MA, USA in July 2016. The award is jointly promoted by INSA-CSIR-DAE/BRNS-CICS.**
23. **Dr. G. R. Biswal** Recipient of **MHRD fellowship for Ph.D. in Electrical Engineering at IIT Roorkee from year 2010 – 2012 by the Govt. of India.**
24. **Prof. P.K. Hota, Institution Award-2012,** given by The Institution of Engineers(India), Odisha State Centre, Bhubaneswar for research paper, Published in Journal of the Institution.
25. **Prof. P.K. Hota, Institution Award-2013,** given by The Institution of Engineers(India), Odisha State Centre, Bhubaneswar for research paper Published in Journal of the Institution.
26. **Prof. P.K. Hota, Madhusudan Memorial Award-2014,** given by The Institution of Engineers(India), Odisha State Centre, Bhubaneswar for research paper, Published in Journal of the Institution.
27. **Prof. P.K. Hota, Institution Award-2015,** given by The Institution of Engineers (India), Odisha State Centre, Bhubaneswar for research paper Published in Journal of the Institution.
28. **Prof. P.K. Hota, Bharat Excellence Award-2016, given by Friendship Forum, New Delhi for Outstanding and extraordinary achievements in chosen fields of activity and services rendered to promote greater friendship and India-International Co-operation at a Seminar on "Economic Growth and National Unity" at New Delhi on 25th May, 2016.**

AWARDS RECEIVED BY THE STUDENTS:

Sl. No.	Name of Student	Name of the Event	Achievement
1	Tanushree Parida	University Gold medal for best Engg. Graduate(2013), VSSUT Burla	Gold Medal
2	Amlan Mohanty	University Gold medal for best Engg. Graduate(2015), VSSUT Burla	Gold Medal
3	Tapas Mohanto	Tred-o-quest ,NIT Rourkela(2014 &2015)	1st Prize
		Roboventure, NIT Rourkela 2015	1st Prize
		Minefield KSHITIJ 2K15, IIT KGP	Finalist
		Line Following SAMAVESH 2K15, VSSUT,Burla	1st Prize
4	Sachin Meher	Tred-o-quest ,NIT Rourkela(2014 &2015)	1st Prize
		ROBOCON 2K15	AIR-27
5	B.Mishra	Paper Presentation on FUEL CELL at NIT, RKL, INNOVISION-2K15 Tech.Fest	1st Prize
6	T. Pattnaik	IUSM-2014, Table Tensis (Girls) ILLUMINA-2015, Group event in Badminton(Girls)	Best Player Champion
7	M.R.Behera	Inter University Meet, ISM, Dhanbad (2014)	Triple Jump, All India University record
		4th Annual Athletic Meet	Champion(Boys)
		USM2k14,VSSUT,Burla,Volley Ball	Best Smasher
8	Sarthak Acharya	Inter University Meet, ISM, Dhanbad (2014)	Gold medal in Shot put
9	Sujit Parida	Represented VSSUT in ABU-ROBOCON, MIT, Pune	1st in Odisha(27th Rank, All India)

SCOPE OF ELECTRICAL ENGINEERING:

An electrical engineering graduate has the scope of learning.

- Design and development of electrical equipment of various types suitable for use in industries and power supply undertakings.
- Construction and development of power supply scheme using an Integrated Grid System (Thermal, Hydel and Nuclear power projects).
- Construction and development of Electrical Measuring Devices, equipments & solid state circuits used for power system control & electrical traction system.
- Teaching and research including development activity.
- Development of real time control systems and embedded systems.
- Software application in Electrical Engineering.
- Microprocessor application in Electrical Engineering.
- High Voltage Engg. Techniques.
- Soft Computing Applications.

In the Post graduate programme the emphasis is given on the development of a broad background in power system, Power Electronics, Control & Instrumentation followed by a deeper study of a problem in the stream.

COURSES OFFERED:

Sl No	Name of the Programme	Year of Establishment	Initial Intake	Present Intake
1	B. Tech. Electrical Engineering	1956	60	120
2	B. Tech. Electrical & Electronics Engineering	2010	30	60
3	Integrated Dual Degree (B.Tech. in EE & M.Tech. in Power System Engineering)	2015	18	18
4	M. Tech. Power System Engineering	1968	18	18
5	M. Tech. Power Electronics Control & Drives	2012	18	18
6	M. Tech. Control & Instrumentation Engineering	2015	18	18
7	Ph.D. Programme	1956	-----	----

LABORATORY FACILITIES:

The Department has constantly kept on a course of updating the various laboratories and the following laboratories are available to support students and faculty in research in various areas related to electrical engineering.

Sl. No.	Name of the Laboratory	Equipments
1	Electrical Machines Laboratory	DC shunt motor, DC compound motor, Slip-Ring Induction Motor, DC shunt motor and Alternator Set, DC Shunt Motor and Generator Set, DC Series Motor and Generator Set, DC Shunt Motor and Compound Generator Set, Single phase induction motor, Reluctance Motor, Three Phase Transformers, Single Phase Transformer,1-Phase Variac's ,3-Phase Variac's Standard Volt meter, Ammeter, Wattmeter etc
2	Power Electronics and Drives Laboratory	IGBT,MOSFET,SCR & TRIAC Static characteristics study module SCR , MOSFET, IGBT Dynamic Characteristics Module R,RC, UJT triggering, Forced Commutation, Step Down

		Chopper, Boost Chopper, Series inverter, Three phase IGBT PWM Inverter, Three phase IGBT Four quadrant, DC chopper Single & Three phase SCR based half & fully controlled converter for DC motor drive, Cycloconverter, Scientific color 100MHz 250MS/s, Real time (50GS/s equivalent time Digital storage C.R.O,L&T make 20MHz.Digital storage, Smart Grid and power system set up, integrated with PV panel, wind turbine and grid
3	Microprocessor & Microcontroller Laboratory	8086 microprocessor kits (LCD version), 8051 micro controller (LCD version), LCD interfacing with 8051, DAC, ADC interfacing with 8051, 8085 Microprocessor based relay testing kit, Stepper motor controller interface.
4	Network Devices Laboratory	choke coils, Single Phase Energy Meter,CRO's, Rheostats, Wattmeter's, Function Generators Spectral analyser of a non-sinusoidal wave form
5	Instrumentation and Control Laboratory	Kelvin's double bridge, Potential Transformers, Thermo Couple, Current transformers AC/DC modular servo system, P.I.D. Unit, Digital servo system, Transducer & instrumentation kit, Linear system simulator, Relay control system, Compensation design, PID Controller, Digital Control ,Programmable Logic Control (PLC) Trainer
6	High Voltage Laboratory	100 kV AC testing transformer, 140 kV DC, 280 kV DC 2-stage 0.49KJ,140 kV Impulse Generator test set with all accessories,100mA, 100MHz 500Ms/s Digital storage Oscilloscope for impulse Voltage Measurement, Dielectric dissipation factor (Tan delta) & Specific resistance of Solid and liquid materials, BDV test transformer oil, Transformer turns ratio meter.
7	Power System Laboratory	Artificial transmission line, Cable fault locator,12bit 100KHz. FFT analyzer SM-2701,AC Network Analyser DC Network Analyser, Supervisory Control and Data Acquisition System (SCADA) trainer with Analog and Digital Modules, Relays
8	Computation Laboratory	Details of Computers and Softwares: System Configuration: 38Nos Processor: Icore 5 RAM:2GB HardDisk:40GB Operating System: Microsoft Windows 8 **Software's**: MATLAB and Its Tool Boxes EMTDC/PSCAD ETAP, EMTP

SPONSORED RESEARCH PROJECT:

Assistance received from the Ministry of HRD, Govt. of India,DST and AICTE have been received to modernize various laboratories and for research works as follows:

Year	Name of the Laboratories	Source of funding	Amount (Rs. in Lakhs)
1983	Power System Lab.	MHRD	10.00
1987	Power Electronics Lab.	-do-	12.00
1988	Instrumentation & Control Lab.	-do-	15.00
1992	High Voltage Lab.	-do-	8.00
1994	High Voltage Lab.	-do-	8.00
1995	Modernization of Power System Lab.	AICTE	6.00

1995	Application of ANN to Power System Problems	-do-	6.00
1996	Modernization of High Voltage Lab.	-do-	5.00
1999	Intelligent Soft Computing Approach to Power System Operation and Control	-do-	9.00
2000	Building Cognition for intelligent Robots	-do-	15.00
2002	Application of Advanced Signal Processing Techniques to Fault Diagnosis of Power System Elements	-do-	3.50
2002	Developing Intelligence Techniques for Power Quality Improvements	DST	7.20
2002	Robust Controller Structure for Coordinated Power System Voltage Regulation and Stabilization	AICTE	5.00
2003	Power Quality Improvement of Distribution Systems	-do-	3.00
2003	Modernization of Power Electronics & Drives	-do-	12.00

SPONSORED RESEARCH PROJECTS (ONGOING)

Sl. No.	Project Title	Principal Investigator	Project Duration	Amount (Rs. In Lakhs)	Funding Agency
1	Assessment of wide-area measurement signal by computational intelligence techniques	Dr. Papia Ray	02 Years	6.42	DST
2	Transient stability analysis and control of power systems with excitation control	Dr B. B. Pati	03 Years	7.5	AICTE

INDUSTRIAL CONSULTANCY:

The Department is involved in various developmental works out of which the Public Sector Units, Govt. Departments, Industries and Independent firms are taking the benefits. The Department is engaged in consultancy in the following areas.

- Non-destructive test facilities for any electrical equipment and dielectric samples up to 100KV AC, 280KV DC rating.
- Measurement of dissipation factor by High Voltage Schering Bridge.
- Flash over test of Transformer Bushings.
- Microprocessor based System design.
- Power System Operation and Control Software Development.

TESTING FACILITIES AVAILABLE IN THE DEPARTMENT

- Measurement of dielectric loss factor (tanδ), capacitance and permittivity of solid dielectric (up to 10 KV) using shearing bridge.
  (i) Ungrounded Specimen Test (UST)
  (ii) Grounded Specimen Test (GST)

(iii) Grounded Specimen Test with Guarding (GSTG)

- Breakdown strength tests on solid, liquid and gaseous dielectrics using AC (100KV), DC (280 KV) and impulse (140 KV, 0.49 KJ).
- Testing of dielectric strength of the insulating oil (transformer oil etc.) as per relevant I.S.S by oil testing kit.
  Specification:
  Input:230V, 50Hz, Output:60KV AC.
- Testing of dielectric strength of insulators:
  (i)Dry / Wet flashover test.
  (ii)Dry / Wet flashover test with one minute withstand test as per relevant I.S.S.
- Testing of circuit breakers. (specification :230V / 400V , 0-1000 A)
- (i) Measurement of low resistance by Kelvin's double bridge(0-0.001Ω)
  (ii) Measurement of insulation resistance of any equipment/ dielectric samples.
  (iii) Measurement of earth resistance.
- Calibration and testing of energy meters as per relevant standards.
- AC Power measurement.
- LCR Q-measurement.
- Wave form Analysis.

RESEARCH ACTIVITIES:

The Department offers necessary facilities to its faculty members for undertaking research work for Ph.D. Degree. Twenty faculty members have already been awarded Ph.D. degree by working in the department. The faculty members have large numbers of research publication in international journals of repute and have received international recognition.

Major research areas of the department are

- Voltage stability problems in radial power links and its solution for stochastically varying load models.
- Improved methods for simulation of non linear system.
- Modeling of transformers and over-voltage problems due to third harmonies.
- Application of nonlinear control theory to prevent some power system over voltage problems due to multimode operation with specific reference to protective system and distribution system.
- Microprocessor based digital protection and industrial drive control.
- New aspect for design of single phase induction motors.
- Application of ANN & Neuro Fuzzy techniques to Power System problems.
- Dynamic Voltage Stability Studies.
- Structural identification and signal stabilization of non-linear control system.
- Soft Computing applications to power system optimization & control problems.
- Developing intelligent techniques for power system control and power quality improvement.

- Hybrid optimization techniques and controller for AGC problem.
- Multi objective power system optimization.
- Integration of Renewable Energy System to Grid

DISTINGUISHED ALUMNI:

Sl.No	Name of the Alumini	Year of Graduation	Position Held
1	Dr. S. Prusty	1961	Ex-Principal, UCE, Burla
2	Bijay C. Jena	1963	Ex- Managing Director OPGC
3	C R Pradhan	1966	Ex- Executive Director, (Western Region) NTPC
4	Mr. S.B. Nayak	1968	Ex-Vice President, VEDANTA
5	Mr. C.R. Pradhan	1969	Ex- Executive Director, NTPC
6	Dr. G. Panda	1973	Ex- Deputy Director, IIT, Bhubaneswar, Ex- Director, NIT, Jamshedpur
7	Mr. J. Padhy	1973	Director, OHPC
8	Dr. J.K. Satapathy	1976	Ex- Vice Chancellor, BPUT, Odisha
9	Mr. S.S. Mohanty	1977	Ex- Managing Director, SAIL, Durgapur
10	Dr. P.K. Pradhan	1977	Ex-Director (Commercial), GRIDCO
11	Aswini Das	1978	Member, Odisha Electricity Regulatory Commission
12	Rajendra Prasad Sasmal	1979	Director (Operations), Power Grid Corporation of India Limited
13	Basanta Mishra	1981	Director (O&M), LANCO
14	Dr. C.R. Tripathy	1983	Vice Chancellor, Sambalpur University
15	Debasis Mohapatra	1989	Director - Price waterhouse Coopers Private Limited
16	Mr. B.K. Mishra	1990	Vice President, Mahindra Satyam
17	Tanmay Das	1991	Founder & CEO - Raajratna Energy Holdings Pvt Ltd
18	Mr. A.K. Padhy	1992	Station Director, Reliance Power, Nagpur

LIST OF RESEARCH PAPERS PUBLISHED BY THE FACULTY MEMBERS:

List of Select Papers Published in International Journals:

YEAR 2015-16

1. **R. Pradhan**, B. Subudhi, Double Integral Sliding Mode MPPT Control of a Photovoltaic System, IEEE Trans. Control System Technology, Vol.24, No.1, pp.285-292, 2016.
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6. B.K. Sahu, P.K. Mohanty, **S. Panda**, A novel hybrid LUS-TLBO optimized fuzzy-PID controller for load frequency control of multi-source power system, Int. J. Elect. Power and Energy Systems, ELSEVIER, Vol. 74, pp. 58-69, 2016 (Impact factor: 2.587).
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14. **P. Ray, D. Mishra**, Application of extreme learning machine for underground cable fault location, Int. Transactions on Electrical Energy Systems, DOI:10.1002/etep.2032, Wiley, vol. 25, Issue. 7, 2014, ISSN:1546-3109.
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Patent filed by the Faculties:

The Dept. is proud of having Dr. Gyan Ranjan Biswal, Faculty in Dept. of EEE who has filed a patent to his capacity from his research work in his previous institute.

Gyan Ranjan Biswal, R. P. Maheshwari, and M. L. Dewal, "An Integrated Cooling System and Hydrogen Processing for Power Generation Plants", Indian Patent Application No.: 689/Del/2012, Published on Dated: Aug. 21, 2015, Journal No. 34/2015.

140 kV Impulse Generator & 280 kV DC Voltage Setup

100 kV AC Voltage Setup

Dielectric loss factor (tan δ), capacitance and Resistivity Test Setup

Transformer Oil Test Kit

Solar-Energy conversion System

Integrated with PV Panel Wind Turbine & Grid Setup

Electrical Machines Laboratory

Power Electronics and Drives Laboratory

Control and Instrumentation Laboratory

Power System Laboratory

National Conference:RAMPS-2012

Proceeding opening of RESONANCE 2K16

Proceedings opening of QIP short term course for AAITPSOC-2016

A talk by Prof. B.D.Subudhi
NIT, Rourkela