National Institute of Technology Raipur

Department: Electrical Engineering
Specialization: Power System and Control

About the Programme

The programme started in **2014** and it is expected that the scholars pursuing the programme acquire the skills and attributes necessary to succeed in the engineering profession relevant to Power System & Control Engineering. The necessary skills were identified and approved by the DAC comprising of Faculty members, Students and Professionals and are in complete alignment with the program outcomes as laid down by NBA. Further, to make sure that the skills are delivered to the students, Program Outcomes of the M Tech programme have been established accordingly and are related to the program's Educational Objectives.

Programme Educational Objectives

Under the MTech programme in Power System and Control, the objectives aim to produce qualified Electrical Engineering Post-graduates who will:

1. Be successful professionals in resulting domains with proven expertise.
2. Contribute to society as responsible, educated, expressive and ethical citizens.
3. Achieve appraising peer-recognition; as an individual or in a team.
4. Thrive to pursue life-long reflective learning to fulfill their goals.

Programme Outcomes

PO1: An ability to apply attained knowledge;

a. identify, critically analyze, formulate and solve engineering problems,

b. select modern engineering tools and techniques and use them with dexterity,

c. design a system and process to meet desired needs within realistic constraints,

d. contribute by research and innovation to solve engineering problems,

e. devise and conduct experiments, interpret data and provide conclusions.

PO2: An ability to understand the impact of engineering solutions;

a. in a contemporary, global, economic, environmental and societal context,

b. for sustainable development.

PO3: An ability to function professionally with ethical responsibility;

a. as an individual as well as in multidisciplinary teams with positive attitude,

b. an ability to communicate effectively.

PO4: An ability to appreciate;

a. the importance of goal setting.

to recognize the need for life-long reflective learning

Welcome!

Department of Electrical Engineering, NIT Raipur, offers Undergraduate programme (B Tech. in Electrical Engineering) and one Postgraduate programmes (M Tech. in Power System and Control). It is one of the largest departments of the institute with intake of 115 students for undergraduate course and (20 +2 (sponsored) = 22) students for its post graduate course.

Department also offers Ph.D. program in all relevant disciplines of Electrical Engineering including Power systems, Smart grid, optimizing techniques applied to electrical engineering, Power electronics, Electrical drives, Control systems engineering. The post graduate programs offered is M Tech. in Power System and Control.

Facilities & Laboratories

Being a major department, there are a number of laboratories having diversified variety of equipment with latest technologies. Students have open access to the labs, to understand as well as apply their knowledge to explore their engineering skills. The facilities available are as follows.

1. Relay testing Lab.
2. Power systems Lab.
3. Control systems Lab.
4. Advanced Power Electronics Lab.
5. Advanced Electric drives Lab.
6. Machines Lab.
7. High Voltage Lab
8. Protection Lab
9. Electrical Measurement Lab.
10. Computer lab with access to ANSYS EM Suite, MATLAB/Simulink C++ and PYTHON.

Faculty Members

Name	Specialization / Area of Interest
Dr. (Mrs.) S. Gupta	Power System & Power Quality/ Power Quality, Power Electronics & Electrical Machines
Dr. P. D. Dewangan	Model Order Reduction, Interval system, Power System
Dr. (Mrs.) A. Yadav	Power System Protection, Smart Grid, Microgrid, FACTS, HVDC, Power Electronics, Artificial Intelligence, Soft Computing Techniques etc.
Dr. N. D. Londhe	Measurement & Instrumentation/Signal & Image Processing, Medical Instrumentation, Speech Signal Processing, Machine Learning
Dr. S. Ghosh	Control System & Signal Processing/ Control System, Soft Computing, Biomedical Engg. Pattern Recognition
Dr. R N Patel	Power and Energy Systems, Renewable Energy
Dr. Sachin Jain	Grid-Tie PV Inverters Design and optimization of power conditioning circuits for DC-DC converters and inverters
Dr. Ebha Koley	Power System Protection, Soft Computing Techniques, Electrical Machine & Drives
Dr. S. Patnaik	Power Electronics, Converters for Renewable energy application, Electrification of transportation, Switch mode power supplies
Dr. B. Shaw	Power System/Artificial Intelligence Techniques to Power System
Dr.(Mrs.) Varsha Singh	Multilevel Inverters, DC-DC converters, AC Drives, Soft computing techniques in power electronics.
Dr. M. Biswal	Smart Grid Protection, Microgrid Protection, FACTS devices, Adaptive Relaying,
Dr. Lalit Kumar Sahu	Power Electronics & Drives/Vehicular Electrification, Power Electronics Converters, Multilevel Inverters
Dr. K Chandrasekaran	High Voltage Engineering (Lightning), Lightning, LEMF, Coupling Computation, Application of GA in High Voltage
Dr.B. N. Bag	Network planning and Management (Power System), V-Var-W control
Dr. Sonti Venu	Multilevel Inverters, PWM Techniques, Renewable Energy
Dr. Ramya Selvaraj	Chemical and industrial gas sensing, IR spectroscopy, TDLAS, Photoacoustic spectroscopy, Breath gas analysis
Dr. D. Suresh	Electrical drives and power electronics

Links for Scheme, Syllabi and Ordinance

Institute & Department

http://www.nitrr.ac.in/index.php

http://www.nitrr.ac.in/aboutelectrical.php

Admission

http://nitrr.ac.in/admission.php

M. Tech. Ordinance

http://nitrr.ac.in/ordinances_MTech.php

M. Tech. Scheme and Syllabus

http://nitrr.ac.in/syllabus.php

Dr. Hari priya Vemuganti	Multilevel inverters, Active front converters