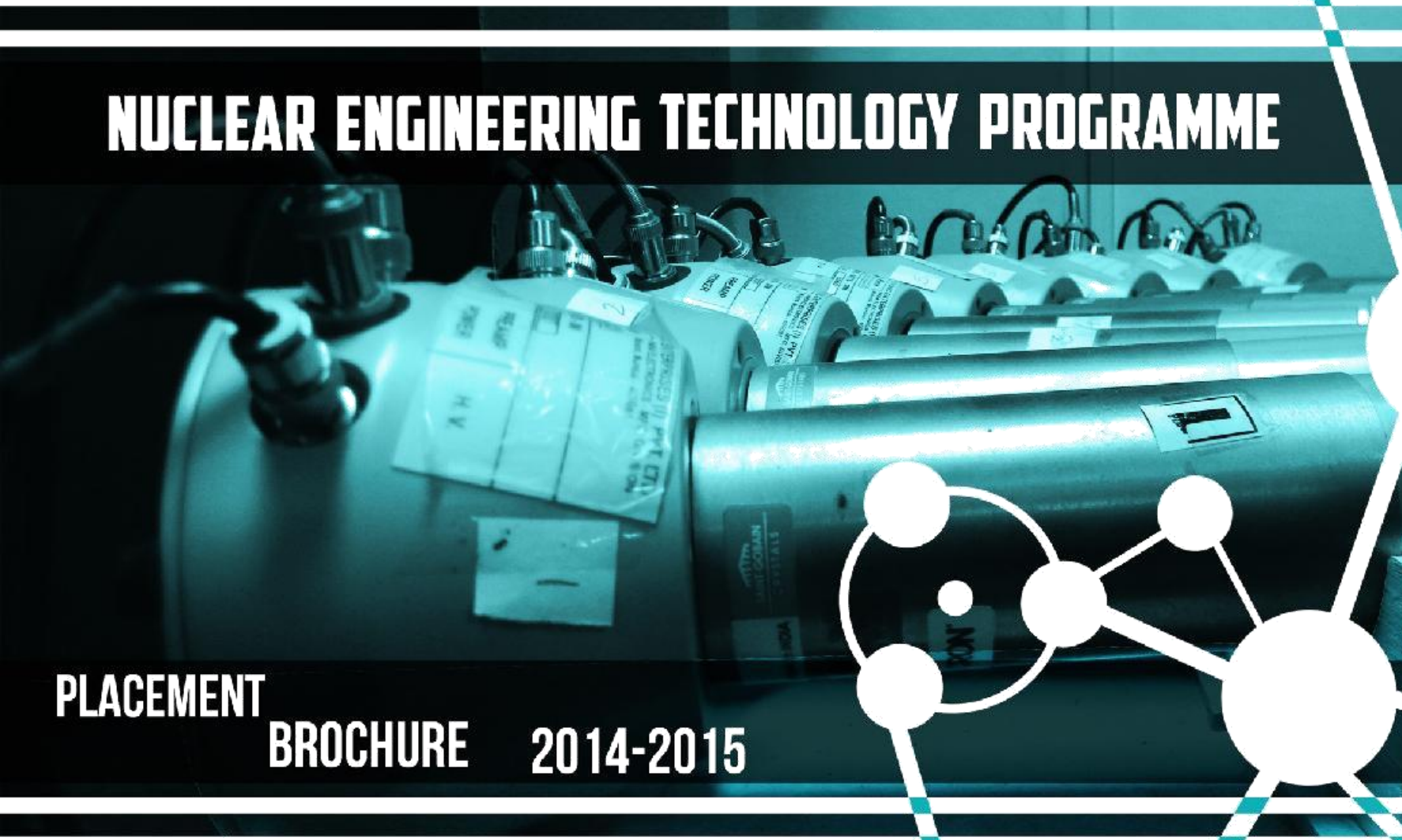
NUCLEAR ENGINEERING TECHNOLOGY PROGRAMME



PLACEMENT BROCHURE 2014-2015

भारतीय प्रौद्योगिकी संस्थान कानपुर
INDIAN INSTITUTE OF TECHNOLOGY KANPUR

CONTENT

ABOUT THE PROGRAMME

Established in 1974, Nuclear Engineering & Technology Programme, IIT Kanpur, is the pioneer in the field of imparting nuclear engineering education in India. It was started with the objective of catering to the ambitious and expanding nuclear energy programme in India and the growing need for qualified engineers in this field. It is a unique programme of its kind not only in India, but also the whole of South East Asian region. The programme aims at training post graduate engineering students, from diverse backgrounds, in the field of civilian nuclear technology and allied engineering applications related to nuclear science. **In accordance with the interdisciplinary nature of the program, the students gain knowledge from a basket of varied engineering disciplines viz., Mechanical Engineering, Electrical Engineering, Electronics Engineering, Chemical Engineering, Computer science and Engineering.**

STUDENT PROFILE

The admissions to M.Tech in Nuclear Engineering & Technology programme is based on their performance in the national level GATE (Graduate Aptitude Test in Engineering) examination and in the interview conducted in the department. The students are chosen from diverse engineering backgrounds viz., mechanical engineering, electrical engineering, electronics and communication engineering and instrumentation and control and basic sciences viz., physics, mathematics.

There are currently 7 M.Tech students and 19 PhD scholar in the department.

CURRICULUM

The curriculum aims at acquainting the students with the basic concepts of nuclear science and engineering and equips them with the necessary tools and technical know-how to carry out fundamental research in nuclear science and allied areas. The programme structure consists two semesters of coursework and two semesters of research. Besides, mainstream nuclear courses, the varied domain knowledge of the faculty, gives flexibility to the students to pursue electives from diverse fields. The curriculum also incorporates the integration of theoretical knowledge with state of the art computational facilities.

The first two semesters consist of 4 courses each and the remaining two semesters consist of thesis work. Out of these 8 courses, there are 2 elective courses and 6 compulsory courses. Based on the interests of the students, electives are chosen, which could give them a head start in their thesis work and further research.

1st Semester

- Nuclear Power Engineering I
- Nuclear and Reactor Physics
- Nuclear Measurements Laboratory
- Mathematical Methods in Engineering

2nd Semester

- Nuclear Power Engineering II
- Fast Reactor Technology
- ELECTIVE
- ELECTIVE

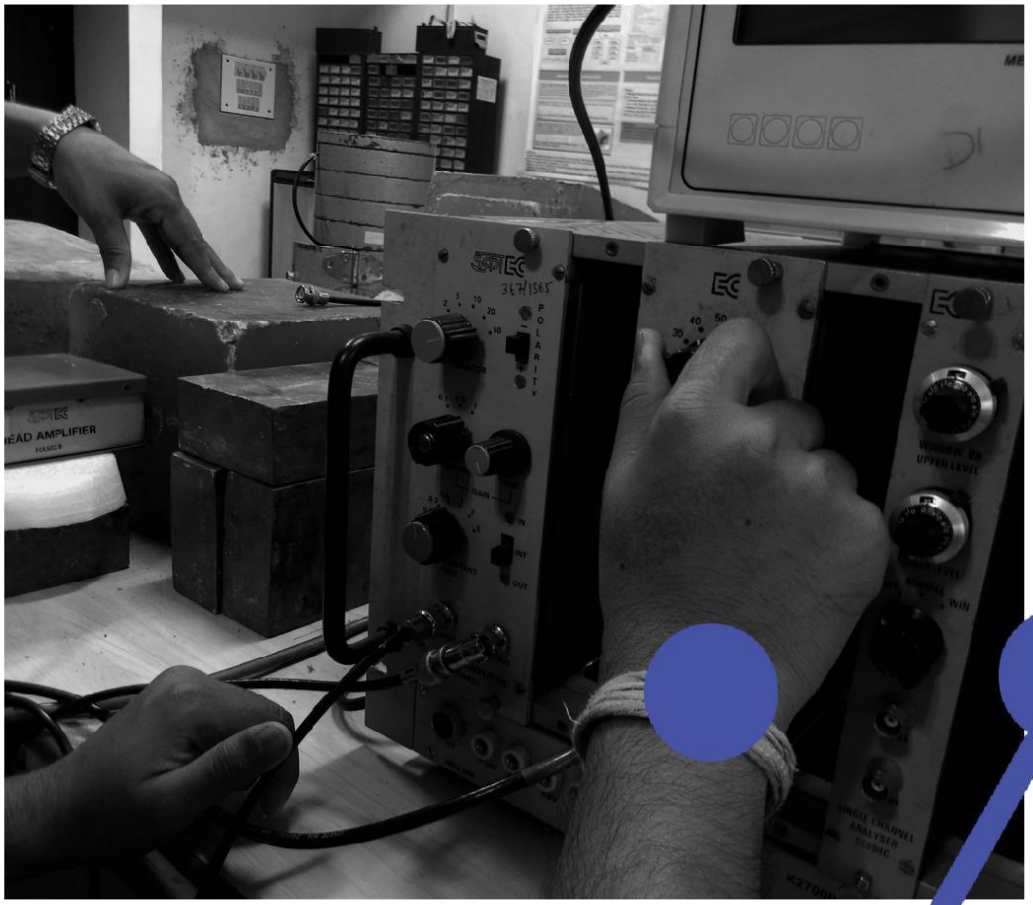
ELECTIVES:-

- Nuclear Power Engineering III
- Nuclear Reactor Safety
- Nuclear Fuel Cycle
- Neutron Transport Theory
- Non Destructive Evaluation
- Radioisotope Application in Engineering
- Nuclear Reaction and Interaction of Radiation with Matter
- Numerical Methods
- INTER-DISCIPLINARY SUBJECTS

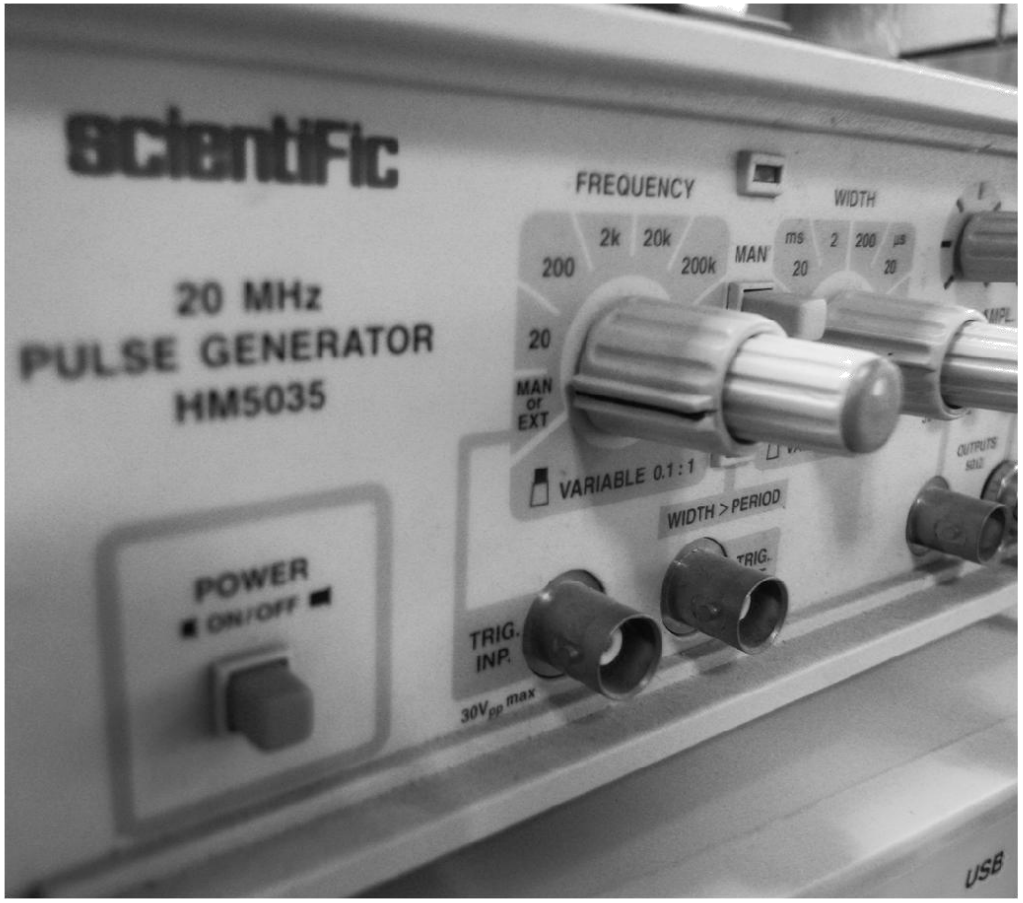
RESEARCH

The prime motive of research in the department is to enhance knowledge, technology, and ideas for the betterment of the society. The teaching and research programs in the department are well organized for interdisciplinary theme. The department is intensively carrying out original research in the fields of nuclear technology and allied areas. Research program in the department can be broadly classified in the following areas:

- Transport Theory
- Image Reconstruction in Tomography
- Fusion and Plasma Physics
- Simulation of Heat Exchanger and Two Phase Flow under Transient Conditions.
- Nuclear Reactor Dynamics
- Radiation Detectors using Amorphous Silicon
- Multi-phase Flow Measurements
- Non-destructive Testing



PROJECTS



The faculty of NET programme in collaboration with the faculty members from other departments has been able to attract significant sponsored research activity in the areas of:

- Application of Computerized Tomography and Fractal Theory in Material Characterization.
- Experimental Investigation of the LMMHD Facility at BARC using Computerized Tomography.
- Laser-Ultrasonic Tomographic Imaging of Composites.
- Studies in Ultrasonic NDT for Composite Materials (Indo-German Project) Internship.

PAST RECRUITERS

- General Electric
- Bhabha Atomic Research Centre (BARC)
- GE Global Research
- Philips Healthcare
- Dar Al-Handasah
- Raja Rammana Centre for Advanced Technology (RRCAT)
- Tata Consulting Engineers
- Defence Research and Development Organization (DRDO)
- Tata Steel
- Tech Mahindra
- IBM
- HSBC Bank
- Misys Software Solutions
- Flipkart

DEPARTMENT CONTACT INFORMATION

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