DEPARTMENT OF TEXTILE TECHNOLOGY

Programmes offered

Full Time

- B. Tech (Textile Technology)
- M. Tech (Textile Engineering and Management)

Part time

- M. Tech (Textile Engineering)

Curriculum is designed to develop engineering skills for the present day needs of the industry, with sufficient knowledge of interdisciplinary areas. Course curriculum provides wider choice of electives to develop niche areas of textile technology, besides foundation courses in science, maths and management. In addition, student's project has become more intensive and extending over a span of two semesters.

Department is pioneer in grooming textile engineers in North India. **Among the thirty NITs** of the country, only NIT Jalandhar runs textile courses at UG, PG and PhD levels. It offers a comprehensive **undergraduate** program on Textile Technology, a **post graduate** program in Textile Engineering & Management and **doctoral** programs in all areas of Textile Technology.

Department has mission to develop engineers and researchers with broad interdisciplinary knowledge, and simultaneously build a temper for the life long process of learning and exploring. Apart from foundation courses in the areas of basic science and engineering sciences, students are offered various core and elective courses comprising of fibre science, yarn, fabric and garment manufacturing, and chemical processing.
The department conducts **upbeat research** in basic spinning, weaving, chemical processing, fibre reinforced composites, sewing threads, seam characterization, compression bandages, fibre shedding during knitting, friction spun yarns, garment manufacturing techniques and technical textiles like aerosol filtration, geotextiles for run off soil erosion, surgical gowns, antimicrobial textiles, etc, so as to **help the industry elevate.**

It has **eight laboratories with modern research facilities** that aid in exploring the conventional textile processes to bring them at par with the **contemporary needs.** In addition to this, it has access to several laboratories under other departments of Engineering and Science Disciplines for promoting intra and inter-departmental research activities. All these amenities contribute to groom the students into **highly capable technocrats** ready to enter industry and take it to new heights.

Workshop/Conferences/Short term courses/ Training programs recently organised

1. **Technology Transfer Event & One Day Workshop on The Filter Media Characterization**

It was organized at NIT Jalandhar on December 15, 2014. NIT Jalandhar has transferred the right of manufacturing of test rigs (for characterizing filter media used for pollution control in industries) to Kanwal Enterprises, Gurgaon, Hr.). These test rigs, viz. a viz. pulse-jet filtration test rig and industrial filtration rigs have been developed through a project supported by Instrumentation Development Programme (IDP) under Department of Science & Technology (DST), Government of India. The cost involved of this research project was Rs 52.28 lacs. The development will help textile and environmental technologists, researchers, practicing engineers and technologists, industry personnel, and filter unit manufacturers and consultants involved in pollution control activities in many ways such as:

i. The apparatus will develop better understanding of the way in which various process parameters determine filtration performance.
ii. It will help in assessment of performance of existing material as well as development of new material.
iii. The designed apparatus will help in proper adjustment of operating parameters.

Pulse-jet filtration test rig

Industrial filtration test rig

First time NIT Jalandhar has signed the technology transfer to any industries for production of instruments. Technology transfer paper was signed by the Director Dr S Ghosh, Dean - Research and Consultancy, Dr S P Singh, Principal investigator Dr A Mukhopadhyay and Co -investigator Dr A K Choudhary. NIT Jalandhar is planning to display both the test rigs at Filtech 2015- exhibition at Cologne, Germany in February 2015.

Workshop on Filter Media Characterization- The above event was followed by one day, to deliver knowledge about the quality of filter media, their characterization and also about the hardware used for optimization of filter performances for industrial gas filtration. The workshop has also highlighted the issues and challenges behind the development of pollution control equipment used in industries.

2. **National Seminar on Advances in Textile Materials & Processes** was conducted by Department of Textile Technology, NIT Jalandhar on October 29, 2014 under TEQIP-II in NKN Hall of the IT building. Seminar was inaugurated by Sh IMJS Sidhu, MD Vardhman Group, Baddi. Coordinators Dr Vinay Midha and Dr A Mukhopadhyay invited various experts from Reliance Industries Ltd. Patalganga, Intertek Ltd Gurgaon, Trident Ltd, Malerkotla and Aarti International Ltd Ludhiana. Prof S Rajendran from the University of Bolton, UK deliberated on medical textiles and healthcare standards in europe. There was an industrial-institute interaction session in which dignitaries from the institute and industry had an interactive session on the advances in textile materials and processes which helped the students in gaining the current issues and challenges of the market.

3. Memorandum of Understanding with University of Bolton

Memorandum of Understanding (MoU) between Department of Textile Technology at ***DR. B. R. AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY JALANDHAR*** *and* ***THE UNIVERSITY OF BOLTON, UK***has been signed on October 27, 2014 to facilitate and enhance academic co-operation. MoU was signed by Professor Rob Campbell, Pro Vice Chancellor (Academic), The University of Bolton and Professor S K Das, Director, NIT Jalandhar.University of Bolton at UK is very prominent in the frontier research and manpower development in the field of technical textiles and allied field. Present MoU will motivate students at both the places for joint research, training and advanced studies. Faculty members will be also benefitted for collaborative research and publications. The following activities will be undertaken under MoU:

1. Faculty / staff development and exchange;
2. Student exchange;
3. Seminars, research, conferences and workshops;
4. Collaboration in the sharing of academic information, articles etc
5. Develop and provide training programmes

4. International Conference Emerging Trends in Traditional and Technical Textiles

Human mind is the biggest resource for the development of technology. No innovation is possible without the sprouting of ideas and thoughts from this unique human brain; and to provide a platform for sharing individual and team innovations, the Department of Textile Technology at Dr B R Ambedkar National Institute of Technology, Jalandhar organised a two-days international conference on “Emerging Trends in Traditional and Technical Textiles” on April 11 and 12, 2014. Around 175 delegates from Czech Republic, Slovenia, Austria, China, Turkey, Indonesia, Pakistan and almost all textile and fashion institutes in India participated in the conference to disseminate their knowledge and research findings for the benefit of others.

Prof A Mukhopadhyay and Dr Vinay Midha, Associate Professor Chaired the conference, which was funded by TEQIP-II (Total Education Quality Improvement Programme), Ministry of Textiles, Rieter, Vardhman group, Shingora Textiles Ludhiana and several other private industrial enterprises.

Prof. V K Kothari, IIT Delhi delivered the plenary lecture on Innovation- For survival and Success in the New Era, whereas Prof. Lubos Hes of Technical University of Liberec, Czech Republic delivered the 2nd plenary lecture on thermal comfort of fabrics. The conference was intended to cover all aspects of traditional textiles, fashion and garment design, fibers and polymers, textile chemical processing and a special emphasis on technical textiles including medical textiles, electronic textiles, nonwovens, active wear and functional garments. Apart from 10 Keynote lectures which were delivered by Dr P D Dubrovski, University of Meribor, Slovenia, Prof G Krammer, University of Graz, Austria, Prof Muhammad Nawaz, University of Faislabad, Prof R Chattopadhyay and Prof A Das of IIT Delhi, 100 oral papers and 50 poster papers were presented during the two days of deliberations. Dr A K Choudhary and Dr Monica Sikka along with other faculty members of the department shared their research findings in the conference.


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