



TEXTILE ENGINEERING

TESTING OF FUNCTIONAL AND TECHNICAL TEXTILES



PROF. APURBA DAS

Department of Textile Technology
IIT Delhi

TYPE OF COURSE : New | Elective | UG/PG

COURSE DURATION : 8 weeks (28 Jan'19 - 22 Mar'19)

INTENDED AUDIENCE : UG and PG Students of Textile,

EXAM DATE : 31 Mar 2019

Clothing and fashion technology, Material science etc.

PRE-REQUISITES : Basic courses on Textiles

COURSE OUTLINE :

The course is specially designed for PG students, teachers and professionals. Testing of functional and technical textile materials is an extremely important activity for production, product and process development, research and application. During selection of textile materials for their functional and technical applications the testing of different performance characteristics is necessary. To meet up the customer requirement, specification is very useful. In this concept, testing plays a vital role. In research and development field the evaluation of textile materials helps us to decide the next route. Research Institute, pilot plants can achieve process development through testing or exact investigation into better, cheaper and quicker methods. Certain standard level should be maintained to control the production process. By evaluation of textile materials one can easily detect the faults of machinery and materials.

ABOUT INSTRUCTOR :

Dr. Apurba Das is Professor in the Department of Textile Technology, Indian Institute of Technology, Delhi. He completed his Ph. D. from the same department in the year 1994. He joined Indian Institute of Technology, Delhi in 2002 as a faculty after serving in the textile industries and in research organization for about 11 years. He has published more than 260 research papers in journals and conferences, authored and edited 05 books and written chapters in 18 books. He has successfully completed many research and consultancy projects from industries and government funding agencies. He has filed several patent applications. He has developed several instruments for characterization of textile materials.

COURSE PLAN :

- Week 01** : Objectives of Testing of Functional and Technical Textiles Testing and Analysis of Functional Textiles
- Week 02** : Testing of Fabric Handle Characteristics, Subjective assessment, Objective assessment, KESF and FAST methods, Nozzle extraction principle
- Week 03** : Testing of Transmission characteristics, Moisture transmission (Vapour form and Liquid form), Thermal transmission, Testing and Analysis of Technical Textiles
- Week 04** : Testing of extreme heat, fire and cold protective clothing
- Week 05** : Testing of geotextiles, Testing of filter fabrics
- Week 06** : Testing of fibre reinforced composites
- Week 07** : Testing of electromagnetic shielding textiles, Testing of compression bandages
- Week 08** : Testing of ballistic protective textiles, Testing of UV protective textiles, Special Testing for Nonwoven and Technical Textiles