NEW SPINNING TECHNOLOGIES

PROF. R CHATTOPADHYAY
Department of Textile and Fibre Engineering
IIT Delhi

PRE-REQUISITES: Textile fibres, Yarn Manufacture

INTENDED AUDIENCE: Undergraduate and post graduate students of Textile Technology

COURSE OUTLINE:
Limitation of conventional spinning, Principle of high speed spinning technologies, Yarn formation mechanism, yarn structure and properties, processing problems, limitations, end use of yarns,

ABOUT INSTRUCTOR:
Prof. R Chattopadhyay, past Head of Department of Textile and Fibre engineering, IIT Delhi, has been teaching in the department for last 30 years. He has been publishing papers in national & international journals, presenting papers in national and international conferences, reviewing papers, consulting industry. He is associated with Govt. organization, research institutes and academic institutions of the country. He has developed this course on Textile Product Design and Development for the senior UG and PG students of the department and offering the course for more than 10 years.

COURSE PLAN:
1) Limitations of ring spinning
2) Principle of open end spinning
3) General description of the machine, parts and their function, and working mechanism
4) Sliver feed, fibre separation and transport
5) Rotor design, groove geometry, Navel
6) Twisting and yarn formation
7) Process parameters and their significance
8) Rotor yarn structure and properties
9) Air jet spinning: Principle of Air jet spinning
10) Sliver feed: high draft and high speed
11) Twin jet design and twisting principle
12) Yarn structure and properties
13) Vortex spinning: Principle of vortex spinning
14) Yarn formation mechanism
15) Yarn structure and properties
16) Friction spinning: principle of yarn formation
17) Operational stages and their significance
18) Friction drum design aspects
19) Yarn formation mechanism
20) Yarn structure and properties
21) Wrap spinning: Principle of wrap spinning
22) Yarn structure and properties
23) Limitations of spinning systems