



# 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 , presyng 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, grove 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