

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: I

M.E. TEXTILE ENGINEERING

Subject Name: **Theory and Design of Textile Machinery - I**

Sr.No	Course content
1.	Optimization: of opening, cleaning and blending in blow-room. Designing of opening and cleaning devices, blending equipments. Significance of modern developments in blow-room.
2.	Optimising: carding, improving process and machine parameters, recent developments in card wires for high production carding. Modern developments in carding-chute feed, unidirectional feed, use of carding segments, auto-levelling at card, integrated grinding system.
3.	Fibre: arrangement in sliver and its influence on design of drawing and combing machinery. Theory of auto-leveling devices used in draw frame. Latest trends in lap preparation, modifications in nipping device, features of high performance combers.
4.	Modifications: in the winding methods of fly frame, recent developments.
5.	Design: concepts in the structure of ring frame drafting, modified weighting arms and their design. Ring and travelers for high speed spinning, concept of living ring. Latest trends in ring/travelers. Tangential belt drive system for improved spindle drive. Twist tension interaction and its influence on end breakages. Robotics for monitoring of piecing, cleaning and transportation of material.

Reference Books:

1. The Textile Institute Publication - Manual of Textile Technology – Short Staple Spinning Series
Vol.I – The Technology of short staple spinning by W. Klein.
Vol.-II – A Practical Guide to Opening & Carding by W. Klein.
Vol.III – A Practical Guide to Combing & Drawing – W. Klein.
Vol.IV – A Practical Guide to Ring Spinning – W. Klein.
Vol.VI - Man-made fibre spinning – W.Klein
2. Series publications of NCUTE Training Programs

