

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: I

M.E. TEXTILE ENGINEERING

Subject Name: **Modern Weaving Technology**

Sr.No	Course content
1.	Yarn Requirement: Requirement of warp and weft yarns for Shuttleless looms. Weft insertion and unwinding rates. Effect of breaks on loom production.
2.	Winding: Development in modern winding machines by Schlafhorst, Hacob, Murata, Savio, SSM etc. Requirement of wound packages.
3.	Warping: Developments in direct and indirect warping. Needs of warp beams.
4.	Sizing: Modern spun and filament sizing machines. Single end sizing machine.
5.	Shuttle: Demerits of shuttle in terms of speed, productivity, energy and flexibility. Classification of shuttleless looms.
6.	Accumulators : Requirements of accumulators. Types, weft tensioning.
7.	Projectile: Principle of Sulzer projectile weaving, torsion bar picking, velocity and acceleration, weft selection. Developments in latest models.
8.	Jet looms Developments in air jet looms like Tsudakoma, Picanol, Dornier etc. Air piping, distribution, pressure. Developments in water jet looms like Tsudakoma, Toyota etc. Buckling problem in jet looms.
9.	Rapier Classification, types, drives. Developments in Dornier, Picanol, Somet, Tsudakoma etc.
10.	Multiphase Detailed analysis of multiphase technology- old and new generation.

Reference Books:

1. Weaving: Conversion of Yarn to Fabric - Lord & Mohamad
2. Weaving: Technology & Operations - Ormerod A.
3. Principles of Weaving - Marks & Robinson
4. Series publications of NCUTE Training Programs
5. Modern Preparation & Weaving Machinery by A. Ormerod.
6. Warp Sizing by J.B. Smith.