

GUJARAT TECHNOLOGICAL UNIVERSITY

TEXTILE TECHNOLOGY

B. E. SEMESTER: VII

Subject Name: **Modern Weaving Technology**

Subject Code: **172902**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam (E)		Mid Sem Exam (Theory) (M)	Practical (Internal)
				Theory	Practical		
3	0	2	5	70	30	30	20

Sr. No.	Topic	Total Hrs	Text Book
1	Need for modern weaving machines in India. Problems with shuttle looms. Techno economics of Modern Weaving machine installation. Introduction to shuttleless loom. Pre-requisites for installation.	3	Weaving: Machines, Mechanisms & Management Talukdar, Sriramulu & Ajgaonkar
2	Yarn parameters necessary for shuttleless weaving. Requirements from preparatory (winding, warping & sizing) for shuttleless weaving. Idea of single end sizing, two parts & three parts Tsudakoma systems.	6	1. Handbook of Weaving Sabit Adanur 2. Weaving: Technology and Operations A.Ormerod & W.S. Sondhelm
3	Special needs for preparing weft yarn for shuttleless loom. Comparative weft velocities of different looms. Need for accumulators, storing and measuring devices, & types of accumulators.	3	Weaving: Machines, Mechanisms & Management Talukdar, Sriramulu & Ajgaonkar
4	Sulzer loom introduction, projectile & its movements. Torsion bar picking. Projectile & picker shoe velocity & acceleration & forces. Action of weft tensioner, returner & expeller. Preparation for picking, shedding & various attachments of shedding.	7	1. Handbook of Weaving Sabit Adanur 2. Weaving: Technology and Operations A.Ormerod & W.S. Sondhelm
5	Air Jet: Yarn insertion Systems, Principles of Air jet filling insertion, performance of yarns in air jet insertion, Functional characteristics of modern air jet weaving machines.	8	Handbook of Weaving Sabit Adanur
6	Requirements of water for water jet loom. Weft	4	1. Weaving: Machines,

	insertion on water jet loom. Features of modern water jet loom advantages & problems. Weft waste on jet loom.		Mechanisms & Management Talukdar, Sriramulu & Ajgaonkar 2. Modern Developments in Weaving Machinery Duxbury & Wray
7	Rapier loom: Tip & loop transfer, study of weft velocity on rapier. Functional description of flexible rapier weaving machine.	6	1. Handbook of Weaving Sabit Adanur 2. Weaving: Technology and Operations A.Ormerod & W.S. Sondhelm
8	Brief study of multiphase principles along with problems. Introduction to triaxial weaving.	5	1. Handbook of Weaving Sabit Adanur 2. Modern Production Technology M L Gularajani, (TAI) 3. Shuttleless Looms, NCUTE Publications.
9	Selvages: Need, various selvages used on shuttleless loom.	2	Weaving: Machines, Mechanisms & Management Talukdar, Sriramulu & Ajgaonkar
10	Recent Developments.	2	Company / manufacturer brochures & Web sites.

Reference Books:

1. Weaving: Conversion of Yarn to Fabric - Lord & Mohammed
2. Principles of Weaving - Marks & Robinson
3. Shuttleless Looms , NCUTE Publications