Subject Code : RCCSTS4

Fabric Manufacture – I

Major Divisions:

1. Winding
2. Warping and Sizing
3. Loom –Primary motions
4. Loom – Secondary and Auxiliary motions
5. Calculations

Unit – I
Winding

Warp winding: Brief study of sequence of process in weaving preparatory – Objects of warp winding. Faults in wound packages – Causes and remedies – Salient features of high speed and fully automatic winding machines.
Weft winding: Objectives of rewinding the weft yarn – Direct weft and rewound weft - study of High speed and fully automatic pirn winders.

Unit – II
Warping and Sizing

Objects of warping – Study of Beam warping machinesexpanding creel – Head stock – Salient features of Modern warping machine.

Objects of sizing – sizing materials used for different type of yarns and their functions. Environmental and safety aspects in sizing, - Study of Multi cylinder sizing machine – Control systems used in sizing machines.

Study of Drawing-in and denting.

Unit - III
Loom – Primary Motions

Introduction to Weaving –Power loom – Types of looms. Primary motions of the loom. Shedding - Objects – Positive and negative shedding Types of sheds – Tappet shedding mechanism.
Picking – Principles of picking – types of picking– Study of of Cone over pick mechanism and Under pick mechanisms
Beat-up mechanism – Principle of Beat-up mechanism.

Unit – IV
Loom – Secondary and Auxiliary Motion

Take – up motions - functions – types – positive take – up motion. Study of different take-up motions.
Let of motions – objects – types – chain lever and weight negative let – off motion
Weft fork motion – objects – types – side weft work motions – working
Study of center weft fork motion – comparison of side weft fork and center weft fork motions.

Warp protecting mechanism – objects – types – Loose reed motion and Fast reed motion
Study of Lease rod ,Healds, Reeds and Temples. –Fabric defects, causes and remedies.

Unit - V
Calculations:

Different yarn numbering system. Conversion of counts from one system to another – Doubles and plied yarn calculation.

Calculation pertaining to speed, efficiency and production of warp winding, weft winding, warping sizing and looms.

Principles of design, draft and peg plan – use of point paper. Characteristics and uses of plain, Twill Satin, Honey comb, Brighton comb, Huck – back, Mock –leno fabrics.

Reference Books :

1.	The Mechanism of Weaving	-	Thomas W.Fox
2.	Principles of Weaving	-	Marks & Robinson (ATC)
3.	Weaving Mechanism Vol. I	-	N.N.banerjee
4.	Elementary Design and Colour		Z.Grosicki
5.	Weaving Calculations	-	R.Sengupta
6.	Modern preparation and Weaving	-	A.Ormerod
7.	Mechanism of Weaving Vol I & II	-	Prof. J.C.Charkravarthy
8.	Fabric Forming	-	B.Hasmukrai