GUJARAT TECHNOLOGICAL UNIVERSITY

TEXTILE TECHNOLOGY (29)
SUBJECT NAME: PROCESS & QUALITY CONTROL IN WEAVING
SUBJECT CODE: 2182902
B.E. 8th SEMESTER

Type of course: Engineering

Prerequisite: Students should have thorough knowledge of weaving machines and processes.

Rationale: This course covers different theories used for controlling process and quality of weaving machines and their products.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
L	T	P	C	Theory Marks			Practical Marks			
				ESE (E)	PA (M)		ESE (V)		PA (I)	
					PA	ALA	ESE	OEP		
3	0	0	3	70	20	10	00	00	00	100

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment; AL-Active learning assignments; OEP-Open Ended problem

Content:

Sr. No.	Content	Total Hrs	% Weightage
1.	A system of Process Control in Weaving	4	9.52
2.	Quality and Productivity in winding	5	11.90
3.	Process control in warping	5	11.90
4.	Process control in sizing	5	11.90
5.	Process control in pirn winding	5	11.90
6.	Drawing in and warp tying	4	14.29
7.	Control of productivity in loom shed	6	7.14
8.	Control of fabrics quality in weaving	4	9.52
9.	Hard waste control	4	9.52

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	15	10	10	5

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

1. Process Control in Weaving Kimothi P.D. & Paliwal, M.C.ATIRA
2. Process & Quality Control in Sizing ATIRA

Course Outcome:

After learning the course the students should be able to:

1. Select the process parameters in winding, warping & sizing
2. Describe the causes & implement remedial actions to correct the faults occurring at winding, warping & sizing.
3. Evaluate the methods to control the hard waste level at winding.
4. Describe Scope, Approach, Methodology etc. of process control in weaving
5. Aware of care in use and selection of elements for Drawing in & Warp tying operations.
6. Control productivity in loomshed through loom speed, efficiency, stops, performance etc.
7. Control fabrics quality in weaving (defects analysis).

List of Open Source Software/learning website: http://nptel.iitm.ac.in, World Wide Web, Google Search Engine etc.

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.