

GUJARAT TECHNOLOGICAL UNIVERSITY

TEXTILE ENGINEERING (25) PROCESS & QUALITY CONTROL IN TEXTILE SUBJECT CODE: 2722513 SEMESTER: II

Type of course: Elective

Prerequisite Basic knowledge of process & quality control at BE Level.

Rationale: The globalization of trade now demands that products marketed around the world met certain basic quality and performance requirements. The manufacturers must be diligent as well as expert in placing products in the market that are well-made and that meet the expectations of the industry.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks						Total Marks
L	T	P		Theory Marks		Practical Marks				
			ESE (E)	PA (M)	ESE (V)		PA (I)			
		ESE			OEP	PA	RP			
3	2#	0	4	70	30	30	0	10	10	150

Content:

Sr. No.	Topics	Teachin g Hrs.	Module Weightage
1	Basic principles of process control and its systems in textile manufacturing.	4	10
2	Process & quality control in cultivating natural fibres, process control in manufacturing synthetic textile fibres.	10	25
3	Process control in blowroom, carding, drawing, combing, speedframe, ring and rotor spinning. Maintenance of yarn spinning machines.	12	25
4	Process control in knitting, weaving and nonwoven fabric manufacturing. Process control in coloration and finishing of textiles	12	25
5	Process control in apparel manufacturing.	4	15

Reference Books:

1. Li Y., Shen Y., Yao L. and Newton E., "The WTO and International Denim Trading" The Textile Majumdar, A, Das Apurva, Alagirusamy R. & Kothari V.K., "Process Control in Textile Manufacturing", The Textile Institute, 2013
2. Garde A.R. and Subrmanian T.A., "Process Control in Cotton Spinning", ATIRA, 1978
3. Paliwal M.C. and Kimothi P.D., "Process Control in Weaving", ATIRA, 1978

Course Outcome:

After learning the course the students should be able to:

1. Understand the basics of process control in fiber production, spinning, weaving, processing and apparel manufacturing.
2. Understand the influence of various parameters on the quality of final product and processes.
3. Select appropriate parameters of fibre quality and process parameters

4. Analyze the importance of maintaining and improving the product quality and process performance

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

Review Presentation (RP): The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website.