GUJARAT TECHNOLOGICAL UNIVERSITY

BRANCH NAME: TEXTILE PROCESSING
SUBJECT NAME: TECHNOLOGY OF FINISHING - II
SUBJECT CODE: 2172803
B.E. 7th SEMESTER

Type of course: Textile Processing Engineering

Prerequisite: Zeal to learn the subject

Rationale: This subject includes the final stage of processing giving surface effects by mechanical means. Various finishing processes of fabrics made from cotton, wool and synthetic fibres are studied. Stabilization of synthetic and wool fabrics, production of raised/pile effects, production crepe/ georgette effect, calendaring, antishrink/compressive shrinkage treatment etc are studied in detail. Finishing of linen fabric i.e. beetling process is also covered. Working of machineries required for above treatments and padding mangles, drying machineries etc are also studied in detail.

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; OEP-Open Ended problem; AL-Active learning.

Content:

Sr. No.	Content	Total Hrs.	Weightage (%)
1.	**Raised effects:** Raising, shearing & cropping, seuding, napping etc - processes and machines & applications.	03	07
2.	**Calendaring process:** Various methods & applications of calendaring like-Swizzing, friction finish, chasing, Schreniring, embossing, felt calendaring etc.	06	14
3.	**Scutching/ opening, conditioning and damping:** Mechanism, Application & Various methods	03	07
4.	**Stabilization of synthetic fibres:** Heat setting of synthetic fibre fabric, mechanism of heat setting, effect of various heat setting parameters on stability of fabrics, effect of heat setting on various properties etc. Construction & working and uses of stenter. A brief discussion on different types of stenter.	06	14
5.	**Drying process:** Application and working of different types of hydroextractors, cylinder, hot flue/ float driers, festoon drier, butti drier, infra red drier, r.f. drier, microwave drier etc.	06	14

6.	**Mangling:** Types, construction & working of padding mangles.	03	07
7.	**Creping:** Mechanism of creping, effect of yarn type, fabric construction, processing parameters on crepe effect. Various methods of creping	03	07
8.	**Anti shrink treatment:** Principle of anti shrink treatment. Different types of Sanforizing machines.	04	10
9.	**Finishing of wool:** Stabilization of wool, various method of stabilization such as crabbing, potting, decatizing etc. Felting, milling and antifelting of wool - mechanical and chemical methods.	07	18
10.	**Linen finishing:** Beetling process and machineries etc	01	02

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
12	16	15	6	7	14

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. Technology of Finishing- V.A. Shenai,
2. An Introduction to Textile Finishing – J.T.Marsh
3. Textile Finishing – R.S. Prayag
4. Textile Finishing – Murphy
5. Textile Finishing- G. Nanlankilli & S. Jayaprakasam

Course Outcome:

After learning the course the students should be able to:

1. Understand the stabilization of polyester and other synthetic fabrics by heat setting process.
2. Understand stabilization of wool by different methods of aqueous treatment.
3. Understand the concept of felting and milling of wool fibres and fabrics respectively.
4. Understand various techno physical aspects of creping process.
5. Produce special effects on cotton and woolen fabrics by different methods of piling/raising.
6. Understand the construction and working of different mangling, scutching and drying machines.
7. Process linen fabrics.

List of Experiments: N. A.

Design based Problems (DP)/Open Ended Problem:

1. To produce different types crepe effects on polyester and viscose rayon fabrics.
2. To develop different raised effects on cotton fabrics.

3. To construct a model of Sanforizing or zero-zero machine.
4. To construct a model of stenter machine.
5. To produce felting effect on wool fibre.
6. To produce milling effect on woolen fabric.

Major Equipments: N.A.

List of Open Source Software/learning website:

1. http://www.wto.org/
2. http://www.wtin.com/
3. http://textileinformation.blogspot.in/
4. http://www.fibre2fashion.com/
5. http://textilelearner.blogspot.in/
6. http://www.fashion-era.com/

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.