GUJARAT TECHNOLOGICAL UNIVERSITY

TEXTILE TECHNOLOGY (29)
FABRIC STRUCTURE I
SUBJECT CODE : 2152903
B.E. 5th SEMESTER

Type of course: Engineering

Prerequisite: Basic Knowledge about textiles

Rationale : Fabric Structure I covers the basics of structure of different kind of fabrics, reperesentation of design, draft & pegplan for woven fabrics, basic weaves & their derivatives and fancy weaves.

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		
4	0	2	6	70	20	10	20	10	20	150

Content:

Sr. No.	Content	Total Hrs	% Weightage
1.	Elements of Woven Design	03	6.25
2.	Construction of Elementary Weaves	10	20.83
3.	Development of Weaves from Elementary Weaves	10	20.83
4.	Fancy Twill, Diamond and Diaper Designs	06	12.5
5.	Miscellaneous Elementary Structures	15	31.25
6.	Special Rib & Cord Structures	04	8.33

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	12	12	12	12	12

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. Watson Textile Design and colour, Z. GROSICKI.
2. Watson's Advanced Textile Design (Compound Woven Structres), Z. GROSICKI.
3. Grammer of Textile Design, Nisbet.

Course Outcome:

After learning the course the students should be able to

1. Identify & Classify different types of fabric based on their structure.
2. Represent different designs, draft and lifting plan on point paper.
3. Will be able correlate design with actual weaving of the fabric.
4. Construct as well as analyze basic weaves & their derivatives.
5. Construct as well as analyze fancy weaves used for toweling, ornamentation and upholstery.
6. Will be able to weave the fabric on hand-loom.
7. Will be able to do the analysis of the single fabric.

List of Practical:

1. Samples analysis of Basic Structures.
2. Weaving Samples of Basic Weaves on Hand Loom.

Open Ended Problems/Design Oriented Problems: Apart from above experiments a group of students has to undertake one open ended problem/design problem. Few examples of the same are given below.

1. Development of Fancy Designs.
2. Development of Spot Figures.

Major Equipments:

Pick Glass
Hand Loom

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.