

**GianiZail Singh Campus College of Engineering & Technology,  
MRSPTU, Bathinda**

**Department of Textile Engineering**

**Lecture Plan and Lecture delivery (Tentative)**

Sub: Technical Textile

Code: BTEXD1-811

B.Tech 8<sup>th</sup> Semester

Batch 2018

**Total number of weeks: 15**

**Subject incharge: Dr. Anupam Kumar**

Sr. No	Week	Topic	No of Lectures to be delivered	Cumulative Lectures
1	1 <sup>st</sup>	Introduction about POs, COs, Objective of Testing of Technical Textile,	3	3
2	2	Definition and scope of Technical Textiles, Brief idea about technical fibres, composite materials and uses	3	6
3	3	Textiles as filter media, Characteristics of filter material, Characteristics of fibres to use in different filter media, Basic idea of theory of filtration.	3	9
4	4	Application of woven, nonwoven and knitted fabric in filter media. Introduction, Classification of Medical textiles, Textiles as hygienic products.	3	12
5	5	Description of different Medical Textiles, Mechanisms of absorption and distribution of liquids in absorbent products like diapers.	3	15
6	6	Introduction to protective clothing, functional requirement of textiles in defence, Brief idea about ballistic protective clothing including parachute cloth	3	18
7	7	Chemical protective clothing, flame retardant fabrics. Water proof breathable fabrics.	3	21
8	8	Introduction, Functional requirement of different types of products.	3	24
9	9	Application of textiles in	3	27

*Anupam*

		automobiles, requirement and design for different tyres, airbags and belts contd..		
10	10	Methods of production and properties of textiles used in these applications.	3	30
11	11	Brief idea about geosynthetic. Geogrid, Geo membrane and Geo composite. Designing and manufacture of geotextiles.	3	33
12	12	Geotextiles properties and test methods. Other uses of technical textile	3	36
13	13	Geotextiles - functions and mechanism in separation, reinforcement, stabilization filtration & drainage	3	39
14	14	Functional requirements and types of textiles used for agricultural, electronics,	3	42
15	15	Power transmission belting, hoses, canvas covers and tarpaulins. Revision	3	45

Ampay

Course Coordinator

MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY, BATHINDA  
 GIANI ZAIL SINGH CAMPUS COLLEGE OF ENGINEERING AND TECHNOLOGY  
 DEPARTMENT OF TEXTILE ENGINEERING

Academic Year 2022-23  
 Program B.TECH (TEXT ENGG)  
 Course Code BTEXS1-801  
 Course Coordinator Er. Parikshit Paul

Session Jan-June 2023  
 Semester 8th Sem  
 Course Title Mechanics of Textile Process

Lecture Plan

S No	Unit and Topic	Lecture Plan (Hour)
		8
1	<b>Unit 1</b>	
	Forces acting on fibre during opening and cleaning processes	2
	Analysis of piano feed regulating motion.	2
	Design of Cone drums for Scutcher.	2
	Evaluation of Blow Room performance	2
2	<b>Unit 2</b>	22
	Mechanics of fibre entanglement and hook formation during carding	2
	Degree of combing in carding process	2
	Theories of carding	2
	Forces acting in carding zone	2
	Analysis of flat actions	2
	Carding Index	2
	Transfer mechanism of fibres	2
	Doffing arc, Analysis of its significance	2
	Analysis of stripping process	2
	Cylinder load and transfer efficiency	2
	Configuration and estimation of degree of disorder	2
	Effect of different parameters on hook formation	2
3	<b>Unit 3</b>	14
	Fibre straightening & hook removal in roller drafting	2
	Mechanism of package building	2
	Design of Cone drums for roving frame	2
	Differential gearing in Roving frame	2
	Balloon theory in spinning	2
	Analysis of forces in yarn & traveller	2
	Analysis of yarn tension during unwinding	2
4	<b>Unit 4</b>	13
	Kinematics of sley and heald motion	2
	Shed depth diagram	3
	Shedding cam design	2
	Mathematical treatment of picking	2
	Friction and impactal checking with swell	2
4	Theoretical understanding of causes of pick variation	2
	<b>Total</b>	57

<b>MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY, BATHINDA</b>			
<b>GIANI ZAIL SINGH CAMPUS COLLEGE OF ENGINEERING AND TECHNOLOGY</b>			
<b>DEPARTMENT OF TEXTILE ENGINEERING</b>			
<b>Academic Year</b>	<b>2022-23</b>	<b>Session</b>	<b>Jan-June 2023</b>
<b>Program</b>	<b>B.TECH (TEXT ENGG)</b>	<b>Semester</b>	<b>8th Sem</b>
<b>Course Code</b>	<b>BTEX1-802</b>	<b>Course Title</b>	<b>Mpm</b>
<b>Course Coordinator</b>	<b>Gurvir singh</b>		

### Lecture Plan

S No	Unit and Topic	Lecture Plan (Hour)
1	<b>Unit 1</b>	<b>08</b>
	<b>Introduction</b>	01
	Introduction to mill planning and management	02
	Functions of management	02
	Formsof business organizations	01
	Mill organization	02
2	<b>Unit 2</b>	10
	Mill location and site selection, Concept	01
	Various factors affecting plant location.	01
	Different types of factory building for Textile Mills and their advantages and disadvantages	02
	Objectives of good plant layout	01
	Types of plant layout	01
	Plant layout Procedure	01
	Calculation for different machines required and lay-out.	02
	plan for Spinning, Weaving, and chemical processing	01
3	<b>Unit 3</b>	12
	Air conditioning and humidification in Textile Mills	01
	different measurements of underground duct for air-conditioning, calculations of total heat, air circulation required etc.	01
	Different terms and definitions like Dry Bulb Temp, Wet bulb temp. humidity ratio etc	01
	Basic concept about Psychometric chart, different humidification systems used in Textile Mills	01
	Functions and Principles of material handling	01
	Selection of material handling equipment, types, advantages	01
	different terms related to it, ways to reduce material handling expenditure.	01
	Lights, different basic terms related to lighting calculations	01
	different lamp shades and its uses	01
	Concept of room index, concept of height and distance ratio related to lighting	02

*Gurvir Singh*