# KUMARAGURU COLLEGE OF TECHNOLOGY,

An autonomous Institution affiliated to Anna University, Chennai

# **COIMBATORE – 641 049.**

# **M. Tech - TECHNICAL TEXTILE**

# **REGULATION 2024**



I to IV Semesters

**Textile Technology** 

#### VISION

To be a Centre of Excellence in textile technology and management with basic and applied research for the fulfilment of societal needs.

### **MISSION**

- Develop industry relevant curriculum, innovative teaching and project-based learning methods that enable students to be efficient professionals.
- Motivate Faculty to update their knowledge and skills through continuous learning.
- Provide holistic student development by creating opportunities for lifelong learning and to develop entrepreneurship skills.
- Undertake inter-disciplinary research and development/Internship/Consultancy in the field of Textile Technology to support the industry and society.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of the M. Tech - Technical Textile Programme will be able to:

**PEO: 1**. Acquire comprehensive knowledge and technical skills in advanced textile materials, manufacturing processes, and applications, enabling them to innovate and solve complex problems in the technical textile industry.

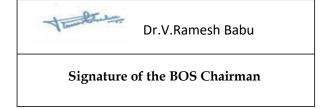
**PEO: 2.** Demonstrate leadership and professional excellence in their careers, contributing to the growth and development of the textile industry through ethical practices, effective communication, and continuous learning.

**PEO: 3.** Engage in research and development activities to advance the field of technical textiles, leveraging cutting-edge technologies and methodologies to contribute to academic, industrial, and societal advancements.

### PROGRAM OUTCOMES (POs)

Graduates of the M.Tech-Technical Textile Postgraduate Program should have the ability to:

**PO1:** Demonstrate comprehensive understanding and application of advanced concepts in technical textiles.



**PO2;** Conduct high-quality research and development activities in technical textiles, contributing to scientific and industrial advancements.

**PO3:** Develop innovative and sustainable solutions for complex problems in technical textiles.

**PO4:** Exhibit proficiency in the use of modern tools, techniques, and equipment relevant to technical textiles engineering and research.

**PO5:** Uphold professional and ethical responsibilities in research, industry, and academia, ensuring sustainable and responsible practices.

**PO6:** Communicate effectively and demonstrate leadership in multidisciplinary teams, fostering collaboration and knowledge dissemination in the technical textile industry.

### PROGRAM SPECIFIC OUTCOMES (PSO'S)

Graduates of the M.Tech-Technical Textile Postgraduate Program will have the ability to:

**PSO1:** Design and create innovative textiles for protective, defense, automobile, medical, and industrial applications, utilizing advanced materials and technologies to meet specific industry needs.

**PSO2:** Perform in-depth research in technical textiles, focusing on improving performance, durability, and functionality, and contribute to advancements in protective, defense, automobile, medical, and industrial textile sectors.

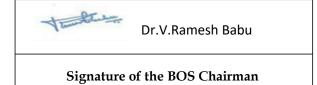


KUMARAGURU COLLEGE OF TECHNOLOGY										
TEXTILE TECHNOLGY										
<b>REGULATION 2024</b>										
M. Tech Technical Textile - Curriculum										
Semester I										
S.N o	Course code	Course Title	Course Mode	Course Type	L	Т	Р	J	С	
1	24TXT501	Absorbable and Biodegradable Polymers	Theory	PC	3	0	0	0	3	
2	24TXT502	Engineering Textiles	Theory	PC	3	0	0	0	3	
3	24TXT503	Fibres and yarns for technical textile	Theory	PC	3	0	0	0	3	
4	24TXT504	Theory of 3-D Fibrous Assemblies	Theory	PC	3	0	0	0	3	
5	24TXT505	Protective textiles	Theory	PC	3	0	0	0	3	
6	24TXT506	Research Methodology	Theory	ES	3	0	0	0	3	
7	24TXP507	Technical textile laboratory I	Practical	PC	0	0	2	0	1	
Total Credits								19		
				Tot	al Con	tact I	Hours	/week	20	
	1	S	emester II	-						
S.N o	Course code	Course Title	Course Mode	Course Type	L	Т	Р	J	С	
1	24TXT508	Statistical Applications in Textile Engineering	Theory	PC	3	0	0	0	3	
2	24TXT509	Textile Coating and Lamination	Theory	PC	3	0	0	0	3	
3	24TXT510	Textile Reinforced Composites	Theory	PC	3	0	0	0	3	
4	24TXT511	Medical Textiles and Biomaterials for Health care	Theory	PC	3	0	0	0	3	
5	24TXE0	Professional Elective I	Theory	PE	3	0	0	0	3	
6	24TXE0	Professional Elective II	Theory	PE	3	0	0	0	3	
7	24TXP512	Technical Textile Lab - II	Practical	PC	0	0	2	0	1	
								Credits	19	
				Tota	al Con	tact l	Hours	s/week	20	

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Semester III									
S.N o	Course code	Course Title	Course Mode	Course Type	L	Т	Р	J	С
1	24TXE0	Professional Elective III	Theory	PE	3	0	0	0	3
2	24TXE0	Professional Elective IV	Theory	PE	3	0	0	0	3
3	24TXE0	Professional Elective V	Theory	PE	3	0	0	0	3
4	24TXE0	Professional Elective VI	Theory	PE	3	0	0	0	3
5	24TXJ613	Internship	-	PC	0	0	0	2	2
6	24TXJ614	Project Phase I	Project	PR	0	0	0	10	10
	1					Т	otal (	credits	24
				Tot	al Con	tact l	Hours	/week	20
	-	S	emester IV			-			
S.N 0	Course code	Course Title	Course Mode	Course Type	L	T	Р	J	С
1	24TXJ615	Projects II /Industrial or Research Internships	Project	PR	0	0	0	20	20
Total Credits							20		
Total Contact Hours/week							20		

Semester-wise Credits						
Semester - I	19					
Semester - II	19					
Semester - III	24					
Semester - IV	20					
Total Credits	82					



Course types	Credits
Basic Science	-
Engineering Science	02
Professional Core	32
Professional Electives	18
Project/Internship	30
Seminar	-
Total Credits	82

	Professional Electives								
S.No	Course code	Course Title	Course Mode	СТ	L	Т	Р	J	С
1.	24TXE001	Specialty fibres for technical textiles	Theory	PE	3	0	0	0	3
2.	24TXE002	Yarns for technical textiles	Theory	PE	3	0	0	0	3
3.	24TXE003	Technical fabric manufacturing	Theory	PE	3	0	0	0	3
4.	24TXE004	Nonwovens in technical textiles	Theory	PE	3	0	0	0	3
5.	24TXE005	Advanced knitting technology	Theory	PE	3	0	0	0	3
6.	24TXE006	Automation in Textile Engineering	Theory	PE	3	0	0	0	3
7.	24TXE007	Theory of absorbent materials	Theory	PE	3	0	0	0	3
8.	24TXE008	Smart textiles	Theory	PE	3	0	0	0	3
9.	24TXE009	Automobile textile	Theory	PE	3	0	0	0	3
10.	24TXE010	Military textiles	Theory	PE	3	0	0	0	3
11.	24TXE011	Home textiles	Theory	PE	3	0	0	0	3
12.	24TXE012	Nano textiles	Theory	PE	3	0	0	0	3
13.	24TXE013	Auxetic textiles	Theory	PE	3	0	0	0	3
14.	24TXE014	Advances in textile bioprocessing	Theory	PE	3	0	0	0	3
15.	24TXE015	Smart Textiles for Wound Care	Theory	PE	3	0	0	0	3
16.	24TXE016	Textile preforms and prepregs	Theory	PE	3	0	0	0	3
17.	24TXE017	Laminar composites	Theory	PE	3	0	0	0	3
18.	24TXE018	3-D textile reinforcements in composite materials	Theory	PE	3	0	0	0	3
19.	24TXE019	Sustainable technical textiles	Theory	PE	3	0	0	0	3
20.	24TXE020	Filtration textiles	Theory	PE	3	0	0	0	3



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21.	24TXE021	Geo textile	Theory	PE	3	0	0	0	3
22.	24TXE022	Agro textile	Theory	PE	3	0	0	0	3
23.	24TXE023	Management of Textile Production	Theory	PE	3	0	0	0	3
24.	24TXE024	Apparel Production	Theory	PE	3	0	0	0	3
25.	24TXE025	Apparel Technology Management	Theory	PE	3	0	0	0	3
26.	24TXE026	Strategic Technology Management in the Textile Complex	Theory	PE	3	0	0	0	3
27.	24TXE027	Global Perspectives in Textiles Supply Chain Management	Theory	PE	3	0	0	0	3
28.	24TXE028	Clothing Science and Comfort	Theory	PE	3	0	0	0	3
29.	24TXE029	Fancy Yarn Technology	Theory	PE	3	0	0	0	3
30.	24TXE030	Structural Mechanics of Yarns and Fabrics	Theory	PE	3	0	0	0	3
31.	24TXE031	Theory of Drafting and Twisting	Theory	PE	3	0	0	0	3
32.	24TXE032	Engineering of Functional Clothing and Finishes	Theory	PE	3	0	0	0	3
33.	24TXE033	Yarn Quality Analysis	Theory	PE	3	0	0	0	3
34.	24TXE034	Fabric Quality Analysis	Theory	PE	3	0	0	0	3
35.	24TXE035	Advances in Textile Finishing	Theory	PE	3	0	0	0	3
36.	24TXE036	Advanced knitwear Technology	Theory	PE	3	0	0	0	3
37.	24TXE037	Textile Reinforced Composites	Theory	PE	3	0	0	0	3
38.	24TXE038	Theory of Yarn Structures	Theory	PE	3	0	0	0	3
39.	24TXE039	Textiles In Civil Construction And Transportation	Theory	PE	3	0	0	0	3
40.	24TXE040	Structural Mechanics of Fabrics	Theory	PE	3	0	0	0	3
41.	24TXE041	Characterization of Textile Polymers		PE	3	0	0	0	3
42.	24TXE042	Polymer Rheology	Theory	PE	3	0	0	0	3
43.	24TXE043	Surface Modification of Textiles	Theory	PE	3	0	0	0	3
44.	24TXE044	Smart Textiles for Wound Care	Theory	PE	3	0	0	0	3
45.	24TXE045	Advances in Functional Finishing of Textiles	Theory	PE	3	0	0	0	3

