

### 13. Courses of Study and Scheme of Assessment

#### BTECH TEXTILE TECHNOLOGY

(2019 Regulations)  
(Minimum credits to be earned: 165)

Course Code	Course Title	Periods / week			Maximum Marks				
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
<b>SEMESTER 1</b>									
19T101	Calculus and Geometry	3	1	0	4	50	50	100	BS
19T102	Physics	3	0	0	3	50	50	100	BS
19T103	Chemistry	3	0	0	3	50	50	100	BS
19T104	Basics of Textile Engineering	3	0	0	3	50	50	100	PC
19G105	English Language Proficiency	2	1	0	3	50	50	100	HS
19T110	Engineering Practices	0	0	2	1	50	50	100	ES
19T111	Basic Sciences Laboratory	0	0	4	2	50	50	100	BS
19T112	C Programming Laboratory	0	0	4	2	50	50	100	ES
19IP15	Induction Programme **	0	0	0	0	-	-	-	MC
<b>Total 26 periods</b>		<b>14</b>	<b>2</b>	<b>10</b>	<b>21</b>	<b>400</b>	<b>400</b>	<b>800</b>	
<b>SEMESTER 2</b>									
19T201	Linear Algebra and Transforms	3	1	0	4	50	50	100	BS
19T202	Materials Science	2	0	0	2	50	50	100	BS
19T203	Polymer and Fibre Chemistry	3	0	0	3	50	50	100	BS
19T204	Basics of Electrical and Electronics Engineering	3	0	0	3	50	50	100	ES
19T205	Applied Mechanics	2	1	0	3	50	50	100	ES
19____	Language Elective	0	0	4	2	50	50	100	HS
19T211	Engineering Graphics	0	0	4	2	50	50	100	ES
19T212	Fibre Analysis Laboratory	0	0	2	1	50	50	100	PC
19T215	Activity Point Programme*	-	-	-	Grade	-	-	-	MC
<b>Semester 2- Summer Term</b>									
19T213	Internship €	0	0	0	2 <sup>£</sup>	100	0	100	EEC
<b>Total 25 periods</b>		<b>13</b>	<b>2</b>	<b>10</b>	<b>22</b>	<b>500</b>	<b>400</b>	<b>900</b>	

\*\* As per norms

\* As per AICTE Norms; Total 60 hrs; Grade: Completed / Not Completed; Not counted for CGPA

CA Continuous Assessment

FE Final Examination

€ This course will be conducted prior to the commencement of the third semester for a period of 3 weeks

£ For internship, one credit is equivalent to minimum 40 hours of work as per norms

CAT - Category; BS - Basic Science; HS - Humanities and Social Sciences; ES - Engineering Sciences; PC - Professional Core; PE - Professional Elective; OE - Open Elective; EEC - Employability Enhancement Course; MC – Mandatory Course

**BTECH TEXTILE TECHNOLOGY****(2019 Regulations)**

Course Code	Course Title	Periods / week			Maximum Marks				
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
<b>SEMESTER 3</b>									
19T301	Numerical Methods	2	1	0	3	50	50	100	BS
19T302	Theory of Machines	3	1	0	4	50	50	100	ES
19T303	Measurements and Instrumentation	3	0	0	3	50	50	100	ES
19T304	Fibre physics	3	0	0	3	50	50	100	PC
19T305	Spun Yarn Technology I	3	0	0	3	50	50	100	PC
19O306	Economics for Engineers	3	0	0	3	50	50	100	HS
19T310	Electrical and Electronics Engineering Laboratory	0	0	4	2	50	50	100	ES
19T311	Spun Yarn Technology Laboratory I	0	0	4	2	50	50	100	PC
19K312	Environmental Science **	2	0	0	0	-	-	-	MC
19T315	Activity Point Programme*	-	-	-	Grade	-	-	-	MC
<b>Total 29 periods</b>		<b>19</b>	<b>2</b>	<b>8</b>	<b>23</b>	<b>400</b>	<b>400</b>	<b>800</b>	
<b>SEMESTER 4</b>									
19T401	Probability and Statistics	2	1	0	3	50	50	100	BS
19T402	Technology of Manufactured Fibers	2	0	0	2	50	50	100	PC
19T403	Spun Yarn Technology II	2	1	0	3	50	50	100	PC
19T404	Weaving Technology I	3	0	0	3	50	50	100	PC
19T405	Technology of Nonwoven Fabrics	3	0	0	3	50	50	100	PC
19T406	Knitting Technology	3	0	0	3	50	50	100	PC
19T410	Spun Yarn Technology Laboratory II	0	0	4	2	50	50	100	PC
19T411	Weaving Technology Laboratory	0	0	4	2	50	50	100	PC
19O412	Indian Constitution **	2	0	0	0	-	-	-	MC
19Q413	Soft Skills Development	0	0	2	1	100	0	100	EEC
19T415	Activity Point Programme*	-	-	-	Grade	-	-	-	MC
<b>Total 29 periods</b>		<b>17</b>	<b>2</b>	<b>10</b>	<b>22</b>	<b>500</b>	<b>400</b>	<b>900</b>	

\*\* As per norms

\* As per AICTE Norms; Total 60 hrs; Grade: Completed / Not Completed; Not counted for CGPA

CA Continuous Assessment

FE Final Examination

CAT - Category; BS - Basic Science; HS - Humanities and Social Sciences; ES - Engineering Sciences; PC - Professional Core; PE - Professional Elective; OE - Open Elective; EEC - Employability Enhancement Course; MC – Mandatory Course

**BTECH TEXTILE TECHNOLOGY****(2019 Regulations)**

Course Code	Course Title	Periods / week			Maximum Marks				
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
<b>SEMESTER 5</b>									
19T501	Weaving Technology II	2	1	0	3	50	50	100	PC
19T502	Fabric Structure and Design	3	0	0	3	50	50	100	PC
19T503	Preparation and Dyeing	3	0	0	3	50	50	100	PC
19T504	Mechanics of Textile Machinery	2	1	0	3	50	50	100	ES
19T505	Financial Management in Textile industry	2	1	0	3	50	50	100	HS
19T____	Professional Elective I	3	0	0	3	50	50	100	PE
19T510	Weaving and Knitting Technology Laboratory	0	0	4	2	50	50	100	PC
19T511	Preparation and Dyeing Laboratory	0	0	4	2	50	50	100	PC
19Q513	Business and Managerial Communications	0	0	2	1	100	0	100	EEC
19T515	Activity Point Programme*	-	-	-	Grade	-	-	-	MC
<b>Total 28 periods</b>		<b>15</b>	<b>3</b>	<b>10</b>	<b>23</b>	<b>500</b>	<b>400</b>	<b>900</b>	
<b>SEMESTER 6</b>									
19T601	Printing and Finishing	3	0	0	3	50	50	100	PC
19T602	Garment Manufacturing Technology	3	0	0	3	50	50	100	PC
19T603	Textile Quality Evaluation	3	0	0	3	50	50	100	PC
19T604	Process and Quality Control in Spinning	2	1	0	3	50	50	100	PC
19T____	Professional Elective II	3	0	0	3	50	50	100	PE
19____	Open Elective I	3	0	0	3	50	50	100	OE
19T610	Printing and Finishing Laboratory	0	0	2	1	50	50	100	PC
19T611	Textile Quality Evaluation Laboratory	0	0	4	2	50	50	100	PC
19Q613	Quantitative and Reasoning Skills	0	0	2	1	100	0	100	EEC
19T620	Innovation Practices	0	0	4	2	50	50	100	EEC
19T615	Activity Point Programme*	-	-	-	Grade	-	-	-	MC
<b>Total 30 periods</b>		<b>17</b>	<b>1</b>	<b>12</b>	<b>24</b>	<b>550</b>	<b>450</b>	<b>1000</b>	

At the end of 6th semester, the students are required to earn the minimum number of activity points from the AICTE mandated ACTIVITY POINT PROGRAMME to qualify for the award of BE/BTech degree (Refer Section 4 (vii) (c) of 2019 Regulations)

\* As per AICTE Norms; Total 60 hrs; Grade: Completed / Not Completed; Not counted for CGPA

CA Continuous Assessment

FE Final Examination

CAT - Category; BS - Basic Science; HS - Humanities and Social Sciences; ES - Engineering Sciences; PC - Professional Core; PE - Professional Elective; OE - Open Elective; EEC - Employability Enhancement Course; MC – Mandatory Course.

**BTECH TEXTILE TECHNOLOGY****(2019 Regulations)**

Course Code	Course Title	Periods / week			Maximum Marks				
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
<b>SEMESTER 7</b>									
19T701	Technical Textiles	3	0	0	3	50	50	100	PC
19T___	Professional Elective III	3	0	0	3	50	50	100	PE
19T___	Professional Elective IV	3	0	0	3	50	50	100	PE
19___	Open Elective II	3	0	0	3	50	50	100	OE
19T710	Garment Manufacturing Laboratory	0	0	4	2	50	50	100	PC
19T711	Fabric Structure and Product Development Laboratory	0	0	4	2	50	50	100	PC
19T712	Quantitative Techniques Laboratory	0	0	2	1	50	50	100	EEC
19T713	Internship II	0	0	2	1	50	50	100	EEC
19T720	Project Work I	0	0	4	2	50	50	100	EEC
<b>Total 28 periods</b>		<b>12</b>	<b>0</b>	<b>16</b>	<b>20</b>	<b>450</b>	<b>450</b>	<b>900</b>	
<b>SEMESTER 8</b>									
19T___	Professional Elective V	3	0	0	3	50	50	100	PE
19T___	Professional Elective VI	3	0	0	3	50	50	100	PE
19T820	Project Work II	0	0	8	4	50	50	100	EEC
<b>Total 14 periods</b>		<b>6</b>	<b>0</b>	<b>8</b>	<b>10</b>	<b>150</b>	<b>150</b>	<b>300</b>	

CA            Continuous Assessment  
FE            Final Examination

CAT - Category; BS - Basic Science; HS - Humanities and Social Sciences; ES - Engineering Sciences; PC - Professional Core; PE - Professional Elective; OE - Open Elective; EEC - Employability Enhancement Course; MC – Mandatory Course

## PROFESSIONAL ELECTIVES

### FIBRES

- 19T001 High Performance Fibres
- 19T002 Advances in Manufactured Fibres
- 19T003 Analytical Characterization of Textiles

### YARN AND FABRIC ENGINEERING

- 19T004 Long Staple Spinning
- 19T005 Structural Mechanics of Textile Materials
- 19T006 Advanced Fabric Structure and Design
- 19T007 Specialty Textiles
- 19T008 Textile Composites
- 19T009 Specialty Knits
- 19T010 Coated Textiles
- 19T011 Automotive Textiles
- 19T012 Protective Textiles
- 19T013 Filtration Textiles
- 19T014 Clothing Science
- 19T015 Process and Quality Control in Weaving

### CHEMICAL PROCESSING

- 19T016 Process and Quality Control in Textile Chemical Processing
- 19T017 Functional Finishes
- 19T018 Green Processing of Textiles
- 19T019 Colour Science, Measurement and Applications
- 19T020 Theory of Colouration

### TEXTILE MACHINERY DESIGN

- 19T021 Design Concept of Textile Machinery
- 19T022 Computer Applications in Textiles
- 19T023 Knitting Mechanics
- 19T024 Textile Machinery Maintenance
- 19T025 Textile Machine Drawing

### APPAREL TECHNOLOGY

- 19T026 Apparel Marketing and Merchandising
- 19T027 Apparel Quality Evaluation and Standards
- 19T028 Apparel Production Planning and Control
- 19T029 Apparel Product Engineering

### TEXTILE MANAGEMENT

- 19T030 Ergonomics in Textile and Garment Industry
- 19T031 Total Quality Management
- 19T032 Industrial Engineering
- 19T033 Energy Management in Textile Industry
- 19T034 Textile Costing and Cost Control
- 19T035 Management of Textile and clothing Industry
- 19T036 Joining Textiles
- 19T037 Characterization of Industrial Textiles
- 19T038 Bonded Fabric Structure and Mechanics
- 19T039 Acoustic Textile Products and Characterization
- 19T040 Logistics and supply chain management
- 19T041 Mechanical and Chemical Processing of Man Made Fibers and Blends
- 19T042 Textile in Medical Industry

## LANGUAGE ELECTIVES

- 19G001 Communication Skills for Engineers
- 19G002 German- Level A1.1
- 19G003 French Language Level 1
- 19G004 Basic Japanese

## ONE-CREDIT COURSES

### TEXTILE TECHNOLOGY

- 19TF01 Quality Management in Spinning
- 19TF02 Quality Control in Weaving
- 19TF03 Quality Testing of Coloured Textiles

19TF04 Decorative Printing  
19TF05 Apparel Merchandising  
19TF06 Industrial Engineering  
19TF07 Textile and Apparel Costing  
19TF08 Enterprise Resource Planning in Textile & Garment Industry  
19TF09 Coated and Laminated Fabrics and Products  
19TF10 Warp Knit Fabrics and Applications  
19TF11 Value Engineering for Textile and Apparel Industry  
19TF12 Lean Manufacturing for Textile and Apparel Industry  
19TF13 Six Sigma for Textile and Apparel Industry  
19TF14 Business Acumen  
19TF15 Accessories and Allied Machinery Requirements of a Spinning Mill  
19TF16 Erection and Commissioning of Textile Machinery  
19TF17 Denim Processing  
19TF18 Chemical Processing of Textiles  
19TF19 Acoustic Textile Products and their Characterization  
19TF20 Needle Punched Nonwovens and their Characterization  
19TF21 3D Woven Fabrics  
19TF22 3D Knitted Fabrics  
19TF23 Digital Printing  
19TF24 Oil Spill Clean Up Pads  
19TF25 Cold Weather Protective Textiles  
19TF26 Fabric Sourcing  
19TF27 Speciality Fabric Sourcing  
19TF28 Home Textiles  
19TF29 Recycling Textiles and Innovating Value from Waste  
19TF30 Carbon Fibre Technology  
19TF31 Sustainable Textiles  
19TF32 Textile Quality Data Analysis and Standards

#### **ENGLISH**

19GF01 Interpersonal and Organizational Communication  
19GF02 Human Values Through Literature

#### **HUMANITIES**

19OFA1 Export – Import Practices  
19OFA2 Insurance - Concepts and Practices  
19OFA3 Public Finance  
19OFA4 Security Analysis and Portfolio Management  
19OFA5 Social Entrepreneurship

**Summary of Credit Distribution**

<b>B.TECH TEXTILE TECHNOLOGY</b>										
<b>S. No</b>	<b>Course Category</b>	<b>Credits Per Semester</b>								<b>Total Credits</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	
1	HS	3	2	3	0	3	0	0	0	11
2	BS	12	9	3	3	0	0	0	0	27
3	ES	3	8	9	0	3	0	0	0	23
4	PC	3	1	8	18	13	15	7	0	65
5	PE	0	0	0	0	3	3	6	6	18
6	OE	0	0	0	0	0	3	3	0	6
7	EEC	0	0+2	0	1	1	3	4	4	15
8	MC	-	-	-	-	-	-	-	-	-
	<b>TOTAL</b>	<b>21</b>	<b>20+2</b>	<b>23</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>20</b>	<b>10</b>	<b>165</b>

CAT - Category; BS - Basic Science; HS - Humanities and Social Sciences; ES - Engineering Sciences; PC - Professional Core; PE - Professional Elective; OE - Open Elective; EEC - Employability Enhancement Course; MC – Mandatory Course.