GUJARAT TECHNOLOGICAL UNIVERSITY
COURSE NAME : FIBRE TECHNOLOGY

1. RATIONALE :

This subject provides knowledge regarding various textile fibres, their classification, physical property, and manufacturing process of Man Made Fibre which is very essential for yarn spinning, weaving and processing also.

2. SCHEME OF TEACHING :

Sr. No.	Name of Topic		No. of Hours.		
			Lect.	Pract.	Total
1	Classification of Textile Fibres	02	--	02	
2.	Physical properties of Textile Fibres.	06	--	06	
3.	Microscopic structure of Textile Fibres.	06	--	06	
4.	Identification of textile fibres	02	--	02	
5.	Production process of important man made fibres.		14	--	14
6.	Manufacturing of Silk fibre & Wool Fibre.		06	--	06
7.	Outline of Wool spinning process.		06	--	06
	Total		**42**	**--**	**42**

3. TECHNOLOGY RELATED SKILLS AND ENABLING OBJECTIVES

TRS. 1. Identify natural fibre and man made fibre. (Topic 1,2,3,4)
EO'S

1.1 Know the identical appearance of various fibres through microscope.
1.2. Draw cross-sectional and longitudinal views of various fibres.
1.3 Understand chemical test on various fibres to know the end results.
1.4 Differentiate the end results of chemical test.
1.5 Interpret the end results of chemical test and identify the natural and man made fibres.
1.6 Perform the burning test of various fibre.
1.7 Know the results and differentiate fibre property related to burning test.
1.8 Identify the fibre from the result of the burning test.

TRS. 2. Explain the various spinning processes of Man Made Fibre. (Topic 5)
EO'S

2.1 Understand wet spinning, dry spinning and melt spinning.
2.2 Explain the features of above spinning processes.
2.3 Compare the wet, dry and melt spinning.

TRS. EO's **3. Understand manufacturing process of Silk and Wool fibres. (Topic 6)**

3.1 Discuss manufacturing process of silk.

4. COMMUNICATION SKILLS :

1 Identify the various textile fibres.
2. Deliver a talk on origin of various textile fibre (3 to 5 minutes)
3. Describe the physical property related to manufacturing technology.

Topic. 3. Microscopic structure of Textile Fibres.

3.1 Longitudinal and cross sectional views of following textile fibres :
* Cotton
* Wool
* Silk
* Viscous
* Nylon
* Polyster
* Acrylic

3.2 Structural characteristics of cotton and wool fibres.
3.3 Identification of Textile fibres (Burning Test & Microscopic View)

Topic. 4. Identification of textile fibres.

4.1 Identify textile fibres with the help of :
* Chemical test
* Burning test
* Microscopic apperance.

4.2 General idea of micro fibres.

Topic. 5. Production process of important Man Made Fibres

5.1 Production process of the following Man Made Fibres.(Process flow charts)
* Viscose Rayon (Wet Spinning)
* Nylon 6 (Melt Spinning)
* Acrylic (Dry Spinning)
* Polyester

Topic. 6. Manufacturing of Silk Fibre and Wool Fibre.

6.1 Manufacturing of Silk fibre.
* Stages of silk manufacturing process.
* Degumming process
* Reeling process.

6.2 Manufacturing of Wool fibre.
* Cutting and proccesing of wool fibre.

5. TOPIC AND SUBTOPICS :

Topic. 1. Classification of Textile Fibres.

1.1 As per source of availibility

1.2 As per chemical composition

Topic. 2. Physical properties of Textile Fibres.

2.1 Physical properties of following textile fibres :

* Cotton
* Wool
* Silk
* Viscous
* Nylon
* Polyster
* Acrylic

6. SUGGESTIVE INSTRUCTIOINAL STRATEGIES :

Sr. No.	TRS. No.	EO's	Instructional Strategies	Key Resources needed
01.	01.	1.1	Classroom instruction	Charts, slide, transperancy, microscope
02.	01.	1.2	Classroom instruction	Charts, slide, transperancy, microscope
03.	01.	1.3	Classroom instruction	Charts, slide, transperancy, microscope
04.	01.	1.4	Classroom instruction	Charts, slide, transperancy, microscope
05.	01.	1.5	Classroom instruction	Charts, slide, transperancy, microscope
06.	01.	1.6	Classroom instruction	Charts, slide, transperancy, microscope
07.	01.	1.7	Classroom instruction	Charts, slide, transperancy, microscope
08.	01.	1.8	Classroom instruction	Charts, slide, transperancy, microscope
09.	02.	2.1	Discussion	Charts, slide, transperancy, microscope
10.	02.	2.2	Discussion	Charts, slide, transperancy, microscope
11.	02.	2.3	Discussion	Charts, slide, transperancy, microscope
12.	03.	3.1	Classroom instruction	Field visit

7. REFERENCES :

1	Textile Fibre	Moncrift
2	Textile Fibre	Mathews
3	Textile Fibre	A.T.A.(Textile Association -India)
4	Man Made Fibre	----
5	Textile Fibre	V.A.Sehnai
6	Hand book of Textile Fibre(CTRL)	Ayangar
7	Physical property of Textile Fibre.	Gulantee