SEMESTER II

Programme	B. Sc. Family and Community Science				
Course Title	FIBRE TO FABRIC				
Type of Course	Major				
Semester	II				
Academic Level	100 -199				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	3	-	2	75
Pre-requisites	Basics of Chemistry				
Course Summary	This course helps us to understand the different types of fibre, their production/processing, properties and use. It will help students understand the care required for different fibre fabrics and selecting it to different end use.				

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Develop strong knowledge base in the production of fibres and yarns	U	F	Instructor-created exams / Quiz
CO2	Identify textile fibres and apply appropriate care	An	P	Practical Assignment / Observation of Practical Skills
CO3	Understand about woven and nonwoven fabrics	U	C	Sensory evaluation
CO4	Skill in identifying weave structures	S	P	Instructor-created exams / Home Assignments
CO5	Evaluate the end use application of different fibres & weaves	E	M	Practical assessment

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)

- Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs	Mks
I	Fibre Theory		**6**	**12**
	1	Monomers and Polymers	1	
	2	Types of Fibre bonds in textile polymers	1	
	3	Polymerisation	1	
	4	Primary and secondary properties	1	
	5	Classification of fibres	1	
	6	Identification of fibres	1	
II	**Textile fibres- production, processing, properties and use**		**15**	**31**
	7	Major fibres- Cotton, flax, silk, wool, nylon, polyester, rayon, acetate	8	
	8	Minor fibres- sisal, jute, mohair, alpaca, elastane	7	
III	**Yarn Construction**		**14**	**26**
	9	Definition- spinning- conventional methods- cotton system, open end spinning	3	
	10	Dry, wet, melt, bi contituent and bicomponent spinning	2	
	11	Novel methods- friction spinning, twistless, self twist	3	
	12	Yarn Properties- twist, number	3	
	13	Yarn classification	3	
IV	**Fabric construction**		**10**	**18**
	14	Looms- parts, basic motions, preparation of yarns before weaving	1	
	15	Evolution of looms	1	
	16	Basic weaves	2	
	17	Novelty weaves	1	
	18	Fabric count and analysis, Blend and Mixtures	1	
	19	Nonwovens- knitting	1	

	20	Felting, Web bonded fabrics	1	
	21	Multicomponent fabrics, braiding, narrow fabrics	1	
	22	Nets and laces	1	
V	**Open Ended Module: Practical**		**30**	
	Maintain a record			
		Collection of major fibres studied/novel fibres		
		Training on fibre identification		
		Collection and identification of weave samples- basic and novelty		
		Collection of nonwoven fabrics		
		Visit to spinning mill/weaving unit/nonwoven manufacturing unit-report		

Mapping of COs with PSOs and POs :

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	1	1	2	2	2	-	2	2	2	2	1	1	2
CO 2	1	1	2	2	-	-	2	2	2	2	-	1	2
CO 3	2	2	3	3	-	-	2	2	2	2	2	2	2
CO 4	1	2	2	3	2	-	2	2	3	1	1	1	3
CO 5	1	2	3	2	2	-	2	1	2	2	2	1	2

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Regular lectures, demonstrations, Exercises on observation and follow up with group discussions, ICT enabled teaching and learning experiences in terms of video lessons and documentary shows. Hands on experience in laboratory and industrial visits to textile industries. Assignments (20%)
- Final Exam (70%)

References

1. Marjory L.Joseph, Introductory Textile Science, Holt Rinehart and Winston, New York.
2. Susheela Dantyagi, Fundamentals of Textiles and their care, Orient Longmans, Madras
3. Hess, Textile fibres and their Uses, Oxford IBH Publishing Company, New Delhi.
4. Porter Corbman, Fibre to Fabric, McGraw Hill Book Company, New York.
5. www.fiber2fashion.com