



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Textile Technology
Choice Based Credit System (CBCS) in Light of NEP-2020
Generic Elective for UG Courses
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX907	GE	NONWOVEN MATERIALS	60	20	20	-	-	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C – Credit.

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. The students will be able to get the basic knowledge about principle of manufacturing of nonwoven materials to the extent of their technical use.
2. The students will be able to get the basic knowledge about the applications of nonwoven materials to the extent of their technical use.

Course Outcomes (COs):

After completion of this course the students are expected to be able to demonstrate following knowledge, skills and attitudes.

The students will be able to

1. Understand the manufacturing process of nonwovens.
2. Illustrate basic knowledge about the various bonding process of nonwoven fabrics.

Syllabus:

Unit-I Introduction to Nonwovens I

10 HOURS

Definition of nonwoven fabric, general properties of nonwoven fabrics, particulars on which properties of nonwoven fabric depends, different fibrous matter used to manufacture nonwoven bonded fabric, fiber description considerations.

Unit-II Properties and Classifications

10 HOURS

Properties of nonwoven fabric produced using different fibrous matter, Classification and areas of application of nonwoven fabrics, Bonding agent used in nonwovens; properties desired in bonding agent.

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Unit-III Production Process

9 HOURS

Production steps for nonwoven fabric: General production steps for nonwoven fabric manufacturing, Dry bonded fabric production steps spun bonded fabric production steps, wet bonded fabric production steps.

Unit-IV Web Formation

8 HOURS

Types of webs and their forming techniques, staple fibre web – dry-laid web: parallel laid web and their advantages and disadvantages, cross laid web and their advantages and disadvantages and random laid web and their advantages and disadvantages.

Unit-V Bonding Process

8 HOURS

Mechanical bonding processes - needle punching technology, Thermal bonding processes – hot calendaring method and adhesive bonding and chemical bonding processes.

Text Books:

1. Lunenschloss J and Albrecht W, “Non-Woven Bonded Fabric”, Ellis and Horwood Ltd., UK, 1985.
2. Albrecht W, Fuchs H & Kittelmann, “Nonwoven Fabrics”, Wiley-VCH Weinheim, 2003.
3. Mrstina V & Fejgal F, “Needle punching textile technology”, Elsevier, 1990.

References:

1. Krcma Radco, “Manual of nonwovens”, Textile Trade Press, UK, 1971
2. Gulrajani M L, “Book of Papers of International Conference on Nonwovens”, The Textile Institute, UK, 1992,

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