Syllabus and Course Scheme
Academic year 2025-2026

B.A.
T.D.P.
Exam.-2025-26

List of Papers for the Degree of B.A in Textile Dyeing and Printing (T.D.P.)
Semester-wise Titles of the Papers in Textile Dyeing and Printing (T.D.P.)

Year	Sem.	Course Code	Paper Title	Theory/ Practical	Credits	Marks Distribution		
						Internal	Semester	Total
Certificate in Textile Dyeing & Printing (T.D.P.) (DSC Papers)								
FIRST YEAR	**I**	TDP101 TH	Weaving and Marketing	Th.	4	30	70	**100**
	I	TDP102 PR	Fibres & textiles	Pra	2		50	**50**
	II	TDP103 TH	Designing & Dyeing	Th.	4	30	70	**100**
	II	TDP104 PR	Colors & Pretreatment	Pra	2		50	**50**
Diploma in Textile Dyeing & Printing (T.D.P.) (DSC Papers)								
SECOND YEAR	**III**	TDP201 TH	Fabric construction	Th.	4	30	70	**100**
	III	TDP202 PR	Weaving & Cloth Analysis	Pra	2		50	**50**
	IV	TDP203 TH	Printing	Th.	4	30	70	**100**
	IV	TDP204 PR	Dyeing & Printing	Pra	2		50	**50**
Bachelor Degree in Textile Dyeing & Printing (T.D.P.) (DSC Papers)								
		Select any one Theory and Practical from elective -I						
		Elective 1						
Final Yr	**V**	TDP301 TH	Fundamentals of Textile Finishes	Th.	4	30	70	**100**
	V	TDP302 PR	Textile testing & quality control	Pra	2		50	**50**
	V	TDP303TH	Technical Textiles	Th.	4	30	70	**100**
	V	TDP304 PR	Application of technical Textiles	Pra	2		50	**50**
		Select any one Theory and Practical from elective -II						
		Elective 1I						
	VI	TDP305TH	Advanced finishes of Textiles	Th.	4	30	70	**100**
	VI	TDP306 PR	Sustainability in Textiles	Pra	2		50	**50**
	VI	TDP307TH	Entrepreneurship in Textiles (Elective)	Th.	4	30	70	**100**
	VI	TDP308PR	Practical approach to Entrepreneurship in textiles (Elective)	Pra	2		50	**50**

TEXTILE DYEING AND PRINTING		
Programme: B.A. Semester - I	**Year: I**	**Semester: I** **Paper-I**

Subject: Textile dyeing & Printing

Each paper contains 100 marks. For regular and non collegiates theory paper will be of 100 marks. For regular students' internal evaluation of marks 30 are divided into 20 marks for assignment, 10 marks for written test
For non-collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presentation.

Coure Code: TDP101 TH	**Course Title:** Weaving and Marketing

Course Objective: The course is designed to train students in the basics of fibres and textiles science. To understand difference among various fibres properties and their manufacturing process. To understand various types of yarn and their properties for suitable application in textiles. To understands basics of weaving technology and weave representation. This course will teach students to understand the term marketing and role of marketing in economy and basics of supply chain management.

Credits: 4	**Core: Compulsory**
Max. Marks: 70	**Min. Passing Marks: 28**
Internal Assessment: 30	**Min. Passing Marks: 12**

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	Topic	No. of Lectures
Unit I	Introduction to Textile Classification of textile fibers General properties of textile fibers Identification of textile fibers	**20**
Unit II	Natural Fibers-Manufacture, Chemical composition, general properties & Flowchart-cotton,silk, wool Manmade Fibers- Manufacture, Chemical composition, general properties & Flowchart -Rayon, Nylon, Polyester	**20**
Unit III	Different methods of yarn construction • Types of yarn • Yarn characteristics and their measurement • Twist, Crimp, Strength • Yarn numbering system –Tex, Denier, Count	**20**

Unit IV	Introduction to weaving Terms used in weaving Loom & it's parts Elementary weaves and their derivativesPlain weave- Rib, Basket Twill weave-Right hand & Left hand Satin weaves- Satin & sateen Weave Representation : Weaving plan,Various Drafts and Peg Plans	**15**
Unit V	Meaning, nature& scope of marketing • Role & importance of marketing in modern economy. • Meaning and importance of marketing mix • Products, Pricing, Physical distribution ,Promotion	**15**

Suggested Reading:

1. Textiles- Bucker-(1998)Abhishek Publication
2. Essentials of Textiles- M.Joseph, Holf Rinechants,
3. Textile -Year 1998-By A.F. Barker -Chapter 7, Principles of weaving-Pg.154-174
4. Weaving Technology-M.M.Kulkarni, Virinda Publication, Jalgon
5. Principles and practice of Dyeing- V A Shenai, 1993 Sevak Publications.
6. Textile design & colon, Z. Grorikio

Suggested Online Link:

- https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=8x0nJkh/R0vHkX1U70Z/CQ==
- https://nptel.ac.in/courses/116104044
- https://ndl.iitkgp.ac.in/result?q={%22t%22:%22search%22,%22k%22:%22%E0%A4%9F%E0%A5%87%E0%A4%95%E0%A5%8D%E0%A4%B8%E0%A4%9F%E0%A4%BE%E0%A4%87%E0%A4%B2%22,%22s%22:[],%22b%22:{%22filters%22:[]}}
- https://ndl.iitkgp.ac.in/result?q={%22t%22:%22search%22,%22k%22:%22textile%22,%22s%22:[],%22b%22:{%22filters%22:[]}}
- https://indianculture.gov.in/hi/textiles-and-fabrics-of-india/type-of-textile/dyeing

Course Learning Outcome :-

Students will be able to understand about science and introductory technology of textiles which may help them to think to make career in this field as textile is the second largest area in terms of employment generation. Students will be able to understand basics of textile manufacturing and fibre identifications which will help them in daily life at the time of garment purchasing. Knowledge about marketing will help them to understand the advertising and promotion industry which will help them to understand the economy and their contribution in economy.

TEXTILE DYEING AND PRINTING		
Programme: B.A. Semester - I	**Year: I**	**Semester: I Paper-II**

Subject: Textile dyeing & Printing

The practical contains 50 marks

Course Code: TDP103 PR	**Course Title:** Fibres & textiles

Course Objective: The course is designed to train students in the basics of fibres and textiles science. To provide practical knowledge about identification of various fibres using various techniques primary secondary, practical aspects of weaving

Credits: 2	**Core: Compulsory**
Max. Marks: 50	**Min. Passing Marks: 20**

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4

1.	Identification of fibers using no technical Tests (Feeling & Burning Test)	
2.	Identification of fibers using technical tests (Microscopic test & Chemical test)	
3.	Assessing ends and picks per inch of different fabrics	
4.	Weaving of basic weave sample (Plain, Twill, Satin)	
5.	Field and industrial visit	

Textile Dyeing and Printing		
Programme: B.A. Semester - II	**Year: I**	**Semester: II Paper-I**

Subject: Textile Dyeing and Printing

Each paper contains 100 marks. For regular and non collegiates theory paper will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 10 marks for assignment, 10 marks for written test and 10 marks for viva/presantation.

For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presantation.

Course Code: TDP102 TH	**Course Title:** Designing & Dyeing

Course Objective: This course is designed to help students to learn about basics of design and pre treatments of textiles. To study various motifs and their arrangement in design. To understand about design repeat. To understand importance of various pretreatments of textiles and their objectives and methods. To understand basics of dyes, its classification and dyeing process. To understand various dyeing machineries used in textile dying.		
Credits: 4		**Core: Compulsory**
Max. Marks: 70		**Min. Passing Marks:28**
Internal Assessment: 30		**Min. Passing Marks: 12**
Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0		
Unit	**Topic**	**No. of Lectures**
Unit I	1.Elements of design (line, form, colour, texture, tone, space) 2. Principle of design (unity, harmony, balance, dominance, rhythm, proportion) 3. Definition of Motifs & its characteristics with reference -Classification of motifs (i) Traditional (ii) Modern -Types of motifs (i) Geometrical (ii) Stylized (iii) figurative (iv) Abstract (v) Folk (vi) Tribal 4. Concept of Repeat in Design: Types of Repeats: Plain, Vertical, Horizontal, Twill, Mirror, Half step, All over.	**20**
Unit II	Preparatory processes (a) Scouring (b) Bleaching (i) bleaching of cotton, silk, nylon (ii) Optical bleaching agents (c) Desizing (i) Acid desizing (ii) Rot steeping (iii) enzymatic desizing (d) Singing (i) gas singing (ii) Plate signing (iii) roller singing (e) Mercerization-Historical significance & introduction Action of Caustic Soda on Cotton fibre, Nature of Change occurring in cotton fibres	**20**
Unit III	Nomenclature of Dyes: Colour and Dyes, colouring and Dyeing. The dye molecule (chromophores and auxochromes) Theory of dyeing (Affinity of a dye, role of water, electrolytes, heat) Dye auxiliary: Carriers or swelling agents, leveling agents (anionic leveling agents and cationicleveling agents).	**20**
Unit IV	Classification of dye-stuff and its properties (A) Natural - (a) Vegetable (b) Animal (c) Mineral Synthetic dyes - Acid dyes, direct dyes, reactive dyes,Vat dyes, Sulphur dyes, Azoic dyes	**15**

Unit V	Dyeing of textile goods in various forms and machinery employed Dyeing of loose fibers Dyeing of yarn Hank dyeing machine ii.Cheese/Bobbin dyeing machine iii.Beam dyeing machine (A) Cloth dyeing Jigger dyeing machine Winch dyeing machine Padding mangle Thermosole process Dope dyeing	**15**

Suggested Reading:

1. Bosom worth Dorothy (1995): The encyclopedia of patterns and motifs, Studio editions, London Grociki, Z.J.; Watsons Textile Design and Colour, London,
2. V.A.Shenai (1987),Chemistry of dyes and principles of Dyeing
3. Technology of Textile Processing -Vo.II, Chemistry of Dyes and Principles of Dyeing, V.A. Shenai, 1993, Sevak Publications.

Suggested Online Link:

- https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=8x0nJkh/R0vHkX1U70Z/CQ==
- https://nptel.ac.in/courses/116104044
- https://ndl.iitkgp.ac.in/result?q={%22t%22:%22search%22,%22k%22:%22%E0%A4%9F%E0%A5%87%E0%A4%95%E0%A5%8D%E0%A4%B8%E0%A4%9F%E0%A4%BE%E0%A4%87%E0%A4%B2%22,%22s%22:[],%22b%22:{%22filters%22:[]}}
- https://ndl.iitkgp.ac.in/result?q={%22t%22:%22search%22,%22k%22:%22textile%22,%22s%22:[],%22b%22:{%22filters%22:[]}}
- https://indianculture.gov.in/hi/textiles-and-fabrics-of-india/type-of-textile/dyeing
- https://textilelearner.net/dyeing-methods/
- https://www.britannica.com/topic/textile/Dyeing-and-printing

Course Learning Outcome : -

Students will be to understand about designing which will be helpful them to make career in the field of fashion and designer. Learning about pretreatment will help students to innovate in that field which will be helpful for water saving in textile chemical processing. Learning about dyes and dyeing process will be helpful to students to start their career in handloom and khadi processing.

TEXTILE DYEING AND PRINTING			
Programme: B.A. Semester - II		**Year: I**	**Semester: II Paper-II**
Subject: Textile dyeing & Printing The practical contains 50 marks			
Course Code: TDP103 PR	**Course Title:** Colors & Pretreatment		
Course Objective: The course is designed to train students in the basics of fibres and textiles science. To provide practical knowledge about primary secondary, tertiary. Warm and cool colors and practical aspects of preparatory processes			
Credits: 2		**Core: Compulsory**	
Max. Marks: 50		**Min. Passing Marks: 20**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4			
1.	Colour wheel, primary, secondary, tertiary colour, cool colours, warm colours		
2.	Monochromatic,complimentary polychromatic, analogous colour		
3	Desizing of cotton fabric		
4	Scouring of Cotton fabric		
5	Bleaching		
6	Field and industrial visit		

<table>
<tr><td colspan="4" align="center">TEXTILE DYEING
AND PRINTING</td></tr>
<tr><td colspan="2">Programme: B.A. Semester - III</td><td>Year: II</td><td>Semester: III
Paper I</td></tr>
<tr><td colspan="4">Subject: Textile dyeing & Printing
Each paper contains 100 marks. For regular and non collegiates end semester exam will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 20 marks for assignment, 10 marks for written test and 10 marks for viva/presentation.
For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presentation.</td></tr>
<tr><td>Course Code:
TDP201 TH</td><td colspan="3" align="center">Course Title: Fabric construction</td></tr>
<tr><td colspan="4">Course Objective: The course is designed to impart knowledge among students about various aspects of fabric constructions, How fabrics are made using various shedding devices on various weaving machines i.e. called loom. Students will be able to know how various designs are woven into the fabric. This course will teach students about various woven traditional textiles in India.</td></tr>
<tr><td colspan="2">Credits: 4</td><td colspan="2">Core: Compulsory</td></tr>
<tr><td colspan="2">Max. Marks: 70</td><td colspan="2">Min. Passing Marks: 28</td></tr>
<tr><td colspan="2">Internal Assessment: 30</td><td colspan="2">Min. Passing Marks: 12</td></tr>
<tr><td colspan="4">Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0</td></tr>
<tr><td>Unit</td><td colspan="2">Topic</td><td>No. of Lectures</td></tr>
<tr><td>Unit I</td><td colspan="2">a. Various methods of fabric construction
b. Cost estimation of Fabric per yard/meter
i. Reed count, Healed count
ii. Warp and weft calculations
iii. Cloth calculations</td><td>20</td></tr>
<tr><td>Unit II</td><td colspan="2">1. Shedding Devices
- Defination
- Scope of Tappet Shedding

2.. Dobby :</td><td>20</td></tr>
</table>

	- Definition of Dobby - Scope of Dobby - Types of Dobby	
Unit III	Jacquard - Definition of Jacquard - Scope of Jacquard - Types of Jacquard Introduction to shuttle less loom Rapier loom Airjet loom Waterjet loom	**20**
Unit IV	Selvedges. • Plain selvedge. • Tape selvedge. • Split selvedge. • Fused selvedge. • Leno selvedge. • Tucked selvedge.	**15**
Unit V	Study of woven textiles according to colour, texture, motifs & techniques a. Jamdani b. Baluchar c. Paithani Sarees d. Maheshwari Saree e. Chanderi Saree f. Banarasi Brocade	**15**

1. **Weaving : Machine, mechanism & technology by Dr M.K Talukdar, P.K Shriramulu and D.D Ajigaonkar**
2. Weaving Technology-M.M.Kulkarni, Virinda Publication, Jalgon
3. Grociki, Z.J.; Watsons Textile Design and Colour, London, Newness Butter Worth

Suggested Online Link:

https://nptel.ac.in/courses/116102005
https://www.britannica.com/topic/textile/Production-of-fabric
https://nios.ac.in/media/documents/srsec321newE/321-E-Lesson-24.pdf
https://textilelearner.net/what-is-fabric-and-fabric-construction/

Course Learning Outcome :-

Students will be able to understand about science and technology of fabric manufacturing by using weaving techniques which may help students to think to make career in this field as textile is the second largest area in terms of employment generation. Students will be able to understand basics of fabric manufacturing and fabric construction which will help them in daily life at the time of garment purchasing. Knowledge about traditional woven textiles will help them to understand the diversity of India and various cultures and costumes in India

TEXTILE DYEING AND PRINTING		
Programme: B.A. Semester - III	**Year: II**	**Semester: III Paper-II**
Subject: Textile dyeing & Printing The practical contains 50 marks		
Course Code: TDP202 PR	**Course Title:** Weaving & Cloth Analysis	
Course Objective: The course is designed to train students in the basics of weaving and fabric analysis. To provide practical knowledge about cost calculation of fabric and production cost calculation of fabric		
Credits: 2	**Core: Compulsory**	
Max. Marks: 50	**Min. Passing Marks: 20**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		

1.	Count Measurement of yarns Cotton Count (Ne), Tex, Denier	
2.	Cloth Calculations Reed count, heald count, Cost estimation of Fabric per yard/meter	

	Production cost	
3.	Weave and design Analysis	
4.	Jacquard Designing, Selection of Motif and transfer of motif on graph	
5.	Minor Project 1	

Textile Dyeing and Printing

Programme: B.A. Semester - IV	**Year: II**	**Semester: IV Paper-I**

Subject: Textile Dyeing and Printing

Each paper contains 100 marks. For regular and non collegiates theory paper will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 10 marks for assignment, 10 marks for written test and 10 marks for viva/presantation.

For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presantation.

Course Code: TDP203 TH	**Course Title:** Printing

Course Objective: This course is designed to help students to learn about printing. To study various styles and methods of printing and using them to make various textiles products. To understand about various ingredients in printing paste. To understand organizational structure of textile industry in India .

Credits: 4	**Core: Compulsory**
Max. Marks: 70	**Min. Passing Marks:28**
Internal Assessment: 30	**Min. Passing Marks: 12**

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	Topic	No. of Lectures
Unit I	Introduction to Printing - difference between dyeing and printing. Historical development of printing methods-block, stencil, screen, roller and rotary screensused at cottage and industrial level	**20**
Unit II	Definition of printing Pretreatments required ingredients for printing (Thickening agent, Mordents, oxidizing andreducing agent etc.) Preparation of printing paste recipes	**20**

Unit III	Styles of printing – direct style, dyed, resist style, discharge style and raised styleSpecial printing procedures- Polychromatic dyeing, Transfer printing, Carpet printing, Flock printing Finishing and after treatment of printed goods at cottage and industrial level.	**20**
Unit IV	Organization of the textile industry: Centralized and Decentralized sectors, handlooms, co-operativand export trends, multinational companies	**15**

Unit V	Study of traditional Textiles a. Sanganeri b. Bagru c. Kalamkari d. Ajarakh e. Patola f. Ikat g. Pochampalli h. Bandhani	**15**

Suggested Reading:

1.Principles of Textile Printing **By** **Asim Kumar Roy Choudhury**

2. **Textile Printing Second Edition** Edited by Leslie W C Miles *Formerly Lecturer in Textile Chemistry, Department of Textiles, University of Manchester Institute of Science and Technology, Manchester, UK* 1994 Society of Dyers and Colourists

3. Wood-Block Printing by F. Morley Fletcher: December 26, 2006 [eBook #20195]
4. V.A.Shenai (1987),Chemistry of dyes and principles of Dyeing
5. Technology of Textile Processing -Vo.II, Chemistry of Dyes and Principles of Dyeing, V.A. Shenai, 1993, Sevak Publications.

Suggested Online Link:

- https://www.britannica.com/topic/textile/Dyeing-and-printing
- https://www.pidiliteindustrialproducts.com/blogs/fabric-printing-methods-which-printing-technology-to-choose/
- https://textilelearner.net/textile-printing-methods/
- https://www.textileschool.com/8416/textile-printing-process-type-of-printing-and-machinery/#google_vignette
- https://textileengineering.net/styles-of-printing-in-textile/

Course Learning Outcome : -

Students will be able to understand about various dyes used for cotton fabric and and how to prepare printing paste using various ingredients and their functions. Learning about dyeing and printing techniques will motivate students to create new design and products for various applications in the field of textiles. Minor project II will motivate students to show their creativity in the field of textiles

TEXTILE DYEING AND PRINTING		
Programme: B.A. Semester - IV	**Year: II**	**Semester: IV Paper-II**
The practical contains 50 marks **Subject:** Textile dyeing & Printing		
Course Code: TDP204 PR	**Course Title:** Dyeing & Printing	

Course Objective: The course is designed to train students dyeing and printing using various methods and styles using different dyes.		
Credits: 2		**Core: Compulsory**
Max. Marks: 50		**Min. Passing Marks: 20**
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		
1.	Mercerization of cotton	
2.	Dyeing of various shades of textiles using direct dyes	
3	Dyeing of Various shades of cotton using reactive dyes	
4	Preparation of printing paste	
5	Printing using block printing, Stencil Printing and screen printing	
6	Minor Project II	

Online link for reading

1. **https://www.britannica.com/technology/mercerization**
2. **https://www.dyespigments.net/blog/what-are-direct-dyes-properties-uses/**

TEXTILE DYEING AND PRINTING		
Programme: B.A. Semester - V	**Year: III**	**Semester: V Paper I**
Subject: Textile dyeing & Printing Each paper contains 100 marks. For regular and non collegiates end semester exam will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 20 marks for assignment, 10 marks for written test and 10 marks for viva/presentation. For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presentation.		

Course Code: TDP301 TH	**Course Title:** Fundamentals of Textile Finishes

Course Objective: The objectives of the textile finishing course are to introduce students to the fundamental principles of textile finishing and its critical role in enhancing fabric properties. The course aims to equip students with the skills necessary to apply basic mechanical and chemical finishes, enabling them to improve both the aesthetic appeal and functional performance of textiles.

Credits: 4	**Core: Elective**
Max. Marks: 70	**Min. Passing Marks: 28**
Internal Assessment: 30	**Min. Passing Marks: 12**
Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0	

Unit	Topic	No. of Lectures
Unit I	Definition, importance, and objectives of finishing. Classification of finishes: durability (permanent, semi-permanent, temporary), purpose (aesthetic, functional), application (mechanical, chemical, combined), and functionality.	**20**
Unit II	Calendaring (types: Schreiner, embossed), raising/napping, shearing/cropping. Effects on fabric handle, appearance, and durability. Practical considerations: machinery, parameters (pressure, speed).	**20**
Unit III	Tentering/stentering, moiré, glazing, embossing. Advanced mechanical finishes for specific aesthetics. Machinery and process optimization for energy efficiency	**20**

Unit IV	Softening (cationic, non-ionic agents), stiffening, weighting. Aesthetic chemical finishes: acid/alkali treatments, fading. Application methods (exhaust, padding). Role of auxiliaries: soaps, detergents, optical brightening agents (OBAs).	**15**
Unit V	Testing methods: fabric strength, shrinkage, color fastness. Environmental concerns: water/air pollution from finishing, effluent treatment. Sustainable practices: enzyme-based finishes.	**15**

1. Murphy W.S., *Textile Finishing*, Abhishek Publishing, 2007.
2. Sekhri Seema, *Textbook of Fabric Science: Fundamentals to Finishing*, PHI Learning Pvt. Ltd., 4th edition, 2022.
3. Hall A.J., *The Standard Handbook of Textiles*, Woodhead Publishing, 2004.
4. Mahapatra N.N., *Textile Dyeing*, Woodhead Publishing India Pvt. Ltd., 2018.
5. Rouette H.K., *Encyclopedia of Textile Finishing*, Volumes 1-3, 2001.

Suggested Online Link:

1. https://www.egyankosh.ac.in/bitstream/123456789/92839/1/Unit-12.pdf
2. https://www.slideshare.net/EmamulHaqueEmon/textile-finishing-chemicals
3. https://fashinza.com/fabric/fabric-types/types-of-mechanical-fabric-finishing-methods-used-in-the-textile-industry/
4. https://cottonworks.com/en/topics/sourcing-manufacturing/finishing/mechanical-finishing/
5. https://textilelearner.net/textile-finishing-process/
6. https://textileengineering.net/chemical-finishes-in-textiles-types-and-applications/
7. https://nios.ac.in/media/documents/SecHmscicour/english/Home%20Science%20%28Eng%29%20Ch-11.pdf
8. https://www.clustercollaboration.eu/content/enzymes-finishing-cotton-fabrics

Course Learning Outcome :-

Students will be able to explain the classification of textile finishes, including their categorization by durability (permanent, semi-permanent, temporary), purpose (aesthetic, functional), application methods (mechanical, chemical, combined), and functionality, while also articulating the objectives of finishing in improving fabric quality and performance

TEXTILE DYEING AND PRINTING

Programme: B.A. Semester - V	**Year: III**	**Semester: V Paper-II**
The practical contains 50 marks	**Subject:** Textile dyeing & Printing	
Course Code: TDP302 PR	**Course Title:** Textile testing & quality control	
Course Objective: This undergraduate course aims to develop practical skills in textile testing, enabling students to measure fabric dimensions, weight, shrinkage, color fastness to light, perspiration, rubbing, washing, and evaluate drape and crease recovery. Students will prepare quality control reports, fostering technical proficiency and critical thinking for textile quality assurance careers.		
Credits: 2	**Core: Elective**	
Max. Marks: 50	**Min. Passing Marks: 20**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		

1.	Determination of fabric length width, fabric thickness, weight	
2.	Determination of fabric shrinkage	
3.	Determination of color fastness to light, perspiration, rubbing, washing	
4.	Determination of drape and crease recovery	
5.	Preparation of quality control report of any sample	

Textile Dyeing and Printing

Programme: B.A. Semester - V	**Year: III**	**Semester: V Paper-III Elective**

Subject: Textile Dyeing and Printing

Each paper contains 100 marks. For regular and non collegiates theory paper will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 10 marks for assignment, 10 marks for written test and 10 marks for viva/presentation.

For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presentation.

Course Code: TDP303 TH	**Course Title:** **Technical Textiles (Elective 1)**

Course Objective: This course is designed to help students to learn about various technical textiles. To study various segment of technical textiles. To understand about various products and their properties and applications in technical textiles.

Credits: 4	**Core: Elective**
Max. Marks: 70	**Min. Passing Marks:28**
Internal Assessment: 30	**Min. Passing Marks: 12**

Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0

Unit	Topic	No. of Lectures
Unit I	Overview of technical textiles: definition, importance, and scope. Classification of technical textiles. Market trends and opportunities in technical textiles.	**20**

Unit II	**Agrotech**: Types of aggrotech, crop covers, shade nets, fishing nets **Geotech**: Types of geotextiles, geotextiles for erosion control, drainage **Buildtech**: Types of Builtech, tarpaulins, awnings, architectural membranes	**20**
Unit III	**Medtech**: Types of medtech, bandages, surgical gowns, masks **Clothtech**: Various products of clothtech, interlinings, shoe linings, sewing threads **Hometech**: curtains, upholstery, mattresses	**20**
Unit IV	**Protech**: Various protective textiles, fire-resistant clothing, bulletproof vests **Sporttech**: Textiles used in sports, sportswear, swimwear, outdoor gear **Packtech**: sacks, flexible bulk containers	**15**
Unit V	**Mobiltech**: Textiles used in automobile sector, car seat covers, airbags (durable, fade-resistant dyeing). **Indutech**: Fabrics used in industries, conveyor belts, filtration fabrics (durable prints, chemical resistance). **Oekotech:** eco-friendly textiles	

Suggested Reading:

1. Handbook of Technical Textiles - A. Richard Horrocks, Subhash C. Anand
2. Textile Technology: An Introduction - Thomas Gries, Dieter Veit, Burkhard Wulfhorst
3. Structure and Mechanics of Woven Fabrics - Jinlian Hu
4. Wellington Sears Handbook of Industrial Textiles - Sabit Adanur
5. Medical Textiles: From the Raw Materials to the Finished Product - Subhash C. Anand et al.
6. Geotextiles: From Design to Applications - Robert M. Koerner
7. Advances in the Application of Textiles in Technical Textiles - Maryline Pinault, François Boussu

Suggested Online Link:

- https://www.fortunebusinessinsights.com/technical-textiles-market-102716
- https://www.textileschool.com/30598/agrotech-technical-textiles-for-agriculture-and-horticulture/
- https://textilelearner.net/buildtech-construction-textiles-and-its-application/
- https://www.fibre2fashion.com/industry-article/9409/medical-textiles-types-and-applications
- https://www.persistencemarketresearch.com/market-research/hometech-textiles-market.asp
- https://textilesinside.com/protective-textiles/
- https://www.textileschool.com/30652/sportech-technical-textiles-for-sports-and-leisure-applications/
- https://textilelearner.net/packaging-textiles/
- https://textiledetails.com/mobiltech-technical-textiles-application/
- https://www.oeko-tex.com/en

Course Learning Outcome : -

Upon completing the Technical Textiles course, students will understand the definition, classification, and applications of technical textiles across sectors like agriculture, construction, and healthcare. They will analyze market trends, identify opportunities, and evaluate specific products (e.g., geotextiles, medtech, sporttech), fostering skills in innovation and sustainable textile solutions.

<table>
<tr><td colspan="4" align="center">TEXTILE DYEING
AND PRINTING</td></tr>
<tr><td colspan="2">Programme: B.A. Semester - V</td><td>Year: III</td><td>Semester: V
Paper IV
Elective</td></tr>
<tr><td colspan="4">Subject: Textile dyeing & Printing
The practical contains 50 marks</td></tr>
<tr><td>Course Code:
TDP304 PR</td><td colspan="3">Course Title: Application of technical Textiles</td></tr>
<tr><td colspan="4">Course Objective: The course is designed to train students dyeing and printing using various methods and styles using different dyes.</td></tr>
<tr><td colspan="2">Credits: 2</td><td colspan="2">Core: Elective</td></tr>
<tr><td colspan="2">Max. Marks: 50</td><td colspan="2">Min. Passing Marks: 20</td></tr>
</table>

Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		
1.	Collection of samples of any of technical textiles from **Agrotech, Geotech, Buildtech and sporttech**	
2.	Collection of samples of any of technical textiles from **Medtech, Clothtech, Hometech, home tech**	
3	Presentation on applications of technical textile.	
4	Major report	

Textile Dyeing and Printing		
Programme: B.A. Semester - VI	**Year: III**	**Semester: VI Paper-V**

Subject: Textile Dyeing and Printing

Each paper contains 100 marks. For regular and non collegiates theory paper will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 10 marks for assignment, 10 marks for written test and 10 marks for viva/presantation.

For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presantation.

Course Code: TDP305 TH	**Course Title: Advanced finishes of Textiles**

Course Objective: This course aims to explore advanced functional and special finishes for specific textile applications, develop skills in operating finishing machinery with quality control, and integrate sustainability, innovation, and industry trends to create high-performance, eco-friendly textile solutions.

Credits: 4	**Core: Elective**
Max. Marks: 70	**Min. Passing Marks:28**
Internal Assessment: 30	**Min. Passing Marks: 12**
Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0	

Unit	**Topic**	**No. of Lectures**

Unit I	Water-repellent and waterproof finishes (fluorocarbon, silicone-based). Flame-retardant finishes (phosphorus/nitrogen compounds). Shrinkage control (Sanforizing). Application techniques: padding, coating.	**20**
Unit II	Antimicrobial (silver, quaternary ammonium), antistatic, crease-resistant (resin-based), mothproof finishes. Soil-release and stain-resistant treatments.	**20**
Unit III	Enzyme finishes (bio-polishing), nano-finishes (UV protection, self-cleaning). Plasma and laser treatments.	**20**
Unit IV	Batch, semi-continuous, and continuous machinery (stenters, foam applicators). Automation in finishing: dosing systems, energy-efficient designs. Process parameters: liquor ratio, temperature control.	**15**
Unit V	Quality assurance: ISO standards, fastness tests. Sustainability: zero-discharge processes. Corporate social responsibility in textiles.	

https://www.cottoninc.com/wp-content/uploads/2017/12/ISP-1012-Functional-Finishes-For-Cotton-Products.pdf

https://www.textileinstitute.org/product/functional-finishes-for-textiles/

https://www.intechopen.com/chapters/75103

<table>
<tr><td colspan="3" align="center">TEXTILE DYEING
AND PRINTING</td></tr>
<tr><td>Programme: B.A. Semester - VI</td><td>Year: III</td><td>Semester: VI
Paper-VI</td></tr>
<tr><td colspan="3">Subject: Textile dyeing & Printing
The practical contains 50 marks</td></tr>
<tr><td>Course Code: TDP306 PR</td><td colspan="2">Course Title: Sustainability in Textiles</td></tr>
<tr><td colspan="3">Course Objective: The course is designed to train students dyeing and printing using various methods and styles using different dyes.</td></tr>
<tr><td>Credits: 2</td><td colspan="2">Core: Compulsory</td></tr>
<tr><td>Max. Marks: 50</td><td colspan="2">Min. Passing Marks: 20</td></tr>
<tr><td colspan="3">Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4</td></tr>
</table>

1.	Report on eco-labeling in textiles	
2.	Case study of effluent management in textiles industry	
3	Natural dyeing of cotton from any two natural sources	
4	Testing of water used in textile processing	

Textile Dyeing and Printing	
Programme: B.A. Semester - VI	**Year: III**
Subject: Textile Dyeing and Printing Each paper contains 100 marks. For regular and non collegiates theory paper will be of 70 marks. For regular students internal evaluation of marks 30 are divided into 10 marks for assignment, 10 marks for written test and 10 marks for viva/presantation. For non collegiate students internal evaluation marks 30 are divided into 20 marks for assignment and 10 marks for viva/presantation.	
Course Code: TDP307 TH	**Course Title: Entrepreneurship in Textiles**
Course Objective: This course aims to entrepreneurship in the field of textile and allied sector. To develop entrepreneurship skill among students. To develop innovation skill and business idea in the field of textiles.	
Credits: 4	**Core: Elective**
Max. Marks: 70	**Min. Passing Marks:28**
Internal Assessment: 30	**Min. Passing Marks: 12**
Total No. of Lectures-Tutorials-Practical (in hours per week): 6-0-0	

Unit	Topic
Unit I	Basics of entrepreneurship: traits, roles, types (startup, social). Textile industry structure: organized (mills, composites) vs. unorganized (handloom, powerloom) sectors, supply chain (fiber to finished goods). Role of dyeing and printing in industry. Government schemes (NEP skill development, National technical Textile Mission).

Unit II	Identifying business ideas: trends in dyeing/printing (eco-dyes, digital prints). Market research: consumer segments, export markets. Textile industry segments: apparel, home textiles, technical textiles. SWOT analysis for dyeing/printing ventures. Business models: sole proprietorship, partnership.
Unit III	Designing textile products: dyeing techniques (exhaust, padding), printing methods (screen, digital). Fabric selection: cotton, polyester, blends for dyeing/printing. Customization for markets (e.g., eco-friendly prints, vibrant designs). Quality testing: color fastness, durability.
Unit IV	Funding in textile industry: loans, MSME schemes for dyeing/printing units. Budgeting and costing: dyes, prints, labor. Legal requirements: GST, factory licenses, IP for textile designs. Environmental compliance: effluent treatment in dyeing.
Unit V	Innovations: smart textiles, sustainable dyeing (natural, low-water). Industry structure challenges: sustainability in organized/unorganized sectors. Ethical practices: fair trade, eco-friendly printing. Case studies: Indian textile entrepreneurs (e.g., handloom startups).

https://www.investopedia.com/terms/e/entrepreneur.asp

https://openstax.org/books/entrepreneurship/pages/14-1-types-of-resources

https://www.fibre2fashion.com/industry-article/4671/the-indian-textile-industry

https://www.india.gov.in/national-technical-textiles-mission-nttm

TEXTILE DYEING AND PRINTING		
Programme: B.A. Semester - VI	**Year: III**	**Semester: VI Paper- VIII Elective**
Subject: Textile dyeing & Printing The practical contains 50 marks		
Course Code: TDP308 PR	**Course Title**: **Practical approach to Entrepreneurship in textiles**	
Course Objective: The course is designed to train students dyeing and printing using various methods and styles using different dyes.		
Credits: 2	**Core: Elective**	
Max. Marks: 50	**Min. Passing Marks: 20**	
Total No. of Lectures-Tutorials-Practical (in hours per week): 0-0-4		

1.	Develop a business plan for a dyeing/printing startup, considering industry structure.	
2.	Market survey on a textile industry segment (e.g., handloom, technical textiles).	
3	Presentation on a textile entrepreneur case study.	
4	Field visit and report writing	