

DISCIPLINE SPECIFIC ELECTIVE
DSE HH 5D1: Fabric Production

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course(if any)
		Lecture	Tutorial	Practical/ Practice		
Fabric Production	4	2	0	2	XII Pass	Appeared in Textile Science

Learning Objectives

- To provide students with knowledge of various production techniques.
- To learn about the various standard test methods required for the evaluation of various types of fabrics

Learning Outcomes

- Demonstrate an understanding of various types of fabric forming methods.
- Familiarize students with the types and scope of technical textiles.
- Acquire skills to inspect, manage and control quality in the textile industry.

SYLLABUS OF DSE HH 5D1

THEORY
(Credits 2; Hours 30)

UNIT I: Weaving

10 Hours

- Structure and components of woven fabric: warp, weft, selvedge, grain
- Yarn preparation for weaving
- Weaving operations
- Types of Loom: shuttle and shuttleless looms
- Types of weaves: Basic and Decorative
- Blended Fabrics

UNIT II: Knitting

8 Hours

- Structure and components of knitted fabric: courses, wales
- Yarn preparation for knitting
- Knitting needles
- Knitting process and machines
- Knit fabric stitches
- Knitted fabric classification: Warp and Weft knits
- Techniques for knitwear production- fully-cut, fully-fashioned and integral

UNIT III: Non-Wovens **6 Hours**

- Production of non-woven
- Types of non-woven fabrics and their properties
- Application in various sectors- apparel and industrial

UNIT IV: Other methods of fabric construction **4 Hours**

- Nets
- Laces
- Braiding
- Knotting

UNIT V: Technical Textiles **2 Hours**

PRACTICAL
(Credits 2; Hours 60)

1. Yarn Count : Direct and Indirect	6
2. Dimensional Stability of cotton and wool and knitted fabric	8
3. Identification of weaves, point paper diagrams	12
4. GSM	4
5. Drape	6
6. Crease recovery	6
7. Bending length	6
8. Tear strength	6
9. Fabric analysis	6

Essential Readings:

- Joseph, M.L., (1988) Essentials of Textiles (6th Edition), Holt, Rinehart and Winston Inc., Florida.
- Rastogi, D. (Ed.) and Chopra, S. (Ed.), (2017), Textile Science, Orient Black Swan.
- Sekhri S., (2011) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi.
- Chattopadhyay, K.D., 1995, Handicrafts of India, Wiley Eastern Limited, N Delhi.
- Corbman P. B., (1989), Textiles- Fibre to Fabric, 6th edition, Mc Graw Hill, New York.
- Pizzuto's J.J. "Fabric Science", Fairchild Publication, New York.
- Hollen N., Saddler J., Langford A.L., Kadolph S.J., (1988), Textiles, 6th Edition, Macmillan Publishing Company New York, USA
- Das, Shukla, 1992, Fabric Art- Heritage of India, Abhinav Publications, N Delhi.
- Chelna Desai, 1988, Ikats Textiles of India, Chronicle Books, India

Suggested Readings:

- Brackenbury, T. (2005). *Knitting Clothing Technology*, Blackwell Science Publishers
- Horrock A.R. and Anand, S.C. (2000). *Handbook of Technical Textiles*, Cambridge: Woodhead Publishing.
- Spencer, D.J. (2005) *Knitting Technology: A Comprehensive Handbook and Practical Guide*, 4th ed. Cambridge: Woodhead Publishing.
- Booth, J. E. (1964) Principle of textile testing an introduction to physical methods of testing textile fibers, yarns, and fabrics. 2nd Edition. London: Meanness Butterwroths.
- Saville, P. B. (1999) Physical testing of textiles. Cambridg: Woodhead Publishing Limited.
- Skinkle, J.H. (1940) Textile Testing. New York: Chemical Publishing Co. Inc. Brooklyn.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch,

University of Delhi, from time to time.