



GOVERNMENT OF TAMILNADU
DIRECTORATE OF TECHNICAL EDUCATION, CHENNAI

STATE PROJECT COORDINATION UNIT
(Established under Canada India Institutional Cooperation Project)

CURRICULUM

Course Name	Fabric Structure Analysis
Course Code	TEX/2020/004
Course Duration	50 Hours
Minimum Eligibility Criteria and Pre-requisites(if any)	ITI/10 th /+2/Diploma/Graduates
Course Objectives	Training module has been designed to provide the participants <ul style="list-style-type: none"> • Understanding of fabric structure in textile • Understanding of different designs in woven fabric • Learning of design, draft and peg plan • Learning of drafting and denting
Course Outcomes	At the end of training, the participants will be able to <ul style="list-style-type: none"> • Gain knowledge of fabric structure analysis • Know how to analysis a woven fabric • Knows about plain, twill & other weaves
Expected Job Roles	Lab Assistant in R&D section

TEACHING AND SCHEME OF EXAMINATION						
Course Code	Course Name	Hours		Assessment Marks		Duration of Examination
				Min	Max	
TEX/2020/004	Fabric Structure Analysis	Theory	18	10	20	3 Hours
		Practical	32	40	80	
		Total	50	50	100	

TEX/2020/004–FABRIC STRUCTURE ANALYSIS

DETAILED SYLLABUS

Unit No.	Modules	No. of Hours	
		Theory	Practical
I	ELEMENTS OF WOVEN DESIGN	10 Hours	
1.1	Methods of Fabric representation	4	6
1.2	Weave repeat unit, Construction of draft and peg plans		
1.3	Methods of indicating drafts and peg plans		
1.4	Relation between design, draft and peg plan		
1.5	Construction of draft and peg plans from given design		
1.6	Types of drafting – Denting		
II	FABRIC QUALITY PARTICULARS	10 Hours	
2.1	Woven fabric analysis to identify warp and weft threads, selvedge, weaving method and machine to produce the fabric.	5	5
2.2	To analyze the given fabric and find out design, draft and peg plan.		
2.3	Woven fabric quality particulars to find out the particulars like EPI and PPI, Count of warp and weft, crimp % and GSM		
2.4	F Fabric costing.		
III	PLAIN WEAVES AND TWILL WEAVES	10 Hours	
3.1	Plain weave – Characteristics – derivatives of plain weave – Regular and irregular warp rib, weft rib and mat weaves.	3	7
3.2	Use plain weaves – Twill weaves – Characteristics – Large regular twills – derivatives of twill weave – waved twills-herringbone twills.		
IV	SATEEN , SATIN, CREPE AND HONEYCOMB WEAVES	10 Hours	
4.1	Sateen and satin weave – its Characteristics – Regular and irregular sateen and satins, Honey comb weaves.	3	7
4.2	Its Characteristics, ordinary honey comb weaves, brighten honey comb weaves. Uses of honey comb weaves.		
V	HUCK -A-BACK, MOCK – LENO & BEDFORDCORD WEAVES	10 Hours	
5.1	Huck – a – back weaves – Ordinary Huck – a – back weaves – Modified Huck – a –Weaves- Uses Mock – Leno weaves- Perforated Fabrics.	3	7
5.2	Uses Bedford cord – plain faced Bedford cords –Wadded Bedford cords – Twill faced Bedford cords – Uses		
Total Theory and Practical Hours		18	32
Total hours		50	

HARDWARE REQUIREMENT

S.NO	LIST OF TOOLS /EQUIPMENTS
1.	Counting Glass
2.	Crimp Tester
3.	Beesley Balance
4.	GSM cutter

SOFTWARE REQUIREMENT

Nil

REFERENCE WEBSITE / BOOKS

1. www.textilebook.com
2. www.nptel.com
3. www.archive.org

S.NO	NAME OF THE BOOK	AUTHOR	PUBLISHER
1	Elementary Design and Colour	Z. Crosiciki	Universal Publishing Corporation, Mumbai Year 1988
2	Grammar of Textile Design	H. Nisbet	DbTaraporevala sons & Co Ltd, Mumbai
3	Watsons Textile Design and Colour	Z. Crosiciki	Universal Publishing Corporation, Mumbai
4	Woven cloth construction	ATC Robinson R. Mark	Textile Institute Manchester

ASSESSMENT AND CERTIFICATION

S.No	Criteria for assessment
1.	A trainee will be assessed based on the performance in End Examination for Theory and Practical conducted internally in the Project Polytechnic College for a duration of 3 hours
2.	A trainee must have 75% of attendance to appear for End examination in Theory and Practical.
3.	The assessment for theory part will be based on the marks scored in the end examination on the knowledge bank of questions (1 word/objective type questions)
4.	The assessment for practical part will be based on the marks scored in the end examination conducted by the Project Polytechnic and assessed by the Examiners approved by Strategic Plan Implementation Committee (SPIC) of the project polytechnic.
5.	The passing criteria for successful completion of training is every trainee should score 50% of marks in theory and practical examination.
6.	On successful completion of training , Certificate will be issued to the participants by the Directorate of Technical Education through the Project Polytechnics.

END EXAMINATION

ALLOCATION OF MARKS

S.NO	DESCRIPTION	Max.Marks
1.	Theory Examination	20
2.	Practical Examination	
	a)Write up/Diagram	15
	b)Experiment	35
	c)Result	10
	d)Record	20
Total Marks		100

THEORY MODEL QUESTION PAPER

TEX/2020/004 - FABRIC STRUCTURE ANALYSIS

(Maximum Marks : 20)

(N.B: Answer any twenty questions)

20 x 1 = 20 Marks

1. Write the methods of fabric representation.
2. Define weave repeat unit.
3. What is draft?
4. What is peg plan?
5. Give the methods of indicating draft.
6. Give the methods of indicating peg plan.
7. Define design.
8. Write three types of drafting.
9. Write two types of denting.
10. How is warp indicated in graph sheet?
11. How is weft indicated in graph sheet?
12. What is known as selvedge in woven fabric?
13. When a fabric is analyzed, what are the fabric particulars to be found?
14. Give the abbreviation of EPI & PPI.
15. What are the types of crimp available in fabric?
16. What is known as GSM?
17. Write the derivatives of plain weave
18. What is the end use of plain weave?
19. Give any three types of twill weave.
20. Write any two characteristics of sateen weave.
21. Write any two characteristics of honey comb weave.
22. What is the use of honey comb weave?
23. Write the types of perforated fabrics.
24. Write the types of Bedford cords.
25. What is the use of Bedford cords?