



GOVERNMENT OF TAMILNADU
DIRECTORATE OF TECHNICAL EDUCATION, CHENNAI

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

CURRICULUM

Course Name	Yarn Manufacturing Technology
Course Code	TEX/2020/001
Course Duration	80 Hours
Minimum Eligibility Criteria and Pre-requisites(if any)	8 th /10 th /+2/Diploma/Graduates
Course Objectives	Training module has been designed to provide the participants <ul style="list-style-type: none"> • Understanding of spinning line in textile • Understanding of machinery maintenance • Learning of spinning calculation • Understanding concepts of winding, reeling and bundling
Course Outcomes	At the end of training, the participants will be able to <ul style="list-style-type: none"> • Gain knowledge of spinning machine • Know how to process the fibre to yarn • Know about spinning calculation • Know about winding, reeling and bundling
Expected Job Roles	Assistant to spinning master

TEACHING AND SCHEME OF EXAMINATION						
Course Code	Course Name	Hours		Assessment Marks		Duration of Examination
				Min	Max	
TEX/2020/001	Yarn Manufacturing Technology	Theory	26	10	20	3 Hours
		Practical	54	40	80	
		Total	80	50	100	

TEX/2020/001- YARN MANUFACTURING TECHNOLOGY

DETAILED SYLLABUS

Unit No.	Modules	No. of Hours	
		Theory	Practical
I	Introduction to Spinning- Spinning line-I	30 Hours	
1.1	Blow room- Objective, Principles of opening and cleaning, working Principles and its machinery details	10	20
1.2	Carding- Objectives, Working principles, Study of different parts of a carding and their functions, advantages and disadvantages		
1.3	Drawing -Objectives, Working principles of doubling and drafting at draw frame, Functions of different parts of draw frame, Sliver defects in draw frame their causes and remedies		
1.4	Combing- Objectives, different process sequences in the combing preparation and its working procedure, Comber setting - Nipper to detaching rollers - nipper to cylinder and top comber		
II	Spinning Line-II	30 Hours	
1.5	Speed Frame – Objectives, Passage of material through the speed frame, Functions of different parts of speed frame and its working procedure	10	20
1.6	Ring frame-Objectives, Passage of material through the ring frame, Functions of different parts of ring frame and its working procedure		
1.7	Winding- Objective, Working and its machinery details		
1.8	Reeling, bundling and Baling – Objectives, types of reeling, Bundling – Objectives, Need for bundling weight correction and its importance		
II	Production Calculation	10 Hours	
2.1	Spinning calculation – Cleaning efficiency of beater in Blow room, Calculation Pertaining to Draft and production – carding, draw frame, speed frame, ring frame	3	7
III	Machinery Maintenance	10 Hours	
3.1	Machinery maintenance from blow room to bundling	3	7
Total Theory and Practical Hours		26	54
Total hours		80	

HARDWARE REQUIREMENT

S.NO	LIST OF MACHINES
1.	Blow Room
2.	Carding Machine
3.	Drawing Machine
4.	Combing Machine
5.	Simplex Machine
6.	Ring Frame Machine
7.	Winding Machine
8.	Reeling and Bundling Machine

SOFTWARE REQUIREMENT

Nil

REFERENCE WEBSITE / BOOKS

1. www.nptel.ac.in
2. www.cottonworks.com
3. www.archive.org

S.NO	NAME OF THE BOOK	AUTHOR	PUBLISHER
1	Spun Yarn Technology	Oxtoby E	Butter Publication
2	Opening and Cleaning	W.A. Hunter	Textile institute Manchester (U.K)
3	Cotton Spinning	W.S. Taggart	Universal Book Corporation
4	Fundamentals of Spun Yarn Technology	Carl A. Lawrence	CRC Press

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/2020/001 - YARN MANUFACTURING TECHNOLOGY

(Maximum Marks : 20)

(N.B: Answer any **twenty** questions)

20 x 1 = 20 Marks

1. Write two objects of blow room.
2. What is opening in spinning?
3. What is cleaning in spinning?
4. Write two objects of carding.
5. Which process is known as heart of spinning?
6. Write two advantage of carding process.
7. Write two disadvantage of carding process.
8. Write three parts of carding machine.
9. Write two objects of drawing process.
10. Write three parts of drawing machine.
11. Write the principle of doubling and drawing in draw frame.
12. Write two defects in draw frame sliver.
13. Write two causes of defects in draw frame sliver.
14. Write two objects of combing.
15. Write the process sequence of combing.
16. Write two objects of speed frame.
17. Write the passage of material through speed frame.
18. Write two objects of ring frame.
19. Write two objects of winding.
20. Write two objects of reeling.
21. Write two objects of bundling.
22. Write two objects of baling.
23. Write the types of reeling.
24. Write the formula to calculate the draft.
25. Write the formula to calculate the cleaning efficiency.