

## Lesson Plan

Name of Faculty : Tejendra Singh

Discipline: Textile Technology

Semester: 3rd

Subject: **SPINNING TECHNOLOGY-I**

Lesson Plan Duration: 15 weeks (Sept.2020-21)

Work Load (Lecture / Practical) per week (in hours): Th= 4 per week / pr =1

Week	Theory		Practical	
	Lecture day	Topic (including assignment / test)	Practical day	Topic
1 <sup>st</sup>	1 <sup>st</sup>	Objects of ginning, ginning percentage,	1 <sup>st</sup>	To sketch and study the working of different parts of Single Macarthy Gin and to operate it
	2 <sup>nd</sup>	description and working of Double Knife Roller Gin,		
	3 <sup>rd</sup>	Double Macarthy Gin and Saw Gin		
	4 <sup>th</sup>	Importance of mixing and blending, mixing and blending techniques in Blow Room,		
2 <sup>nd</sup>	5 <sup>th</sup>	description and working of Auto Mixer and Multi Mixer	2 <sup>nd</sup>	Demonstration of Mixing and Blending Techniques during with visit/Milltraining Practically sketch and describe the passage of material through condenser.
	6 <sup>th</sup>	Principle of opening and cleaning, opening By the action of nails, beaters and air currents.		
	7 <sup>th</sup>	Description and working of Condenser		
	8 <sup>th</sup>	Study of following opening and cleaning machines: Blending Bale Opener,		
3 <sup>rd</sup>	9 <sup>th</sup>	Automatic Bale Plucker, Feeder	3 <sup>rd</sup>	Practically sketch and describe the passage of material through condenser. Practically sketch and describe the passage of material through Blending Bale Opener, Hopper Feeder, Step Cleaner, Feed Unit, Porcupine Opener
	10 <sup>th</sup>	Feeder; Super Jet Cleaner, Mono Cylinder Cleaner, ERM Cleaner, CVT-3 cleaner.		
	11 <sup>th</sup>	Objects of evener motion and its importance, construction and working of Piano Type Feed Regulating Motion, of Cone Drums		
	12 <sup>th</sup>	Objects, construction and working of Two Bladed Beater and Krischner Beater		
4 <sup>th</sup>	13 <sup>th</sup>	Objects of calendaring in Scutcher and passage of cotton sheet through them	4 <sup>th</sup>	Study of feed regulating motion. and cone Drums - To sketch and understand the working
	14 <sup>th</sup>	Lap rejection and lap variation: their causes		

		and remedies - Defects in laps and their removal		of Krischner Beater. - Practice of setting & gauges of the openers & beaters in the Blow Room Line - Study of exhaust system and Cages in Scutcher
	15 <sup>th</sup>	Cleaning efficiency of Blow Room line and waste percentage - Work load distribution in Blow Room Automatic lap doffing and its Advantages		
	16 <sup>th</sup>	Necessity & working of Chute Feed System at Blow Room.		
5 <sup>th</sup>	17 <sup>th</sup>	Main features and Advantages of Modern Blow Room Line	5 <sup>th</sup>	- Practice of drawing of gearing to understand drive to various parts. - Study of Lap Forming Unit. - Calculate draft/Production of Blow Room & Maintenance schedule of Blow Room - Work load distribution at Blow Room & card machine. - Practical study of Automatic Lap doffing mechanism
	18 <sup>th</sup>	Main features and Advantages of Modern Blow Room Line		
	19 <sup>th</sup>	Conversion from one to other system and calculation of equivalent count.		

	20 <sup>th</sup>	Gearing diagram of Scutcher and Calculation of lap hank, lap weight		
6 <sup>th</sup>	21 <sup>th</sup>	<b>Sessional 1</b>	6 <sup>th</sup>	Practical study of the Chute Feed System during mill visit/mill training. Gearing diagram of Scutcher and Calculation of lap hank, lap weight, lap length and Scutcher production per shift
	22 <sup>th</sup>	lap length and Scutcher production per shift		
	23 <sup>rd</sup>	Calculation of clearing efficiency of blow room line		
	24 <sup>th</sup>	Calculation of calendar roll and shell roll speeds and tension draft between calendar roll and shell roll		
7 <sup>th</sup>	25 <sup>th</sup>	Mixing and blending cost calculations	7 <sup>th</sup>	Calculation of production constant of blow room Scutcher. Calculation of calendar roll and shell roll Speed and tension draft between calendar roll and shell roll
	26 <sup>th</sup>	Maintenance schedule of Blow Room line		
	27 <sup>th</sup>	Objects of carding, Passage of material through Revolving Flat Card and functions of various parts i.e.		
	28 <sup>th</sup>	licker-in, mote knives, back plate, front plate, cylinder, flats, doffer and Under casing		

8 <sup>th</sup>	29 <sup>th</sup>	Difference between carding action and stripping action	8 <sup>th</sup>	Study of various electronics parts/motion in Blow Room
	30 <sup>th</sup>	Flexible and metallic card clothing,		
	31 <sup>th</sup>	Advantages of metallic card clothing.		
	32 <sup>th</sup>	Objects of stripping, procedure for Plain		
9 <sup>th</sup>	33 <sup>rd</sup>	Roller stripping and Vacuum stripping	9 <sup>th</sup>	Demonstrate the passage of material Through the machine and to introduce with different parts of Revolving Flat Card
	34 <sup>th</sup>	Objects of grinding and Types of Grinding		
	35 <sup>th</sup>	Web doffing by doffer comb, India Roll System		
	36 <sup>th</sup>	Web doffing Cross Roll Verga System		
10 <sup>th</sup>	37 <sup>th</sup>	General settings and gauges for Semi High Speed Card	10 <sup>th</sup>	Stripping of cylinder and doffer of Card. Grinding of Card with dead roll grinder and Traverse Roller Grinder
	38 <sup>th</sup>	General settings and gauges for High Speed Card		
	39 <sup>th</sup>	Objects principle of Auto Levellers at card		
	40 <sup>th</sup>	working of Auto Levellers at card		
11 <sup>th</sup>	41 <sup>th</sup>	<b>Sessional 2</b>	11 <sup>th</sup>	Piecing of web and sliver on Card. To Practice the setting and gauging between different parts of Card Machine
	42 <sup>th</sup>	Card wastes e.g. motes, fly		
	43 <sup>th</sup>	Card wastes e.g. strips and sweeps		
	44 <sup>th</sup>	Salient features of High Production Card.		
12 <sup>th</sup>	45 <sup>th</sup>	Defects in card web and their removal	12 <sup>th</sup>	Calculate drafts between various parts, Total draft, draft constant, tension draft and tension draft constant
	46 <sup>th</sup>	Defects in card web and their removal		
	47 <sup>th</sup>	Calculation of waste percentage of a card.		
	48 <sup>th</sup>	Cleaning efficiency of Card.		

13 <sup>th</sup>	49 <sup>th</sup>	Calculation of draft, draft constant	13 <sup>th</sup>	Calculate production and production constant of Card
	50 <sup>th</sup>	Tension draft and tension draft constant		
	51 <sup>th</sup>	Calculation of production and production Constant		
	52 <sup>th</sup>	Calculation of production and production Constant		
14 <sup>th</sup>	53 <sup>th</sup>	Calculation of time taken to exhaust a lap	14 <sup>th</sup>	Calculate the time taken to exhaust a lap on Card
	54 <sup>th</sup>	Calculation of time taken to exhaust a lap		
	55 <sup>th</sup>	<b>Sessional 3</b>		
	56 <sup>th</sup>	Maintenance Schedule of Carding Machine		
15 <sup>th</sup>	57 <sup>th</sup>	Process control Parameter in mixing,	15 <sup>th</sup>	Study of various electronic Parts/Motion in carding
	58 <sup>th</sup>	Process control Parameter in Blow Room		
	59 <sup>th</sup>	Process control Parameter in Carding		
	60 <sup>th</sup>	Process control Parameter in (yarn realization, trash Content etc)		

