

**Curriculum  
For  
Certificate in Yarn Manufacturing  
(Spinning)  
Certificate Level: 1 Year  
Code: VI87S013  
(2013)**

## Table of Contents

Scheme of Studies .....	4
Introduction .....	5
Overall objective of course .....	5
Competencies gained after completion of course .....	5
Job opportunities available immediately and in the future .....	6
Sequence of modules: .....	6
Timeframe of assessment (recommendation).....	6
Overview about the program –Curriculum for (Certificate in Yarn Manufacturing (Spinning) .....	7
Yarn Manufacturing (Spinning) Curriculum Contents (Teaching and Learning Guide) .....	13
<b>Module 2:</b> Perform Initial Operations of Blow Room .....	15
<b>Module 3:</b> Perform Carding Operations .....	17
<b>Module 4:</b> Carry Out Breaker Drawing Operations .....	18
<b>Module 5:</b> Perform Lap Formation and Combing Operations .....	20
<b>Module 7:</b> Perform Simplex operation.....	24
<b>Module 8:</b> Perform ring frame operation.....	26
<b>Module 9:</b> Perform cone winding Operations .....	29
<b>Module 10:</b> Perform yarn conditioning and packing.....	31
<b>Module 12:</b> Develop Professionalism .....	34
<b>Module 13:</b> Adopt Safety Precautions .....	35
Assessment Template.....	36
<b>Module 1:</b> Carryout Machine Inspection .....	36
<b>Module 2:</b> Perform Initial Operations of Blow Room .....	40
<b>Module 3:</b> Perform Carding Operations.....	44
<b>Module 4:</b> Perform breaker drawing Frame Operations .....	46
<b>Module 5:</b> Perform lap formation and combing Operations .....	49
<b>Module 6:</b> Perform Finisher drawing Frame Operations.....	53
<b>Module 7:</b> Perform Simplex Operations .....	56
<b>Module 8:</b> Perform ring frame Operations .....	59

<b>Module 10</b> Perform yarn conditioning and packing .....	66
<b>Module 11:</b> Communication with others .....	68
<b>Module 13:</b> Adopt Safety Precautions.....	71
Supportive notes .....	72
List of Tools, Machinery & Equipment .....	73
List of Consumable Supplies .....	74
Contributions for Development of This Curriculum .....	75

**Scheme of Studies**  
**20% Theory 80% Practical**

**Certificate in yarn manufacturing (Spinning)**

**Semester 1:**

<b>Sr #</b>	<b>Modules</b>	<b>Theory Hours</b>	<b>Practical Hours</b>	<b>Total Hours</b>
1	<b>Module 1:</b>	32	128	160
2	<b>Module 2:</b>	34	136	170
3	<b>Module 3:</b>	24	96	120
4	<b>Module 4:</b>	24	96	120
5	<b>Module 5:</b>	26	104	130
6	<b>Module 6:</b>	24	96	120
7	<b>Module 7:</b>	30	120	150
8	<b>Module 8:</b>	36	144	180
9	<b>Module 9:</b>	22	88	110
10	<b>Module 10:</b>	20	80	100
11	<b>Module 11:</b>	16	64	80
12	<b>Module 12:</b>	12	48	60
13	<b>Module 13:</b>	20	80	100
	<b>TOTAL HOURS</b>	<b>320</b>	<b>1280</b>	<b>1600</b>

## **Introduction**

This course of Certificate in Yarn Manufacturing (Spinning) has been developed for those persons who have completed the 10 years education equivalent to matriculation. The modules cover all the departments of a spinning mill which include Blow room, Carding, Drawing, Combing, Roving , Ring Spinning, Cone-winding, and Packing.

## **Overall objective of course**

To be able to monitor all the operations of yarn manufacturing.

## **Competencies gained after completion of course**

- Trainees will be able to monitor raw material supplied for spinning process.
- Trainees will be able to identify all processes and quality parameters.
- Trainees will be able to complete work in a team.
- Trainees will be able to do proper communication and human resource skills.
- Trainees will be able to perform report writing.
- Trainee should be able to distinguish different types of materials.
- Trainee should be able to assess faults by feel or looking at material.
- Trainee should be able to identify the cause of stoppages / breakages on machine.
- Trainee should be able to perform and understand the yarn manufacturing process in spinning mills
- Trainee should be able to perform and understand the operations and settings of all machines
- Trainee should be able to understand the good and bad practices during yarn manufacturing.

## **Job opportunities available immediately and in the future**

After completing the course, learners will have the opportunities to pursue career opportunities into job roles such as textile jobber/ Assistant supervisor/ machine operator.

Trainee entry level: Matriculation or equivalent

Minimum qualification of trainer: D.A.E with 4 years experience

B.Sc. Textile Engineering (Spinning Specialization) with 1 year experience

Medium of Instruction: Urdu preferably

## **Sequence of modules:**

1. Carryout Machine Inspection
2. Perform Initial Operations of blow room
3. Perform Carding Operation
4. Carry out Breaker Drawing Operations
5. Perform Lap and Combing Operations
6. Carry out finisher Drawing operations
7. Perform Simplex Operations
8. Perform Ring Frame Operation
9. Carry out cone winding Operations
10. Perform Yarn Conditioning and Packing
11. Communicate with others
12. Develop Professionalism
13. Adopt Safety Precautions

## **Timeframe of assessment (recommendation)**

Duration of course	1 Year
Total hours	1600
Theory hours	320
Practical hours	1280

## Overview about the program –Curriculum for (Certificate in Yarn Manufacturing (Spinning))

Module Title and Aim	Learning Units	Theory <sup>1</sup> Days/hours	Workplace <sup>2</sup> Days/hours	Timeframe of modules
<p><b>Module 1.</b></p> <p><b>Carryout Machine Inspection</b></p>	<p>LU1- Perform cleaning</p> <p>LU2- Inspect tools and equipment</p> <p>LU3- Carry out trial run of machine</p> <p>LU4- Check, the types of material in process</p> <p>LU5- Details of machines</p> <p>LU6- Inform the incharge about problems of relevant department</p>	32 hrs	128 hrs	160 hrs
<p><b>Module 2.</b></p> <p><b>Perform Initial Operations of Blow room</b></p>	<p>LU1- Opening and mixing of bales</p> <p>LU2- Removal of contamination from material</p> <p>LU3- Place the material under mixing machine</p> <p>LU4- Check the flow of material</p>	34 hrs	136 hrs	170 hrs

<sup>1</sup> Learning hours in training provider premises

<sup>2</sup> Training workshop, laboratory and on-the-job workplace

	<p>LU5- Check the contamination sorting process</p> <p>LU6- Removal waste material from waste boxes</p>			
<p><b>Module 3.</b></p> <p><b>Perform Carding Operations</b></p>	<p>LU1- Check the material to be fed</p> <p>LU2- Place empty can in coiler</p> <p>LU3- Operate the carding machine</p> <p>LU4- Handover the carded sliver</p>	24 hrs	96 hrs	120hrs
<p><b>Module 4.</b></p> <p><b>Perform breaker drawing operations</b></p>	<p>LU1- Place the received carded sliver cans on respective drawing machine</p> <p>LU3- Check can crossing</p> <p>LU3- Check the number of doubling</p> <p>LU4- Clean the drafting zone</p> <p>LU5- Perform the draw frame trial test</p> <p>LU6- Hand over drawn sliver</p>	24 hrs	96 hrs	120 hrs



<p><b>Module 5.</b></p> <p><b>Perform lap formation and combing operations</b></p>	<p>LU1- Creel the received drawn sliver</p> <p>LU2- Check the sliver doubling</p> <p>LU3- Run the lap-former machine</p> <p>LU4- Feed the lap to combing machine</p> <p>LU5- Run the comber</p> <p>LU6- Remove comber noil</p>	26 hrs	104 hrs	130 hrs
<p><b>Module 6.</b></p> <p><b>Perform finisher draw frame operations</b></p>	<p>LU1- Place the received carded / comber sliver under machine creel</p> <p>LU2- Check the number of doubling</p> <p>LU3- Clean the drafting zone</p> <p>LU4- Perform the draw frame trial test</p> <p>LU5- Hand over drawn sliver.</p>	24 hrs	96hrs	120hrs

<p><b>Module 7.</b></p> <p><b>Perform Simplex operation</b></p>	<p>LU1- Place the finished sliver cans under roving frame creel</p> <p>LU2- Place empty bobbins on roving frame</p> <p>LU3- Insert the roving in flyer presser</p> <p>LU4- Operate the roving frame</p> <p>LU5- Piecing when needed</p> <p>LU6- Doff the filled bobbins</p> <p>LU7- Stacking of roving bobbins properly</p>	<p>30 hrs</p>	<p>120 hrs</p>	<p>150 hrs</p>
<p><b>Module 8.</b></p> <p><b>Perform ring frame operation</b></p>	<p>LU1- Hang the received roving bobbins on ring frame as per requirement</p> <p>LU2- Feed the roving to drafting zone</p> <p>LU3: Clean the drafting Zone</p> <p>LU4- Place empty bobbins on spindle</p> <p>LU5- Insert the suitable traveller on</p>	<p>36 hrs</p>	<p>144 hrs</p>	<p>180 hrs</p>

	<p>ring</p> <p>LU6- Piecing the yarn</p> <p>LU7- Start the machine</p> <p>LU8- Doffing</p> <p>LU9- Hand over the ring spun bobbins to winding department.</p>			
<p><b>Module 9.</b></p> <p><b>Perform cone winding Operation</b></p>	<p>LU1- Feed the received ring bobbins in the magazine as per requirement</p> <p>LU2- Place empty cones on the winding spindles as per instruction</p> <p>LU3- Run the machine</p> <p>LU4- Stacking of the finished package in conditioning department.</p>	22 hrs	88 hrs	110 hrs
<p><b>Module 10.</b></p> <p><b>Perform yarn conditioning and packing</b></p>	<p>LU1- Place the cones in conditioning machine or conditioning room</p> <p>LU2- Stack the cones after conditioning</p> <p>LU3- Wrap the individual cones</p>	20 hrs	80 hrs	100 hrs

	LU4- Pack the cones in recommended package			
<b>Module 11.</b> <b>Communicate with others</b>	LU1- Communicate with people in relevant department LU2- Communicate with the supervisor LU3- Communicate with co-workers	16 hrs	64 hrs	80hrs
<b>Module 12.</b> <b>Develop Professionalism</b>	LU1- Consult with expert workers LU2- Skill Development LU3- Updating of relevant techniques	12 hrs	48 hrs	60hrs
<b>Module 13.</b> <b>Adopt Safety Precautions</b>	LU1- Apply safety tools, equipments and techniques LU2- Apply human safety LU3- Apply workplace safety	20 hrs	80 hrs	100 hrs

## Yarn Manufacturing (Spinning) Curriculum Contents (Teaching and Learning Guide)

### Module 1: Carryout Machine Inspection

Objective of the Module: .To study about machines and materials

Duration: 160 hours Theory: 32 hours Practice: 128 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Perform cleaning	Cleaning ways and its requirements	Knowledge of: Cleanliness of the machines of relevant department  Ability to: perform better cleaning	02hrs	08 hrs	Broom, pressure pipe, cloth piece.	Spinning mill and class room
LU 2. Inspect tools and equipment	Know about the apparatus of related department	Knowledge of: tools of mills  Ability to: use the tools properly	06hrs	24hrs	Machines with respect to department	Spinning mill and class room
LU 3. Carry out trial run of machine	Knowledge about machine parts	Knowledge of: different machines  Ability to: operate machine	02hrs	08 hrs	Machine of the related department	Spinning mill and class room
LU 4. Check, the types of material in process	Know about the material in running	Knowledge of: various materials  Ability to: identify the materials	04hrs	16 hrs	Material present in machines	Spinning mill and class room

<p>LU 5. Check settings of machines</p>	<p>Know about machine parts and its gauges</p>	<p>Knowledge of: machine</p> <p>Ability to: evaluate process requirements</p>	<p>10hrs</p>	<p>40 hrs</p>	<p>Machines, gears, grid bars, waste chambers, gauges</p>	<p>Spinning mill and class room</p>
<p>LU 6. Inform the incharge about problems of relevant department</p>	<p>Understand the faults of all machines of relevant departments</p>	<p>Knowledge of: All department machines</p> <p>Ability to: be responsible about his tasks</p>	<p>08 hrs</p>	<p>32 hrs</p>	<p>Machines of all departments</p>	<p>Spinning mills and class room</p>

## Module 2: Perform Initial Operations of Blow Room

Objective of the Module: Know how about the operations of blow room

Duration: 170 hours Theory: 34 hours Practice: 136 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Opening and mixing of bales	Knowledge of opening techniques	Knowledge of: bale opening methods  Ability to: execute opening and mixing process	04 hrs	16 hrs	Bales, wire cutter, Trolley, scale	Blow room and class room
LU 2. Removal of contamination from material	Understanding about methods of contamination removal	Knowledge of: contaminated material  Ability to: understand contamination removal process	04 hrs	16 hrs		Blow room and class room
LU 3. Place the material under mixing machine	Know how about placement methods	Knowledge of: area of material placement  Ability to: examine bales order	08 hrs	32 hrs	Trolley for picking of bales	Blow room and class room
LU 4. Check the flow of	Know about the ways of material	Knowledge of: material passage	06 hrs	24 hrs		Blow room and

material	passage	Ability to: observe material				class room
LU 5. Check the contamin ation sorting process	Know about the type of contaminati on being removed	Knowledge of: contaminat ion types  Ability to: check the sorters and material	06 hrs	24 hrs		Blow room and class room
LU 6. Removal waste material from waste boxes	Know about the quantity and quality of waste in material being processed	Knowledge of: Waste box machines  Ability to: identify type of waste	06 hrs	24 hrs	Waste trolley, condenser , compacto r s	Blow room and class room



### Module 3: Perform Carding Operations

Objective of the Module: Understanding about carding operations

Duration: 120 hours Theory: 24 hours Practice:96 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Check the material to be fed	Information about material presence and condition	Knowledge of: material presence  Ability to: identify materials	06 hrs	16 hrs	Processing material, limit switches	Card department and class room
LU 2. Place empty can in coiler	Know how about cans placement	Knowledge of: cans and type of materials  Ability to: handle material	08 hrs	24 hrs	Empty cans, springs, can wheels, numbering of cans and machines	Card department and class room
LU 3. Operate the carding machine	Know about card machine start and stop operations	Knowledge of: card machine working  Ability to: operate card machine	08 hrs	24 hrs	Electric switches, wires, buttons on machine	Card department and class room
LU 4. Handover the carded sliver	Know about duty responsibility	Knowledge of: filled material care Ability to: fulfill duty	02 hrs	08 hrs	Filled sliver cans	Card department and class room

## Module 4: Carry Out Breaker Drawing Operations

Objective of the Module: Skill in performing of drawing operations

Duration: 120 hours Theory: 24 hours Practice: 96 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Creel the received carded sliver cans on respective drawing machine	Understanding the receiving carded cans	<p>Knowledge of: Material feeding in back zone</p> <p>Ability to: place cans and material properly</p>	04 hrs	16 hrs	Sliver Cans	Drawing department and class room
LU 2. Check can crossing	Understanding placement technique of carded cans	<p>Knowledge of: Material feeding in draw frame creel</p> <p>Ability to: identify and handle material cans</p>	04 hrs	16 hrs	Cans ,numbering of cans	Drawing department and class room
LU 3. Check the number of doubling	Know how about the blended material	<p>Knowledge of: no of doublings to be done</p> <p>Ability to: choose the</p>	06 hrs	24 hrs	Carded sliver	Drawing department and class room

		material from cans				
LU 4. Clean the drafting zone	Understand the dust laden zone	<p>Knowledge of: Cleaning ways</p> <p>Ability to: observe the dust laden portion in zone</p>	06 hrs	24 hrs	Piece of cloth, pressure pipes	Drawing department and class room
LU 5. Perform the draw frame trial test	Knowledge of machine settings and start and stop	<p>Knowledge of: draw frame operations</p> <p>Ability to: Perform trial run</p>	02 hrs	08 hrs	Electric switches , wires, on/off buttons on machine	Drawing department and class room
LU 6. Hand over drawn sliver	Knowledge of handling of material	<p>Knowledge of: Material care handling</p> <p>Ability to: complete duty</p>	02hrs	08 hrs		

## Module 5: Perform Lap Formation and Combing Operations

Objective of the Module: .To fulfil the lap and combing operations

Duration: 130 hours Theory: 26 hours Practice:104 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Creel the received drawn sliver	Know about drawn sliver	Knowledge of: type of drawn sliver can  Ability to: Handle material carefully	04hrs	16 hrs	Cans filled with drawn sliver	Lap former and class room
LU 2. Check the sliver doubling	Understand the doubling ways of lap/sliver	Knowledge of: doubling mechanism  Ability to: check doubling/ blending techniques	06hrs	24 hrs	Lap or drawn sliver	Lap former and class room
LU 3. Run the lap-former machine	Know how about machine start and stop	Knowledge of: Lap former working  Ability to: operate the machine	04 hrs	16 hrs	Lap former machine, laps	Lap former and class room
LU 4. Feed the lap to combing machine	Knowledge of lap feeding point	Knowledge of: feeding zone  Ability to: feed lap to comber	06 hrs	24 hrs	Laps and spools	comber department and class room

LU 5. Run the comber	Know about the comber stop and go operation	Knowledge of: Comber operations  Ability to: run the machine properly	02 hrs	08 hrs	Comber machine	comber department and class room
LU 6. Remove the comber noil	Understanding about extraction method	Knowledge of: Comber noil removal and collection  Ability to: identify the comber noil	04 hrs	16hrs	Filter	comber department and class room

## Module 6: Carry Out Finisher drawing operations

Objective of the Module: Skill in performing of drawing operations

Duration: 120 hours Theory: 24 hours Practice: 96 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Place the received carded/comber sliver cans on respective drawing machine	Understanding of creeling and cross caning technique of carded/comber sliver	<p>Knowledge of: Material feeding in back zone</p> <p>Ability to: place cans and material</p>	02 hrs	08 hrs	Carded/comber Cans filled with sliver	Drawing department and class room
LU 2. Check the number of doubling	Know how about the drafted material	<p>Knowledge of: no of doublings to be done</p> <p>Ability to: choose the material from cans</p>	10 hrs	40 hrs	Carded/comber Cans	Drawing department and class room
LU 3. Clean the drafting zone	Understand the dust laden zone	<p>Knowledge of: Cleaning ways</p> <p>Ability to: observe the dust laden</p>	08 hrs	32 hrs	Piece of cloth, pressure pipes	Drawing department and class room

		portion in zone				
LU 4. Perform the draw frame trial test	Knowledge of machine settings and start and stop	Knowledge of: understand about draw frame operations  Ability to: operate trial run	02 hrs	08 hrs	Electric switches, wires, on/off buttons on machine	Drawing department and class room
LU 5. Hand over drawn sliver	Knowledge of handling of material	Knowledge of: Material care handling  Ability to: complete duty	02hrs	08 hrs		Drawing department and class room

## Module 7: Perform Simplex operation

Objective of the Module: Have a complete knowledge of simplex and its operations

Duration: 150 hours Theory: 30 hours Practice: 120 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Place the received finished sliver cans under roving frame creel	Know how about finished sliver	Knowledge of: Can creeling  Ability to: identify cans with respect to material	02 hrs	08 hrs	Filled finished sliver	Simplex department and class room
LU 2. Place empty bobbins on roving frame	Know how about bobbins placement	Knowledge of: previous doff  Ability to: use bobbins as per requirement	04hrs	16 hrs	Bobbins	Simplex department and class room
LU 3. Insert the roving in flyer presser	Know about presser arm function	Knowledge of: roving insertion in flyer  Ability to: Insert the roving in flyer and wind on presser arm	02 hrs	08 hrs	roving	Simplex department and class room



LU 4. Operate the roving frame	Know about the roving machine operations	Knowledge of: machine processes  Ability to: perform trial run	02 hrs	08 hrs	Roving frame	Simplex department and class room
LU 5. Piecing when needed	Knowledge about material piecing	Knowledge of: piecing operation  Ability to: perform proper piecing	02hrs	08 hrs	Broken Roving	Simplex department and class room
LU 6. Doff the filled bobbins	Knowledge of package completion	Knowledge of: package build up  Ability to: doff the material accurately	04hrs	16hrs	Filled bobbins	Simplex department and class room
LU 7. Stacking roving bobbins properly	Know how of handling the material with care	Knowledge of: placement of material  Ability to: stack material as per identification	02hrs	08 hrs	Filled roving bobbins, trolley for placement of bobbins	Simplex department and class room

## Module 8: Perform ring frame operation

Objective of the Module: To complete all the duties and tasks of ring frame

Duration: 180 hours Theory: 36 hours Practice: 144 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Hang the received roving bobbins on ring frame as per requirement	Know how about roving bobbins	Knowledge of: creeling  Ability to: identify roving with respect to material	04hrs	16 hrs	Filled roving bobbins	Ring department and class room
LU 2. Feed the roving to drafting zone	Know about the position where to feed the material	Knowledge of: Feeding point  Ability to: feed the material	04hrs	16 hrs	Roving	Ring department and class room
LU 3. Clean the drafting zone	Know about the position techniques of cleaning	Knowledge of: Cleaning points  Ability to: clean drafting zone properly	02hrs	08 hrs	Roving	Ring department and class room
LU 4. Place	Knowledge	Knowledge of:				

empty bobbins on spindle	e of spindle and empty bobbins positioning	Feeding techniques  Ability to: use proper bobbins colour	04hrs	16 hrs	Empty bobbins	Ring department and class room
LU 5. Insert the suitable traveller on ring	Understand where to place the traveler on ring	Knowledge of: Accurate traveller number  Ability to: place the traveller	04 hrs	16 hrs	Traveler, ring	Ring department and class room
LU 6. Start the machine	Know about machine process	Knowledge of: Machine operations  Ability to: operate machine	02hrs	08 hrs	Ring machine	Ring department and class room
LU 7. Piecing the yarn	Know about spindle where breakage occurs	Knowledge of: Piecing techniques  Ability to: piece the material	04hrs	16 hrs	Ring yarn	Ring department and class room
LU 8. Doffing process	Understand the collection of bobbins	Knowledge of: Doffing techniques	02 hrs	08 hrs	Doffing Trolley, doff boxes, empty bobbins	Ring department and class room

		Ability to: perform doffing				
LU 9. Hand over the ring bobbins to winding departm ent	Know how of material handling	Knowledg e of: Material care  Ability to: handle the material properly	02hrs	08hrs	Doff ring bobbins,doffi ng trolley	Ring departme nt and class room

## Module 9: Perform cone winding Operations

Objective of the Module: Understand the winding process

Duration: 110 hours Theory: 22 hours Practice: 88 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Feed the received ring bobbins in the magazine as per requirement	Knowledge of receiving the input material	Knowledge of: received material  Ability to: fill magazine	04hrs	16hrs	Doffed ring bobbins	Winding Department and class room
LU 2. Place empty cones on the winding unit	Know how about the empty packages	Knowledge of: Cone colours with respect to material  Ability to: place the empty cones properly	08 hrs	32 hrs	Empty cone	Winding Department and class room
LU 3. Run the machine		Knowledge of: Machine operations  Ability to: run machine properly	04hrs	16 hrs	Auto cone machine	Winding Department and class room

<p>LU 4. Stacking of the finished package in conditioning department</p>	<p>Understand about doffing and delivering responsibility</p>	<p>Knowledge of: Conditioning department</p> <p>Ability to: doff, and deliver the material</p>	<p>06hrs</p>	<p>24 hrs</p>	<p>Doffed cones</p>	<p>Winding Department and class room</p>
--	---	--	--------------	---------------	---------------------	--

## Module 10: Perform yarn conditioning and packing

Objective of the Module: Know about yarn conditioning and packing methods

Duration: 100 hours Theory: 20 hours Practice: 80 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Place the cones in conditioning machine or conditioning room	Handling of material	<p>Knowledge of: cones placement</p> <p>Ability to: stack cones properly</p>	04hrs	16 hrs	Filled cones, conditioning machine,	Conditioning department and classroom
LU 2. Collect the cones after conditioning	Know about how to remove the cones when conditioned	<p>Knowledge of: cones conditioning time and humidity</p> <p>Ability to: access conditioning efficiency</p>	04hrs	16 hrs	Filled cones, conditioning machine	Conditioning department and classroom
LU 3. Wrap the individual cones	Knowledge of cone packing methods	<p>Knowledge of: Cones packing individually</p> <p>Ability to: pack material properly</p>	06hrs	24 hrs	Conditioned cones, polythene bags, stoppers	Packing room

<p>LU 4. Pack the cones in recommended package</p>	<p>Know how about customer order.</p>	<p>Knowledge of: customer order</p> <p>Ability to: pack the cones as per requirement</p>	<p>06hrs</p>	<p>24 hrs</p>	<p>Conditioned cones, pallets, lifter, polythene bags, cartoons</p>	<p>Packing room</p>
--	---------------------------------------	--	--------------	---------------	---	---------------------



## Module 11: Communicate with others

Objective of the Module: To develop skill how to interact with others

Duration: 80 hours Theory: 16 hours Practice: 64 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Communicate with people in relevant department	Know how about communicating at senior level	Knowledge of: Mutual interaction techniques and problem solving  Ability to: communicate properly	04 hrs	16 hrs	Nil	Classroom and mill
LU 2. Communicate with the supervisor	Knowledge about communicating at senior level	Knowledge of: Communicating with people  Ability to: give respect	06hrs	24 hrs	Nil	Classroom and mill
LU 3. Communicate with co-workers	Understanding communication at same level	Knowledge of: leadership skills  Ability to: be competitive	06 hrs	24 hrs	Nil	Classroom and mill

## Module 12: Develop Professionalism

Objective of the Module: Skill related to management have to be developed

Duration: 60 hours Theory: 12 hours Practice: 48 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Consult with expert workers	Knowledge enhancement and skill development	<p>Knowledge of: managing time to meet experienced people</p> <p>Ability to: seeking from others experience</p>	02 hrs	08 hrs		Class room and mills
LU 2. Skill Development	Experience enhancement	<p>Knowledge of: Trainings being held</p> <p>Ability to: get properly trained</p>	10 hrs	40 hrs	Training material	Class room and lab

## Module 13: Adopt Safety Precautions

Objective of the Module: Development of sense how to protect man, material and machine

Duration: 100 hours Theory: 20 hours Practice: 80 hours

Learning Unit	Learning Outcomes	Learning Elements	Duration Theory	Duration Practical	Materials Required	Learning Place
LU 1. Apply safety tools, equipments and techniques	Awareness of process safety	Knowledge of: Safety requirements  Ability to: use safety tools	08hrs	32 hrs	Safety equipments	Class room and lab
LU 2. Apply human safety	Know how about personal safety	Knowledge of: personal safety  Ability to: protect himself	04 hrs	16 hrs	First aid box	Class room and lab
LU 3. Apply workplace safety	Understand safety measures at working place	Knowledge of: Industrial safety  Ability to: minimize hazards	08 hrs	32 hrs	Electrical and fire equipments	Class room and lab

## Assessment Template

### Module 1: Carryout Machine Inspection

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Perform cleaning	.5 hr	.5hours	<p>Demonstrate the cleaning of floor of all departments</p> <p>Describe about the cleaning of relevant department machines</p> <p>List out the cleaning procedures</p> <p>Direct observation of cleaning on machines and floors</p> <p>Identify objects and situations which can be dangerous and how safe cleaning procedures occur.</p>	<p>Direct observation from practical demonstration by trainee on a cleaner whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative test requiring diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 2.</b> Inspect tools and	1 hours	1.5 hours	Make obvious the inspection of	Direct observation from practical	

equipment			<p>tools and equipments of all departments</p> <p>Explanation of the tools and equipments of relevant department machines</p> <p>Prepare the list of tools and equipments</p> <p>Identify objects and situations which can be dangerous for inspection.</p>	<p>demonstration by trainee on a inspection of tools and equipments whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative test requiring diagrams</p> <p>Multiple Choice Questions</p>	
<b>LU 3.</b> Carry out trial run of machine	.5 hours	01 hours	<p>Reveal the description of machines of all departments</p> <p>Describe about the test run of relevant department machines</p> <p>Direct observation of trial run</p> <p>Identify objects and situations which can be safe for trial run.</p>	<p>Direct observation from practical demonstration by trainee on a cleaner whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 4.</b> Check, the	01	.5 hours	Recognize the	Direct observation	

types of material in process	hours		<p>material types in process</p> <p>Describe about influence of the material type in process</p> <p>Direct observation of type of material in process.</p>	<p>from practical demonstration by trainee on type of material whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p> <p>Assignments</p> <p>Multiple Choice Questions</p>	
<b>LU 5.</b> Details of machines	1.5 hours	01 hours	<p>Demonstrate the settings of machines</p> <p>Tell about the gauges of beaters, waste box, grid bars, drafting zones etc.</p> <p>List out the points where setting is required</p> <p>Direct observation of machine settings.</p>	<p>Direct observation from practical demonstration by trainee on settings of machine whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Gearing diagrams</p> <p>Demonstration by trainee</p> <p>Assignments</p> <p>Multiple Choice Questions</p>	

<b>LU 6.</b> Inform the incharge about problems of relevant department	0.25 hours	0.25 hours	Demonstrate how to inform the inchrge about problems of relevant department	Demonstration by trainee  Oral assessment	
--	------------	------------	---	---	--

## Module 2: Perform Initial Operations of Blow Room

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Opening and mixing of bales	0.5 hours	0.5 hours	<p>Tell about the area where bales have to be opened</p> <p>Describe about the methods of bale opening</p> <p>List out the ways of placing and opening of bales</p> <p>Directly observe the bale placement</p> <p>Identify situations which can be dangerous for environment.</p>	<p>Direct observation from practical demonstration by trainee on bales opening whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 2.</b> Removal of contamination from material	0.5 hours	0.5 hours	<p>Describe how to sort out contamination</p> <p>Describe about contamination types</p> <p>List out the contamination sorted</p>	<p>Direct observation from practical demonstration by trainee on contamination removal whilst being safety conscious.</p> <p>Short answer questions test.</p>	



			<p>Direct observation of contamination removal</p> <p>Identify (manual and mechanical) methods for contamination removal.</p>	<p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p>	
<p><b>LU 3.</b>Place the material under mixing machine</p>	<p>0.5 hours</p>	<p>0.5 hours</p>	<p>Explain how to place bales under machine</p> <p>Demonstrate the quantity of use able waste to be added</p> <p>Describe about the machine capacity</p> <p>Direct observation of bale placement under machine</p> <p>Recognize safety measures to be adopted for placement.</p>	<p>Direct observation from practical demonstration by trainee on placement of bales whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<p><b>LU 4.</b>Check the flow of material</p>	<p>0.5 hours</p>	<p>0.5 hours</p>	<p>Demonstrate the material flow</p> <p>List out the</p>	<p>Direct observation from practical demonstration by trainee on material flow</p>	

			<p>passages of material flow</p> <p>Direct observation of material flow</p>	<p>whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<p><b>LU 5.</b> Check the contamination sorting process</p>	<p>1 hours</p>	<p>0.5 hours</p>	<p>Explain the procedures of sorting contamination</p> <p>Describe about the types of sorting either manually or mechanically</p> <p>Make observation on contamination sorting process</p>	<p>Direct observation from practical demonstration by trainee on contamination sorting whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	

<p><b>LU 6.</b>Removal waste material from waste boxes</p>	<p>0.5 hours</p>	<p>0.5 hours</p>	<p>Illustrate the removal of waste from the waste box</p> <p>Explain about the mechanism of waste removal</p> <p>Make the list of tools being used to remove the waste</p> <p>Identify objects which can be dangerous for waste removal.</p> <p>Use mill reports on waste.</p>	<p>Direct observation from practical demonstration by trainee on waste removal whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Diagrams of waste box and waste types</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
--	------------------	------------------	--	--	--

### Module 3: Perform Carding Operations

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Check the material to be fed	0.25 hours	0.25 hours	<p>Tell about the feeding methods.</p> <p>Describe about the parts and material in it.</p> <p>Identify objects and situations which can be dangerous and know about safety procedures.</p>	<p>Direct observation from practical demonstration by trainee on material feed box whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 2.</b> Place empty can in coiler	0.25 hours	0.25 hours	<p>Direct observation of empty cans and their placement.</p> <p>Give information on the cans numbering.</p>	<p>Direct observation from practical demonstration by trainee on empty cans in coiler whilst being safety conscious.</p> <p>Demonstration by trainee</p>	
<b>LU 3.</b> Operate the	0.25 hours	0.25 hours	Demonstrate the operations of	Direct observation	

carding machine			carding machine  Describe about the main parts of carding machine  Direct observation of carding machine operations.	from practical demonstration by trainee on card machine running whilst being safety conscious.  Short answer questions test.  Assignments  Demonstration by trainee  Multiple Choice Questions	
<b>LU 4.</b> Handover the carded sliver	0.25 hours	0.25 hours	Explain the care handling of the material	Direct observation from practical demonstration by trainee on hand over to next department whilst being safety conscious.  Short answer questions test.  Demonstration by trainee	

## Module 4: Perform breaker drawing Frame Operations

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Place the received carded sliver cans on respective drawing frame	0.25 hours	0.5 hours	<p>Demonstrate the receiving of material</p> <p>Describe card carded can stacking</p> <p>Direct observation of delivery card material.</p> <p>Describe the safety handling of material</p>	<p>Direct observation from practical demonstration by trainee on receiving of carded material whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	
<b>LU 2.</b> Check can crossing drawing	0.5 hours	0.25 hours	<p>Demonstrate the can crossing behind the creel.</p> <p>Direct observation of can crossing behind the creel.</p> <p>Identify objects and situations which can be dangerous and how safe procedures can be done.</p>	<p>Direct observation from practical demonstration by trainee on draw frame creel whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams of creel</p> <p>Demonstration</p>	

				by trainee Multiple Choice Questions	
<b>LU 3.</b> Check the number of doubling	0.5 hours	0.25 hours	<p>Demonstrate the no of doublings being used.</p> <p>Describe about the material, gauges, and draft for the no. of doublings to be used.</p> <p>Enlist the ways of doubling</p> <p>Direct observation of draw frame machine</p> <p>Identify that the doubling sequence has not been disturbed.</p> <p>Use the mill report for doubling requirements.</p>	<p>Direct observation from practical demonstration by trainee on doubling method whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 4.</b> Clean the drafting zone	0.5 hours	0.5 hours	<p>Demonstrate the procedure of cleaning on drafting zone of draw frame.</p> <p>Describe its cleaning process.</p> <p>Enlist out the</p>	<p>Direct observation from practical demonstration by trainee on draft zone whilst being safety conscious.</p> <p>Short answer questions test.</p>	

			<p>procedures being used in cleaning of the zone.</p> <p>Explain the waste being extracted during cleaning</p>	<p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 5.</b> Perform the draw frame trial test	0.25 hours	0.5 hours	<p>Explain the draw frame operation</p> <p>Describe about the parts of draw frame.</p> <p>Direct observation of trial test machine</p> <p>Identify objects and situations which can be dangerous.</p>	<p>Direct observation from practical demonstration by trainee on draw frame running whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p>	
<b>LU 6.</b> Hand over drawn sliver	0.25 hours	0.25 hours	<p>Demonstrate how to hand over the material to the next department</p>	<p>Direct observation from practical demonstration by trainee on hand over to next department whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	



## Module 5: Perform lap formation and combing Operations

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Creel the received drawn sliver	0.25 hours	0.5 hours	<p>Demonstrate how to place drawn sliver on lap former creel</p> <p>Describe about the drawn sliver characteristics</p> <p>List out the received material type and its characteristics</p> <p>Direct observation of received material.</p> <p>Care handling of the material.</p>	<p>Direct observation from practical demonstration by trainee on received draw frame sliver whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams of drawn sliver can</p> <p>Demonstration by trainee</p>	
<b>LU 2.</b> Check the sliver doubling	0.5 hours	0.25 hours	<p>Demonstrate the no of doublings being used.</p> <p>List out the ways of doubling</p> <p>Direct observation of lap on machine</p>	<p>Direct observation from practical demonstration by trainee on sliver doubling whilst being safety conscious.</p> <p>Short answer questions test.</p>	

			Identify that the doubling has not been broken or damaged.	Assignments Illustrative diagrams  Demonstration by trainee  Multiple Choice Questions	
<b>LU 3.</b> Run the lap-former machine	0.5 hours	0.25 hours	Explain the lap former operation  Describe about the parts of lap former.  Identify objects and situations which can be dangerous so that safety methods have to be adopts.	Direct observation from practical demonstration by trainee on lap former running whilst being safety conscious.  Short answer questions test.  Assignments  Illustrative test requiring diagrams  Demonstration by trainee  Multiple Choice Questions	
<b>LU 4.</b> Feed the lap to combining machine	0.5 hours	0.5 hours	Demonstrate the lap feeding on comber.  Illustrate the drafting zone of comber.	Direct observation from practical demonstration by trainee on lap feeding to comber whilst being safety	

			<p>Direct observation of combing machine.</p> <p>Carefully add the material to feeding point.</p> <p>Demonstrate how many laps are required for the combing process at the spot.</p>	<p>conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 5.</b> Run the comber	0.5 hours	0.5 hours	<p>Explain the comber operations</p> <p>Describe about the parts of comber.</p> <p>Direct observation of running machine</p> <p>Identify objects and situations which can be dangerous so safety methods have to be adopted</p>	<p>Direct observation from practical demonstration by trainee on comber whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 6.</b> Remove the comber noil	0.5	0.5	<p>Explain the comber noil removal procedure</p>	<p>Direct observation from practical demonstration by trainee on comber noil</p>	

			<p>Direct observation of comber noil</p> <p>Identify objects and situations which can be dangerous so that safety methods have to be adopted</p>	<p>whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	
--	--	--	--	---	--

## Module 6: Perform Finisher drawing Frame Operations

Learning Units	Theory Days/ hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Place the received carded/comber sliver cans under machine creel	0.5 hours	0.5 hours	<p>Demonstrate the receiving of material</p> <p>Describe carded/comber can stacking</p> <p>Direct observation of delivery card material.</p> <p>Describe the safety handling of material</p>	<p>Direct observation from practical demonstration by trainee on receiving of carded material whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	
<b>LU 2.</b> Check the number of doubling	0.5 hours	0.25 hours	<p>Demonstrate the no of doublings being used.</p> <p>Describe about the material, gauges, and draft for the no. of doublings to be used.</p> <p>Enlist the ways of doubling</p> <p>Direct observation of draw frame machine</p>	<p>Direct observation from practical demonstration by trainee on doubling method whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams</p> <p>Assignments</p> <p>Demonstration by trainee</p>	

			<p>Identify that the doubling sequence has not been disturbed.</p> <p>Use the mill report for doubling requirements.</p>	<p>Multiple Choice Questions</p>	
<p><b>LU 3.</b> Clean the drafting zone</p>	<p>0.5 hours</p>	<p>0.5 hours</p>	<p>Demonstrate the procedure of cleaning on drafting zone of draw frame.</p> <p>Describe its cleaning process.</p> <p>Enlist out the procedures being used in cleaning of the zone.</p> <p>Explain the waste being extracted during cleaning</p>	<p>Direct observation from practical demonstration by trainee on draft zone whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<p><b>LU 4.</b> Perform the draw frame trial test</p>	<p>0.25 hours</p>	<p>0.5 hours</p>	<p>Explain the draw frame operation</p> <p>Describe about the parts of draw frame.</p> <p>Direct observation of trial test machine</p>	<p>Direct observation from practical demonstration by trainee on draw frame running whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration</p>	

			Identify objects and situations which can be dangerous.	by trainee	
<b>LU 5.</b> Hand over drawn sliver	0.25 hours	0.25 hours	Demonstrate how to hand over the material to the next department	<p>Direct observation from practical demonstration by trainee on hand over to next department whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	

## Module 7: Perform Simplex Operations

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Place the received finished sliver cans under roving frame creel	0.5 hours	0.5 hours	<p>Demonstrate the receiving and placement of material under creel</p> <p>Direct observation of receiving and placement of material</p> <p>Identify objects and situations for material handling carefully.</p>	<p>Direct observation from practical demonstration by trainee on receiving of drawn sliver whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	
<b>LU 2.</b> Place empty bobbins on roving frame	0.25 hours	0.25 hours	<p>Demonstrate the procedure of placing empty bobbins.</p> <p>Direct observation of placement of empty bobbins</p> <p>Identify objects and situations which can be dangerous and how safe placement procedures occur.</p>	<p>Direct observation from practical demonstration by trainee on placement of empty bobbins whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative test requiring diagrams</p> <p>Demonstration by trainee</p>	



				Multiple Choice Questions	
<b>LU 3.</b> Insert the roving in flyer presser	0.5 hours	0.25 hours	<p>Explain how to feed the roving in flyer presser</p> <p>Describe about the type of flyer, speed and presser arm</p> <p>Ask about the placement of roving in the flyer presser</p> <p>Sort out the objects and situations which can be dangerous.</p>	<p>Direct observation from practical demonstration by trainee on received roving feed in flyer whilst being safety conscious.</p> <p>Short answer questions test</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 4.</b> Operate the roving frame	0.25 hours	0.5 hours	<p>Demonstrate the functions of roving machine and its parts</p> <p>Describe about the individual running machine's parts</p> <p>List out the parts of machine running</p> <p>Direct observation of</p>	<p>Direct observation from practical demonstration by trainee on running of roving machine whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p>	

			<p>machine operation.</p> <p>Use safety methods to run the machine</p>	Multiple Choice Questions	
<b>LU 5.</b> Piecing when needed	0.25 hours	0.25 hours	<p>Demonstrate the broken sliver.</p> <p>Direct observation of piecing of roving.</p>	<p>Direct observation from practical demonstration by trainee on a cleaner whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p>	
<b>LU 6.</b> Doff the filled bobbins	0.5 hours	0.5 hours	<p>Demonstrate the doffing operations</p> <p>Direct observation of doffing</p> <p>Handle the material carefully</p>	<p>Direct observation from practical demonstration by trainee on a doffed bobbins whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p>	
<b>LU 7.</b> Stacking the roving bobbins properly	0.25 hours	0.5 hours	Demonstrate the handling of material carefully	<p>Short answer questions test.</p> <p>Demonstration by trainee</p>	

## Module 8: Perform ring frame Operations

Learning Units	Theory Days/ hours	Workplace Days/ hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Hang the received roving bobbins on ring frame as per requirement	01 hour	0.25 hours	<p>Demonstrate the transportation of roving bobbins and their proper hanging</p> <p>Describe about the type of creel and roving bobbins holder types.</p> <p>Ask the trainee to handle it</p> <p>Tell about the safety care handling procedures for the roving bobbins.</p>	<p>Direct observation from practical demonstration by trainee on received roving bobbins whilst being safety conscious.</p> <p>Short answer questions test</p> <p>Demonstration by trainee</p>	
<b>LU 2.</b> Feed the roving to drafting zone	1 hours	0.5 hours	<p>Describe the drafting zone rollers and how to feed the roving to the back zone rollers</p> <p>Describe the roving passage of the drafting zone, aprons, condenser, separators</p>	<p>Direct observation from practical demonstration by trainee on feed of roving whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams</p> <p>Demonstration</p>	

				by trainee	
<b>LU 3.</b> Clean the drafting zone	01 hour	0.5 hours	<p>Demonstrate the procedure of cleaning on drafting zone of ring frame.</p> <p>Describe its cleaning process.</p> <p>Enlist out the procedures being used in cleaning of the zone.</p> <p>Explain the waste being extracted during cleaning</p>	<p>Direct observation from practical demonstration by trainee on draft zone whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 4.</b> Place empty bobbins on spindle	0.5 hours	0.25 hours	<p>Demonstrate the placement of empty bobbins on spindle and yarn attachment.</p> <p>Describe the type spindle and colours of bobbins.</p>	<p>Give direct practical demonstration for observation on empty bobbins and spindle whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative requiring diagrams</p> <p>Presentations by trainee</p>	
<b>LU 5.</b> Insert the suitable	1 hours	0.5 hours	Demonstrate the role of traveller	Direct observation from practical	

traveller on ring			Describe about the requirement of suitable traveller for the respective count.	demonstration by trainee on travelers whilst being safety conscious.  Short answer questions test.  Illustrative diagrams  Assignments	
<b>LU 6.</b> Piecing of the yarn	0.5 hours	0.25 hours	Describe about the faults which cause breakage  Describe about the piecing procedures of yarn  Direct observation of piecing of yarn	Direct observation from practical demonstration by trainee on yarn piecing whilst being safety conscious.  Short answer questions test.  Assignments  Make diagrams of twisted untwisted yarn  Demonstration by trainee	
<b>LU 7.</b> Start the machine	0.25 hours	0.5 hours	Demonstrate the operation of machine  Describe about the parts of machine	Direct observation from practical demonstration by trainee on a ring machine running whilst being safety conscious.	

			<p>Direct observation of machine operation</p> <p>Recognize items and conditions which can be dangerous and follow the safety rules.</p>	<p>Short answer questions test.</p> <p>Demonstration by trainee</p>	
<b>LU 8.</b> Doffing process	0.5 hours	0.5 hours	<p>Explain the shape of the package, doff time, rail movement and the factors which control its movement to the trainee</p> <p>Direct observation of doffing process</p> <p>Identify objects and situations which can be dangerous and how safe cleaning procedures occur.</p>	<p>Give direct practical observation to trainee.</p> <p>Ask the trainee to make assignments after reading the required catalogue</p> <p>Ask Short answers questions</p> <p>Ask to make gearing diagrams and do calculations</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 9.</b> Hand over the ring spun bobbins to	0.5 hours	0.5 hours	<p>Demonstrate the handling of material carefully</p>	<p>Direct observation from practical demonstration by trainee on a handling of</p>	

winding departm ent				ring bobbin whilst being safety conscious.  Demonstration by trainee	
---------------------------	--	--	--	--	--

## Module 9: Perform cone winding Operations

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<p><b>LU 1.</b></p> <p><b>LU 2.</b> Feed the received ring bobbins in the magazine as per requirement</p>	0.25 hours	0.25 hours	<p>Demonstrate the process of receiving and feeding the bobbins in magazine</p> <p>Feeding in magazine as per instruction</p> <p>Tell about the handling of bobbins carefully procedures for the ring bobbins.</p>	<p>Direct observation from practical demonstration by trainee on receiving o ring bobbins whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p>	
<p><b>LU 3.</b> Place empty cones on the winding unit</p>	0.25 hours	0.5 hours	<p>Explain the placement of empty cones in adapters.</p> <p>Describe about the yarn attachment on the cone to start the process.</p>	<p>Direct observation from practical demonstration by trainee on empty cones whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<p><b>LU 4.</b> Run the</p>	0.25	0.25	Demonstrate the	Direct observation	



machine	hours	hours	<p>operation of machine</p> <p>Describe about the parts of machine</p> <p>Direct observation of running machine</p> <p>Recognize items and conditions which can be dangerous and follow the safety rules.</p> <p>Describe the yarn clearers and splicers.</p>	<p>from practical demonstration by trainee on running cone machine whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Illustrative diagrams</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 5.</b> Stacking of the finished package in conditioning department	0.5 hours	0.75 hours	<p>Demonstrate the process handling and stacking of material</p> <p>Direct observation of cones handling and stacking</p> <p>Identify objects and situations which can be dangerous and how safe handling procedures occur.</p>	<p>Direct observation from practical demonstration by trainee on hand over to conditioning department whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p>	

## Module 10 Perform yarn conditioning and packing

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Place the cones in conditioning machine or in conditioning room machine	0.25 hours	0.25 hours	<p>Demonstrate the placement of cones in the machine or in the conditioning room.</p> <p>Describe about the method of cones placement in the conditioning machine or conditioning room.</p> <p>Tell about the conditioning parameters of the yarn</p>	<p>Direct observation from practical demonstration by trainee on a placement of cones whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 2.</b> Stack the cones after conditioning	0.5 hours	0.5 hours	<p>Explain the way of stacking the cones after conditioning.</p> <p>Explain the methods of handling of material carefully</p>	<p>Direct observation from practical demonstration by trainee on stacking of cones whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Illustrative test requiring diagram</p> <p>Multiple Choice</p>	

				Questions	
<b>LU 3.</b> Wrap the individual cones	0.5 hours	0.25 hours	<p>Explain the way of warping the cones for packing..</p> <p>Explain material used for packing of individual cones</p> <p>Describe the cones weight measuring</p> <p>Direct observation of packing of cones</p> <p>Explain the methods of handling material carefully</p>	<p>Direct observation from practical demonstration by trainee on packing of cones whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 4.</b> Pack the cones in recommended package	0.25 hours	0.25 hours	<p>Explain the method of packing the cones.</p> <p>Explain material used for packing.</p> <p>Describe the weight measuring</p> <p>Direct observation of packing of cones</p> <p>Explain the methods of handling material carefully</p>	<p>Direct observation from practical demonstration by trainee on a cleaner whilst being safety conscious.</p> <p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	

## Module 11: Communication with others

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Communicate with people in relevant department	1 hours	1 hours	<p>Demonstrate basic communication principles</p> <p>Describe effective communication</p> <p>Explain the methods and types of communication.</p> <p>Explain the human nature and their behavior in departments.</p>	<p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 2.</b> Communicate with the supervisor	1 hour	1 hour	<p>Explain the management levels.</p> <p>Describe the Human management.</p> <p>Demonstrate about success secrets</p>	<p>Short answer questions test.</p> <p>Assignments</p> <p>Demonstration by trainee</p> <p>Multiple Choice Questions</p>	
<b>LU 3.</b> Communicate with co-workers	2 hour	1 hour	<p>Describe about building relationship.</p> <p>Describe building</p>	<p>Short answer questions test.</p> <p>Assignments</p>	

			mutual trust Explain face to face communication methods	Demonstration by trainee Multiple Choice Questions	
--	--	--	--	---	--

## Module 12: Develop Professionalism

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Consult with expert workers	1 hours	0.5 hours	Describe the methods how to shape learning paths  Explain time and cost management.  Explain motivation and reflection	Assignments  Short answer questions test.  Use academic journals and professional lectures  Demonstration by trainee  Multiple Choice Questions	
<b>LU 2.</b> Skill Development	2 hours	1.5 hours	Explain the training ways  Describe professional learning environment  Demonstrate training network	Assignments  Short answer questions test.  Demonstration by trainee	

## Module 13: Adopt Safety Precautions

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
<b>LU 1.</b> Apply safety tools, equipments and techniques	1 hours	0.75 hours	Describe types of hazards and how to response  Demonstrate use of safety equipments	Assignments Short answer questions test.  Illustrative diagrams  Demonstration by trainee	
<b>LU 2.</b> Apply human safety	1.5 hours	0.5 hours	Demonstrate first aid methods  Explain the safety rules.  Explain the hazards	Assignments Short answer questions test.  Demonstration by trainee  Multiple Choice Questions	
<b>LU 3.</b> Apply workplace safety	1.5 hours	0.75 hours	Describe risk management  Describe fire and electrical hazards  Describe the SOPs for safety being used in industry.	Short answer questions test.  Demonstration by trainee  Assignments  Multiple Choice Questions	

## Supportive notes

- **Assessment context** This certificate will be assessed on the job.
- **(Critical aspects)**
  1. Detail of machines,
  2. Types of materials,
  3. Careful handling of equipment,
  4. Human safety,
  5. Coordination with internal customers
- **Assessment condition**
  1. the learner will have access to all tools,
  2. the learner will be permitted to look at reference materials,
  3. the learner will be required to communicate their answers to the assessor,
  4. the learner have to give presentation on the required topic.
- **Resources required for assessment** All machines with respect to the relevant department, Setting tools etc



## List of Tools, Machinery & Equipment

<b>Name of Trade</b>	Certificate in Yarn Manufacturing (Spinning)
<b>Duration</b>	<b>1 year</b>

<b>Sr. No.</b>	<b>Name of Item/ Equipment / Tools</b>	<b>Qty.</b>
1.	Auto-plucker	01
2.	Bale breaker	01
3.	Blendomate	01
4.	Condensor	01
5.	Metal Detector, Fire Detector	01
6.	Dustex	01
7.	B-11	01
8.	Maxi-Flow/ Axi-Flow/ Step-Cleaner	01
9.	Porcupine Beater/opener	01
10.	Multimixer	01
11.	CVT-I, CVT-III, Scutcher	01
12.	Loptex, vision shield and S- PU	01
13.	Carding machine	01
14.	Samples of card wires	01
15.	Breaker Draw frame	01
16.	Lap former	01
17.	Comber	01
18.	Finisher draw frame	01
19.	Roving frame(simplex)	01
20.	Ring frame	01
21.	Ring Travelers	01 box
22.	Bobbin	02
23.	Cone	03
24.	Cans	01
25.	Packing materials	01
26.	Auto-cone machine	01
27.	Yarn conditioning machine	01
28.	Pallet Packing machine	01

## List of Consumable Supplies

<b>Name of Trade</b>	Certificate in Yarn Manufacturing (Spinning)
<b>Duration</b>	<b>1 year</b>

<b>Sr. No.</b>	<b>Name of Consumable Supplies</b>
1.	Travellers
2.	Mobile oil
3.	Grease
4.	Nuts
5.	Bolts
6.	Dusting Cloth
7.	Rubber cots
8.	Aprons
9.	Broom
10	Packing materials

## Contributions for Development of This Curriculum

### DACUM Working Group

Mr. M. Amin, Farooq Habib Mills, Lahore	Mr. Ali Bahdur, Operator Elcot Spinning Mills, Lahore
Mr. Sana Ullah, Jobber Farooq Habib Mills, Lahore	Mr. M. Sajjad, Operator Elcot Spinning Mills, Lahore
Mr. Allah Ditta, Jobber Farooq Habib Mills, Lahore	Mr. M. Aslam, Elcot Spinning Mills, Lahore
Mr. M. Ahmad, Head Jobber Elcot Spinning Mills, Lahore	Ms. Qurbat Zahra, Trainee Engineer, Skytex, Lahore
Mr. M. Ashiq, Jobber Elcot Spinning Mills, Lahore	Ms. Almas Anwar, ASM, Gulshan Gulistan Textile Mills, Bahawalpur

### Curriculum Developer

### Technical Expert

Mr. Arif Mukhtar Deputy Manager (Technical) Service Centers, TEVTA Punjab.	Dr. Nabeel Amin Director, School of Textile and Design (STD), Lahore.
--	---

### National Curriculum Review Committee (NCRC) Members

Engr. Ahmed Ali Rana Govt. College of Technology, Multan	Mr. Maqsood Javed General Manager Hassan Ltd. Gojra
Mr. Anjum Latif Assistant Professor Govt. College of Technology, Karachi	Haji Muhammad Assistant Sales Manager Nishat Chunian
Mr. Ghulam Abbass Technical Director Nishat Mills Ltd. Faisalabad	Ms. Qurbat Zahra Lecturer University of Management & Technology, Lahore
Mr. Wajid Latif Deputy General Manager Sapphire Ltd. Feroze Watwan, Lahore	

### DACUM Facilitator

### DACUM Coordinator

Ms. Sadia Abbasi Assistant Director, NAVTTC, Islamabad	Mr. Muhammad Nasir Khan Deputy Director, NAVTTC, Islamabad
---	---