

## Certificate Course in Supervisory skilling programme on Jute Spinning and Winding (S-2)

Duration: 560 hours

Domain Skill: 500 hours

Section	Spinning, Twisting and Winding	Contact Hours
<b>Spinning</b>	<ul style="list-style-type: none"> <li>• Objectives of spinning.</li> <li>• Principles of Drafting, Twisting &amp; Winding;</li> <li>• Different types and mechanisms of jute spinning machines (Slip Draft and Apron Draft)</li> <li>• Basic concept of draft and yarn count and twist. Idea of draft constant and twist constant.</li> <li>• Basic concept about listing and sliver stop motion</li> <li>• Basic idea about check points regarding production and machine parameters</li> <li>• Basic concept of humidifier, its type and necessity.</li> <li>• Practical demonstration.               <ul style="list-style-type: none"> <li>○ Machine operation, machine safety,</li> <li>○ Identification of machine parts,</li> <li>○ drawing of gearing diagram and calculations –Draft constant, Feed ratios, draft</li> </ul> </li> <li>• Identification of yarn faults and rectification</li> <li>• Yarn waste and its control</li> <li>• Do's and Don'ts of Spinning operation (for export yarn)</li> <li>• Spinning calculations - machine parameters and production</li> <li>• Causes of efficiency loss – doffing loss, idle spindle, speed loss etc.</li> </ul>	<b>Theory</b> 60 <b>Practical</b> 150
<b>Twisting</b>	<ul style="list-style-type: none"> <li>• Objectives of twisting.</li> <li>• Principles of Twisting &amp; Winding;</li> <li>• Importance of type of twist (S or Z)&amp; its application areas</li> <li>• Measures to reduce wastages and achieve higher production &amp; efficiency.</li> <li>• Quality Parameters of Some of the plied yarns</li> </ul>	<b>Theory</b> 30 <b>Practical</b> 90

Section	Spinning, Twisting and Winding	Contact Hours
	<ul style="list-style-type: none"> <li>• Basic idea about check points regarding production and machine parameters</li> <li>• Practical demonstration. <ul style="list-style-type: none"> <li>○ Machine operation, machine safety,</li> <li>○ Identification of machine parts,</li> <li>○ drawing of gearing diagram and calculations</li> </ul> </li> <li>• Identification of faults and rectification</li> <li>• Yarn waste and its control</li> <li>• Twisting calculations - machine parameters and production</li> </ul>	
<b>Winding</b>	<ul style="list-style-type: none"> <li>• Purpose and types of winding. Different types of jute spool winding machine. Different parts and their functions. Operational mechanism of different spool winding machines. Types of knots used for joining yarn at winding stage and its importance.</li> <li>• Basic concept and working mechanism of precession winding machine used in jute mills. Introduction of yarn clearer and yarn tensioning system.</li> <li>• Purpose of cops winding, cop winding machine vertical type, different part and their functions. Important settings of cop winding machine.</li> <li>• Identification of faults and rectification</li> <li>• Do's and Don'ts of winding operation</li> <li>• Maintain work area, tools, material handling equipment and machinery for jute processing</li> <li>• Important calculations</li> <li>• Yarn waste and its control</li> </ul>	<p style="text-align: center;"><b>Theory</b> 40</p> <p style="text-align: center;"><b>Practical</b> 80</p>
<b>Testing and Quality Control</b>	<ul style="list-style-type: none"> <li>• Concept of Quality and Statistical Quality Control</li> <li>• Role of Sampling for testing</li> <li>• Testing standard and SOP of test method</li> <li>• Yarn Testing – yarn count and count CV%, yarn strength and strength CV%, Quality Ratio, T.P.I and T.P.I CV% etc.</li> </ul>	<p style="text-align: center;"><b>Theory</b> 20</p> <p style="text-align: center;"><b>Practical</b> 30</p>

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	<ul style="list-style-type: none"> <li>• Statistical quality control system, between and within bobbin variation</li> </ul>	
<b>Basic Computer Skill</b>	<ul style="list-style-type: none"> <li>• Basic concept of computer application and its necessity in jute mill</li> <li>• Introduction of MS Office               <ul style="list-style-type: none"> <li>○ Use of MS Word</li> <li>○ Use of MS Excel</li> <li>○ Use of MS PowerPoint</li> </ul> </li> <li>• Internet and E-mail, procedures, use of apps etc.</li> </ul>	<b>Theory</b> 6 <b>Practical</b> 24
<b>Soft Skill</b>	<ul style="list-style-type: none"> <li>• Basic concept about the man machine ratio and hands complements</li> <li>• Fire and industrial safety management</li> </ul>	<b>Theory</b> 5 <b>Practical</b> 5
<b>Interactive Session / Mill Practice</b>		20
<b>Total</b>		<b>560</b>