

Syllabus for Jute Warp Winder Operator

Course Name	Jute Warp Winder Operator
Sector	Textiles & Handlooms
Course Code	TXT/2024/JWWO/380
Level	3
Occupation	Jute Warp Winder Operator
Job Description	The Jute Warp Winder Operator is responsible for operating and overseeing the jute warp winding machinery in a manufacturing setting. This role involves setting up and adjusting the warp winding equipment, monitoring the production process and ensuring the efficient and accurate winding of jute fibers onto spools or bobbins.
Course Duration	Total Duration 330 Hrs (T-60, P-150, OJT-60 and ES-60)
Trainees' Entry Qualification	Grade 10 OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR 5th grade pass with 5 years relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
Trainers Qualification	B. Tech/B.E. in Textile Technology/Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field. OR Diploma in Textile Technology/Engineering from AICTE recognized board of technical education with two years' experience in the relevant field. OR NTC/NAC in the trade with 5 years experience in the relevant field.

Structure of Course:

Module No.	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
1	Taking over/handing over the shift	Explain the procedure of taking over/handing over shift to Jute Wrap Winding Operator	Compulsory	10	20		30

Module No.	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
2	Warp winding process	Demonstrate the Warp winding process	Compulsory	20	70		90
3	Maintenance of work area, tools and material handling equipment	Maintain work area, tools, material handling equipment and machinery for jute processing	Compulsory	20	40		60
4	Maintain health, safety and security	Maintain health, safety and security at workplace	Compulsory	10	20		30
5	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	Compulsory	-	-	60	60
6	Employability Skill	As per guided curriculum	Compulsory	60	-		60
TOTAL				120	150	60	330

SYLLABUS:**Module No. 1: Taking over/handling over the shift**

Outcome: Explain the procedure of taking over/handling over shift to Jute Wrap Winding Operator

Theory Content:

- Introduction to shift takeover/handover
- Overview of the primary duties and tasks of a Jute Wrap Winding Operator
- Importance of verbal and written communication in the takeover/handover process
- Perform tasks while taking charge of shift and handing overshift
- Identification of potential hazards in jute wrap winding operations

Practical Content:

- Follow the Process of shift takeover
- Verify the current status of jute wrap winding machine
- Create a shift log or handover document
- Communicate verbally with the incoming operator
- Articulate the tasks and responsibilities performed during the outgoing shift
- Conduct a visual inspection of the jute wrap winding machine
- Maintain the safety protocol and guidelines

Module No. 2: Warp winding process

Outcome: Demonstrate the Warp winding process

Theory Content:

- Specification of different type of winding machine. Old (Fraser) and modern high speed precision winding machine (Mack roll DS 31).
- Introduction to different types of drums (half and full accelerated grooved drum), different types of packages (Cone/spool/ cheese) Tensioning arrangement, Stop Motion, Length & Diameter adjustment motion, winding package build up, tensioner slub catcher etc.,
- Setting points of winding machine Setting of tensioner, slub catcher setting, lubrication, maintenance schedules.
- Creeling system, drive system, brake disc, pressure gauge, blower, tension rod, rack and pinion, creel shifting mechanism stop motion, clutch assembly
- Difference between direct and sectional warping, beaming mechanism, maintenance schedule, machine related technical data.
- Gearing arrangement, passage of yarn, over head blower, types of creel, stop motion function, tension bar arrangement, types of drive, direct and indirect – direction control valve, pneumatic and hydraulic – type of brake and length measuring method – speed control method – doffing system – maintenance schedules etc. .
- Classification of package faults, their major causes and prevention.

Practical Content:

- List out the specification of Different Types of Winding Machines:
 1. Old (Fraser) Winding Machine:
 2. Modern High-Speed Precision Winding Machine (Mack Roll DS 31):
- Identify the functions of Different Components:
Drums, Packages, Stop Motion, Winding Package Build-Up
- Demonstrate the Setting Points of Winding Machine:
 1. Tensioner Setting:
 2. Slub Catcher Setting:
 3. Lubrication:
- 3. Maintenance Schedules:
- Difference Between Direct and Sectional Warping:
 - Direct Warping:
 - Sectional Warping:
- Explain the functions of Gearing Arrangement, Passage of Yarn, Overhead Blower:
- Classify the common Package Faults- uneven winding, slubs, breaks
- Identify major causes of package faults

Module No. 3: Maintenance of work area, tools and material handling equipment

Outcome: Maintain work area, tools, material handling equipment and machinery for jute processing

Theory Content:

- Significance of routine cleaning activities of machine maintenance
- Recognizing the impact of cleanliness on preventing jams and ensuring the smooth operation of machinery
- Maintenance activities of the jutewarp winding machine
- Housekeeping and its importance

- Types of cleaning agents and tools
- Unique features of basic hand tools
- Material handling equipment and their importance
- Maintenance activities for material handling equipment
- Team work and its importance
- Basic requirement of team working

Practical Content:

- Demonstration of cleaning techniques
- Machine specific cleaning procedures
- Create a check list for routine cleaning tasks and their frequency
- Perform hands-on maintenance activities for the jute warp winding machine.
- Demonstrate key maintenance steps, emphasizing preventive measures.
- Illustrate troubleshooting techniques for common machine issues.
- Demonstrate the unique features and applications of basic hand tools.
- Provide practical exercises for trainees to use and handle basic hand tools.
- Illustrate correct techniques for using each tool to ensure safety and efficiency.
- Introduce various material handling equipment and their significance.
- Conduct hands-on sessions to demonstrate the proper use of material handling tools.
- Emphasize maintenance activities to ensure the longevity and safety of equipment.

Module 4: Maintain health, safety and security

Outcome: Maintain health, safety and security at workplace

Theory Content:

- General safety rule
- Significance of routine cleaning activities of machine maintenance
- Identifying potential hazards associated with a lack of regular cleaning on tools, machines and work areas.
- Types of cleaning agents and tools
- Introduction of Occupational safety
- Overview of relevant occupational safety regulations and standards
- The responsibility of technician in compliance with safety guidelines
- Identification of Occupational safety hazards
- Identification of common hazards in in the machine
- Describe types of hazards
- Application of PPE (Personal protective equipment)
- Selection and use of PPE
- Safe work practices with electrical systems
- Applications of electrical tools
- Describe the importance of immediate response during emergencies
- Fire prevention measures and firefighting equipment's

Practical Content:

- Apply general safety rules
- Demonstrate the use protective clothing/equipment for specific tasks and work conditions
- Identify PPE application and its maintenance procedure
- Demonstrate the correct use of safety glasses, gloves and hearing protection
- Simulate an emergency scenario require the use of PPE
- Identify electrical hazards (power supply and points, loose and naked cables and wires,

equipment malfunctions, etc.)

- Apply electrical precautions like insulated clothing, adequate equipment insulation, use dry work area etc.
- Identify safety features and emergency stop locations
- Present proper method of rescue techniques applied during fire hazard and other accidental situation.

Module 5: OJT

Outcome: Work in real job situation with special emphasis on basic safety and hazards in this domain

Practical Content:

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours.**)

Module 6: Employability Skills (60 Hrs)

Key Learning Outcomes

Introduction to Employability Skills

Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship

Duration: 1.5 Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century

Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills

Duration: 10 Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting

Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills

Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion

Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy

Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills

Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship

Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service

Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs

Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview

37. List the steps for searching and registering for apprenticeship opportunities

Learning Outcome – Assessment Criteria

Module No.	Outcome	Assessment Criteria
1	Explain the procedure of taking over/handing over shift to Jute Wrap Winding Operator	<p>After completion of this module students will be able to:</p> <p>1.1 Explain the procedure of shift takeover/handover</p> <p>1.2 Comprehend primary duties and tasks of a Jute Wrap Winding Operator.</p> <p>1.3 Illustrate the of the significance of verbal and written communication.</p> <p>1.4 Perform tasks during shift takeover and handover.</p> <p>1.5 Identify potential hazards in jute wrap winding.</p> <p>Practical Assessment:</p> <p>1.6 Verify the current status of the jute wrap winding machine.</p> <p>1.7 Evaluate the effectiveness of verbal communication with the incoming operator.</p> <p>1.8 Examine the accuracy of conducting a visual inspection of the jute wrap winding machine.</p> <p>1.9 Maintain the safety protocols and guidelines during the practical shift activities.</p>
2	Demonstrate the Warp winding process	<p>After completion of this module students will be able to:</p> <p>2.1 List the specifications of different winding machines.</p> <p>2.2 Identify the components and operations such as drums, packages, stop motion and winding package build-up.</p> <p>2.3 Set the points of the winding machine, including tensioner and slub catcher.</p> <p>2.4 Demonstrate the mechanism of creeling system, drive system, brake disc, and other related components.</p> <p>2.5 Difference between direct and sectional warping, beaming mechanism and related technical data.</p> <p>2.6 Examine gearing arrangement, yarn passage, overhead blower and drive types.</p> <p>2.7 Describe maintenance schedules for various winding machine components.</p> <p>2.8 List specifications for old and modern winding machines.</p> <p>2.9 Classify common package faults and identifying their major causes.</p>
3	Maintain work area, tools, material handling equipment and machinery for jute processing	<p>After completion of this module students will be able to:</p>

Module No.	Outcome	Assessment Criteria
		3.1 Execute proper cleaning techniques 3.2 Apply different cleaning agents and tools 3.3 Explain machine-specific cleaning procedures, accuracy in following step-by-step protocols and attention to specific machine components. 3.4 Examine the creation of a comprehensive checklist for routine cleaning tasks. 3.5 Demonstrate maintenance activities for the jute warp winding machine 3.6 Perform key maintenance steps and preventive measures and application of troubleshooting techniques for common machine issues. 3.7 Demonstrate the unique features of basic hand tools to execute various tasks 3.8 Illustrate the features of material handling equipment and their significance
4	Maintain health, safety and security at workplace	After completion of this module students will be able to: 4.1 Explain the general safety rules 4.2 Demonstrate the use of protective clothing/equipment for the specific tasks and work conditions 4.3 Describe the importance of PPE kit 4.4 Demonstrate the correct use of safety gear. 4.5 Detect health hazards (such as untreated injuries and contagious illness/ zoonotic diseases). 4.6 Maintain Fire safety and prevention of fire hazards in workplace [fire extinguishers, fire Alarm, fire exits] 4.7 Ensure use of general health and safety equipment and materials in the workplace first aid equipment
5	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).
6	Employability Skill	As per guided curriculum

List of Tools, Equipment & materials needed for 30 Trainees (Practical)

S.No.	Description of Tools	Quantity
1.	Computer	1
2.	Projector	1
3.	Screen	1
4.	White board	1
5	Marker	10
6	Different types of spool winding machines.	One each
7	Precision winding machines.	1
8	Transportation trolley.	1
9	Hammer.	2
10	Screw driver.	4
11	Spanner set.	4

12	Oil can.	2
13	Grease gun.	2
14	PPE Kits	30
15	First aid box	1

Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Explain the procedure of taking over/handing over shift to Jute Wrap Winding Operator	TXT/3719/OC1	30	140	0
Demonstrate the Warp winding process	TXT/3719/OC2	40	200	0
Maintain work area, tools, material handling equipment and machinery for jute processing	TXT/3719/OC3	50	170	0
Maintain health, safety and security at workplace	TXT/3719/OC4	30	140	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	TXT/3719/OC5	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0