

Syllabus For_Jute weavers beam operator

Course Name	Jute weavers beam operator
Course Code	TXT/2024/JWBO/398
Sector	Textiles & Handlooms
Sub-sector	Jute Weaving
Level	2.5
Occupation	Jute weavers beam operator
Job Description	A Jute weavers beam operator will produce a sized weavers beam containing a sheet of parallelized jute warp yarns. The operator will use individual spools and creel machine to make the weavers beam. He should have knowledge about jute weaving process flow.
Course Duration	Total Duration 270 Hours (T- 60, P- 120 , OJT-60 and ES-30)
Trainees' Entry Qualification	<ul style="list-style-type: none"> • 9th Grade pass • 8th Grade pass and pursuing continuous • Schooling • 8th grade pass with 1 year relevant experience • 5th grade pass with 4 year relevant experience • Previous relevant qualification of NSQF level 2 6 months of relevant experience • Previous relevant qualification of NSQF level 1 with 1.5 year relevant experience
Trainers Qualification	B. Tech in Textile Technology / Textile Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field. OR 03 years Diploma in Jute Technology / Textile Technology/ Textile Engineering from AICTE recognized College / Institute with two years experience in the relevant field.

Structure of Course:

Module No.	Module name	Outcome	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
1	Roles & Responsibilities	Demonstrate Jute beaming process and identify the roles & responsibility	10	20		30
2	Producing weavers beam	Prepare the weavers beam and Execute beaming operation	20	40		60

Module No.	Module name	Outcome	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
3	Post beaming operations	Execute leasing & drying of jute warp sheet	10	20		30
4	Maintain occupational safety hazards at work place	Apply safe working practices at work place. TXT/3723/OC4	10	20		30
5	Workplace communication strategies	Demonstrate comprehensive effective workplace communication strategies. TXT/3723/OC5	10	20		30
6	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	-	-	60	60
7	Employability Skills	As per guided curriculum	30	-		30
TOTAL			90	120	60	270

SYLLABUS:**Module No. 1: Roles & Responsibilities**

Outcome : Demonstrate Jute beaming process and identify the roles & responsibility

Theory Content:

- Objectives of Jute beaming.
- Process sequence of Jute weavers beam making.
- Basic Jute beaming terms such as **creeling, knotting, size pick-up, thread tension, sizing , slubs, yarn count etc.**
- Roles and responsibility of the Jute weavers beam operator.
- Sequences of work in a Jute Beaming machine.

Practical Content:

- Demonstrate Jute Beaming operation.
- Execute the roles and responsibility of the Jute weavers beam operator.
- Prepare necessary operational tools for beaming.
- Yarn package checking.
- Perform creeling.
- Perform sizing.
- Meet production & quality requirements.
- Checking of breakdowns, mechanical fault of weavers beam.

- Yarn faults identification and produce remedies.
- Ensure maximum efficiency and productivity of the beaming machine.
- Preparation of shift Handing over/taking over.

Classroom Aids:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook, Pen pencil.

Tools & Equipment needed : Jute weavers beam (Double flanged), Suitable yarn package, Creel, Size mixtures, Apron, head cap, nose mask, earplug, shoe, Drawing hook, Scissors, Thrumbs, Work method posters, pictures, videos. Pen, Pencil, Marker etc.

Module No. 2: Producing weavers beam

Outcome: Prepare the weavers beam and Execute beaming operation

Theory Content:

- Description of different components of a Jute weavers beam.
- Demonstrate different equipment required for a Jute Beaming.
- Functions of the equipment of Jute beaming.
- Process flow of jute beaming.
- Process parameters effecting efficiency of Jute weavers beaming process such as **beaming speed, laid length, no. of cylinders, steam pressure, size paste viscosity** etc.
- Importance of yarn quality.
- No of warp ends required according to the quality of the cloth.
- Different material handling equipment and their use.
- Documentation and reporting formats.

Practical Content:

- Identify different equipment of a Jute weavers beaming process and demonstration of their functions.
- Demonstrate functions of **creel, guide roller, nip roller, reed, squeeze roller, drying cylinders, lease rod, tensioning rollers, weavers beam** etc.
- Supply empty beam & mount it properly on the machine.
- Proper threading and checking of different process parameters.
- Process of creeling & keeping sufficient stock of spools near the machine.
- Mount spools on creel and guide the threads to beam.
- Ensure correct size take-up of yarn and squeezing, by adjusting the pressing roller.
- Maintain proper steam pressure.
- Periodically clean & lubricate the sow box, cylinders, reed etc.
- Unloading of full beam and store it for weaving department.
- Remove defective yarn faults and join the broken ends by small knots.
- Proper material handling of spools and empty beam.

Classroom Aids:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's

Handbook, Pen pencil.

Tools & Equipment needed: Jute weavers beam (Double flanged), Suitable yarn package, Creel, Size mixtures, Apron, head cap, nose mask, earplug, shoe, Drawing hook, Scissors, Thrumbs, Work method posters, pictures, videos. Pen, Pencil, Marker etc.

Module No. 3: Post beaming operations

Outcome : Execute leasing & drying of jute warp sheet

Theory Content:

- Objective of leasing and separating the warp yarns.
- Types of jute yarn, their count, defects in jute yarn and reasons for jute yarn breakage.
- Method of leasing & knotting correctly.
- Unlocking, handling and doffing the beam properly.
- Knowledge of Steam, steam pressure, for jute industry.
- Method of squeezing.
- Steam strap/valves, and their functions.

Practical Content:

- Checking & adjusting yarn path through lease rod.
- Lease the warp yarns properly before doffing full beam.
- Apply group knotting properly.
- Apply proper steam pressure of the steam cylinder.
- Check for Proper squeezing of size take up & functioning of the pressing roller.
- Perform proper maintenance of the steam pipe line.

Classroom Aids:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook, Pen pencil.

Tools & Equipment needed: Jute weavers beam (Double flanged), Suitable yarn package, Creel, Size mixtures, Apron, head cap, nose mask, earplug, shoe, Drawing hook, Scissors, Thrumbs, Work method posters, pictures, videos. Pen, Pencil, Marker etc.

Module No. 4: Maintain occupational safety hazards at work place

Outcome : Apply safe working practices at work place

Theory Content:

- 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:

- Demonstration of cleaning techniques
- Create a check list for routine cleaning tasks and their frequency
- 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.

Classroom Aids:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

Tools, Equipment and Other Requirements:

Protective Gloves, Head Caps, Safety Goggles, Safety Boots, Mouth Masks, coats and aprons; ear plugs or muffs; eye and facial protection; head-wear; lifting assistance;

Module No. 5: Workplace communication strategies

Outcome : Demonstrate a comprehensive effective workplace communication strategies

Theory Content:

- Explain purpose or common goals of each member in a group of willing to work toward. Members feel that they played a role in determining these goals and the methods used to achieve them.
- Describe the task between each members in group, but also with its own processes and operating procedures.
- Maintain Communication is clear and direct manner.
- Interpret machine performance data and metrics
- Explain key indicators of machine health and efficiency
- Establish clear reporting procedures for machine running and performance
- Generate machine performance reports and sharing them with the team
- Discuss supervision policy as a leader who can bring the group together and build an environment in which the team can work together effectively.

Practical Content:

- Demonstrate the purpose or common goals of each member in a group of willing to work toward. Members feel that they played a role in determining these goals and the methods used to achieve them.

- Identify the task between each members in group, but also with its own processes and operating procedures. The group periodically evaluates its performance.
- Exhibit the accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required.
- Apply Communication is clear and direct manner.
- Apply good communication environmental practices in workplace.
- Simulate/role play of ethical dilemmas in the workplace
- Illustrate organizational policies and procedures

Classroom Aids:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

Tools, Equipment and Other Requirements:

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, communication tools, communication manual, On-task Communication, Instant Chats , Video Conferencing, Voice Calls, Audio Recording, Discussion Forums, Instant File Sharing, External Communication

Module No. 6: 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 No. 7: : Employability Skills (30 Hrs)

Introduction to Employability Skills

Duration: 1 Hour

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 Hour

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: 1.5 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: 5 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: 1.5 Hours

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

Communication Skills

Duration: 2 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: 1 Hour

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: 2.5 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: 5 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: 3 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: 2 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: 4.5 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	Demonstrate Jute beaming process and identify the roles & responsibility	<p>After completion of this module students will be able to:</p> <ol style="list-style-type: none"> 1.1. Demonstrate the Principles of Jute Beaming process. 1.2. Execute Process sequence of Jute Beaming. 1.3. Explain terms such as creeling, knotting, size pick-up, thread tension, sizing , slubs, yarn count etc. 1.4. Identify the roles and responsibility of the Jute weavers beam operator . 1.5. Prepare necessary operational tools for beaming. 1.6. Check the Yarn package (spool). 1.7. Meet production & quality requirements. 1.8. Perform creeling & sizing. 1.9. Check breakdowns, mechanical fault of weavers beam. 1.10. Ensure maximum efficiency and productivity of the beaming machine. 1.11. Hand over/take over shift.
2	Prepare the weavers beam and Execute beaming operation	<p>After completion of this module students will be able to:</p> <ol style="list-style-type: none"> 2.1. Demonstrate different equipment required for a Jute Beaming. 2.2. Explain functions of the equipment of Jute beaming. 2.3. Execute Process flow of Jute Beaming. 2.4. Control process parameters such as beaming

Module No.	Outcome	Assessment Criteria
		<p>speed, laid length, no. of cylinders, steam pressure, size paste viscosity etc.</p> <p>2.5. Identify different equipment of a Jute weavers beaming process and demonstrate their functions.</p> <p>2.6. Demonstrate functions of creel, guide roller, nip roller, reed, squeeze roller, drying cylinders, lease rod, tensioning rollers, weavers beam etc.</p> <p>2.7. Supply empty beam & mount it properly on the machine.</p> <p>2.8. Perform proper threading and checking of different process parameters.</p> <p>2.9. Mount spools on creel and guide the threads to beam.</p> <p>2.10. Ensure correct size take-up of yarn and squeezing, by adjusting the pressing roller.</p> <p>2.11. Maintain proper steam pressure.</p> <p>2.12. Periodically clean & lubricate the sow box, cylinders, reed etc.</p> <p>2.13. Unload full beam and store it for weaving department.</p> <p>2.14. Remove defective yarn faults and join the broken ends by small knots.</p>
3	Execute leasing & drying of jute warp sheet	<p>After completion of this module students will be able to:</p> <p>3.1. Explain the process of leasing and separating the warp yarns.</p> <p>3.2. Demonstrate Types of jute yarn, their count, defects in jute yarn and reasons for jute yarn breakage.</p> <p>3.3. Execute Unlocking, handling and doffing the beam properly.</p> <p>3.4. Squeeze the sized yarn properly using rollers.</p> <p>3.5. Check & adjust yarn path through lease rod.</p> <p>3.6. Doff the weavers beam – Replace full beam with the empty ones.</p> <p>3.7. Lease the warp yarns properly before doffing full beam.</p> <p>3.8. Apply group knotting properly.</p> <p>3.9. Apply proper steam pressure of the steam cylinder.</p> <p>3.10. Check for Proper squeezing of size take up & functioning of the pressing roller.</p> <p>3.11. Perform proper maintenance of the steam pipe line.</p>

Module No.	Outcome	Assessment Criteria
4	Apply safe working practices at work place	<p>After completion of this module students will be able to:</p> <p>4.1 Demonstrate of effective cleaning techniques</p> <p>4.2 Execute machine specific cleaning procedures</p> <p>4.3 Create a checklist for routine cleaning tasks</p> <p>4.4 Demonstrate the use of protective clothing/equipment for the specific tasks and work conditions</p> <p>4.5 Describe the importance of PPE kit</p> <p>4.6 Demonstrate the correct use of safety gear.</p> <p>4.7 Identify electrical hazards, including power supply issues, loose cables and equipment malfunctioning</p> <p>4.8 Detect health hazards (such as untreated injuries and contagious illness/ zoonotic diseases).</p> <p>4.9 Maintain Fire safety and prevention of fire hazards in workplace [fire extinguishers, fire Alarm, fire exits]</p> <p>4.10 Ensure use of general health and safety equipment and materials in the workplace first aid equipment</p>
5	Demonstrate a comprehensive effective workplace communication strategies	<p>After completion of this module students will be able to:</p> <p>5.1 Demonstrate the purpose of each team member and their involvement in determining goals</p> <p>5.2 Identify tasks between team members and their own processes</p> <p>5.3 Apply effective communication strategies in a practical context</p> <p>5.4 Exhibit enterprise ethical standards in workplace interactions</p> <p>5.5 Apply good communication environmental practices in practical workplace</p> <p>5.6 Simulate/Role play ethical dilemmas in the work place</p> <p>5.7 Illustrate familiarity with relevant industry standards and regulations.</p> <p>5.8 Explain the organizational policies and procedures</p>
6	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).
7	Employability Skill	As per guided curriculum

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

SI No	Items Name	Specification	Qty
1	Jute weavers beam		1
2	Creel		1
3	Yarn package (Spools)		As required
4	Size mixtures		As required
5	Reed		2
6	Drawing hook		5
7	Squeeze rollers		As required
8	Drying cylinders		As required
9	Lease rods		As required
10	Scissors		5
11	Thrumbs		As required
12	Apron		30
13	Head cap		30
14	Shoe		30
15	Hand gloves		30
16	Nose mask		30
17	Earplug		30
18	Meterage devices		5
19	Measuring scales, Inch Tape		5
20	Fire extinguishers		2
21	Fire Alarm		2
22	First aid equipment		2

Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Demonstrate Jute beaming process and identify the roles & responsibility	TXT/3726/OC1	30	120	0
Prepare the weavers beam and Execute beaming operation	TXT/3726/OC2	40	170	0
Execute leasing & drying of jute warp sheet	TXT/3726/OC3	30	120	0
Apply safe working practices at work place.	TXT/3723/OC4	20	120	0
Demonstrate comprehensive effective workplace communication strategies.	TXT/3723/OC5	30	120	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	TXT/3726/OC4	0	0	150
Employability Skills – 30 Hrs	DGT/VSQ/N0101	50	0	0