

Model Curriculum

Jute Yarn Hank Dyer

SECTOR: HANDICRAFTS AND CARPET
SUB-SECTOR: HAND CRAFTED TEXTILES
OCCUPATION: NATURAL FIBRE CRAFTS
REF ID: HCS/Q7401, V1.0
NSQF LEVEL: 4



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

HANDICRAFTS AND CARPET SECTOR SKILL COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: Jute Yarn Hank Dyer-QP No. 'HCS/Q74.01 NSQF Level 4'

Date of Issuance: **November 10th, 2017**

Valid up to: **November 9th, 2019**

* Valid up to the next review date of the Qualification Pack



Authorised Signatory
(Handicrafts and Carpet Sector Skill Council)

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Jute Yarn Hank Dyer

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Jute Yarn Hank Dyer”, in the “Handicrafts and Carpet” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Jute Yarn Hank Dyer		
Qualification Pack Name & Reference ID.	HCS/Q7401, v1.0		
Version No.	1.0	Version Update Date	10/11/2017
Pre-requisites to Training	Basic Literacy		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Carry out desizing operations • Carry out scouring operations • Carry out bleaching operations • Prepare for dyeing activities • Dye the yarn • Prepare for finishing activities • Carry out finishing activities • Maintain the work area, tools and machines in handloom sector • Exercise commitment and trust, better communication, adaptability and creative freedom • Comply with health, safety and security requirements at work • Recognize hazards • Work towards self-development, team work and organizational standards 		

This course encompasses 7 out of 7 Compulsory NOS (National Occupational Standards) of “Jute Yarn Hank Dyer” Qualification Pack issued by “Handicrafts and Carpet Sector Skill Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code Bridge Module</p>	<ul style="list-style-type: none"> • Get an introduction to Jute hank dyeing • Learn about the Jute handicrafts industry in India • Get acquainted with the various tools and equipments used by a Jute Yarn Hank Dyer 	<p>PPE, stove, hand gloves, scissor, steel/plastic bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower</p>
2	<p>Carry out pre dyeing activities: desizing, scouring, bleaching</p> <p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 40:00</p> <p>Corresponding NOS Code HCS/N7401</p>	<ul style="list-style-type: none"> • Summarize the task mentioned in the work order • Ensure that the working spot is empty & clean • Ensure to carry out the desizing operation • Summarize the task mentioned in the work order • Ensure that the machine is empty & clean • Ensure to first weigh the desized material (yarn) • Maintain material to water ratio • Ensure proper production of scouring liquor as per supervisor's instruction • Maintain appropriate condition of scouring liquid to process the jute yarn • Ensure to remove the material from hot bath and rinse the same in water • Summarize the task mentioned in the work order • Ensure that the machine is empty & clean • Ensure to first weigh the scoured material • Ensure proper composition of chemicals are used for processing • Introduce the material (yarn) in the bleaching liquor • Carry out the bleaching process • Follow proper washing procedure • Maintain the conditions for neutralisation • Ascertain proper drying of material 	<p>PPE, stove, hand gloves, scissor, steel/plastic bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower</p>
3	<p>Carry out dyeing of hank jute yarn</p>	<ul style="list-style-type: none"> • Summarize the task in the work order • Check that the container for carrying out dyeing is clean 	<p>PPE, stove, hand gloves, scissor, steel/plastic</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Theory Duration (hh:mm) 20:00</p> <p>Practical Duration (hh:mm) 50:00</p> <p>Corresponding NOS Code HCS/N7402</p>	<ul style="list-style-type: none"> Identify the right type of dye for dyeing the selected yarn Ensure that the right quality of water, dye and other chemicals is available Weigh and arrange the required chemicals and dyes for preparing the bath Prepare the bath for carrying out dyeing Ensure that the right condition (temperature, pH level etc.) of the bath is prepared Ensure proper immersion and timely rotation of yarn, if required Carry out dyeing of selected yarn as per the specified time limit Clean the container used for carrying out dyeing Dispose of the waste materials in the approved manner Leave the work area safe and secure when work is complete 	<p>bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower</p>
4	<p>Carry out finishing of dyed jute yarns</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code HCS/N7403</p>	<ul style="list-style-type: none"> Analyse the type of finishing activities (washing, soaping, softening, fixing, sizing etc.) to be carried out according to yarn, dye type and specific end used Weigh and arrange the required chemicals for preparing the bath Check that the container for carrying out finishing activities is clean Ensure that the right quality of water and other chemicals is available Prepare the bath for carrying out finishing activities Carry out required finishing activities Follow the appropriate technique for drying (Sunlight or shade etc.) depending upon the type of dye used Dispose of the waste materials in the approved manner Leave work area safe and secure when work is complete 	<p>PPE, stove, hand gloves, scissor, steel/plastic bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower</p>
5	<p>Maintain work area and tools in handloom sector</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code</p>	<ul style="list-style-type: none"> Handle materials and tools safely and correctly Use correct lifting and handling procedures Use materials in a manner to minimize waste Maintain a clean and hazard free working area Maintain the tools and equipment used Carry out running maintenance within agreed schedules one's responsibility Identify damaged tools and materials and take action according to the 	<p>PPE, stove, hand gloves, scissor, steel/plastic bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p>to do so</p> <ul style="list-style-type: none"> Take action based on instructions in the event of fire, emergencies or accidents Learn various procedures for evacuation when required Identify different kinds of possible hazards (environmental, personal, ergonomic, and chemical) of the industry Recognise other possible security issues existing in the workplace Planning the safety techniques Recognise different measures to curb the hazards Implementing the programs Communicate the safety plan to everyone Attach disciplinary rules with the implementation 	
8	<p>Comply with work place requirements in handloom sector</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code HCS/N9008</p>	<ul style="list-style-type: none"> Perform own duties effectively Take responsibility for own actions Be accountable towards the job role and assigned duties Take initiative and innovate the existing Focus on self-learning and improvement Co-ordinate with all the team members and colleagues Communicate politely Avoid conflicts and miscommunication Know the organisational standards Implement them in your performance Motivate others to follow them 	PPE, stove, hand gloves, scissor, steel/plastic bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower
	<p>COMPULSORY NOS: Total Duration</p> <p>Theory Duration 100:00</p> <p>Practical Duration 200:00</p>	<p>Unique Equipment Required: PPE, stove, hand gloves, scissor, steel/plastic bucket, beaker – plastic/glass, glass rod, spatula, thermometer, weighing balance, wooden stick, shade card, tumbler/gamla, rope, bamboo, blower</p>	

Grand Total Course Duration: 300 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by [Handicrafts and Carpet Sector Skill Council](#))

Trainer Prerequisites for Job role: “Jute Yarn Hank Dyer” mapped to Qualification Pack: “HCS/Q7401, v1.0”

Sr. No.	Area	Details
1	Description	A Jute Yarn Hank Dyer is responsible for dyeing of yarns of different grades of jute fibres in colours and lustres, either with traditional methods or with methods having a little automation specially developed for hank dyeing operations. He is also responsible to complete the dyeing cycle in strict sequence and harmony in accordance with materials, environmental conditions and machines/method of dyeing in consideration. The dyed materials are expected to match with standard shades for hue and tone, and conform to requirements for desired level of fastness.
2	Personal Attributes	A jute yarn hank dyer should be keen, vigilant, well sighted, patient and investigative. He should be free from defects of the eyes like colour blindness, short-sightedness, long-sightedness, etc.
3	Minimum Educational Qualifications	10 th Pass
4a	Domain Certification	Certified for Job Role: “Jute Yarn Hank Dyer” mapped to QP: “HCS/Q7401, v1.0”. Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102”. Minimum accepted % as per respective SSC guidelines is 80%.
5	Experience	<ul style="list-style-type: none"> • Total 3 Years experience • 2 Years of sector-specific experience, • Min. 1 year of teaching experience.

Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
HCS/N7401 Carry out pre dyeing activities: desizing, scouring, bleaching	PC1.summarize the task mentioned in the work order	100	4	1	3
	PC2.ensure that the working spot is empty & clean		3	0	3
	PC3.ensure to carry out the desizing operation of jute yarn by simply water boiling for 30 minutes followed by normal washing		4	1	3
	PC4.for starch based size ensure to carry out the desizing operation by immersing the yarns in a vessel containing 2-3 gram per litre hydrochloric acid at ambient temperature for 30-60 mins followed by thorough washing		5	2	3
	PC5.summarize the task mentioned in the work order		4	1	3
	PC6.ensure that the machine is empty & clean		3	0	3
	PC7.ensure to first weigh the desized material (yarn)		3	1	2
	PC8.take water in Jigger at MLR (material to liquor ratio) of 1:20		5	2	3
	PC9.add non-ionic detergent and soda ash to the water as per instruction of superior or mentioned in the recipe and prepare scouring liquor		5	2	3
	PC10.put the material (yarn) in the scouring liquor		4	1	3
	PC11.raise the temperature of the scouring liquor to 600C for yarn (700 - 800C for fabric) and keep the liquor at that temperature for 15-30 mins(fine yarn-15 mins, coarse yarn-30 mins)		5	2	3
	PC12.ensure to remove the material from hot bath and rinse the same in water		4	1	3
	PC13.summarize the task mentioned in the work order		4	1	3
	PC14.ensure that the machine is empty & clean		3	0	3
	PC15.ensure to first weigh the scoured material		4	1	3
	PC16.take water in Jigger at MLR (material to liquor ratio) of 1:20		5	1	4
	PC17.ensure to add following chemicals in the water as per instruction/ recipe i.e. hydrogen per-oxide (50%), sodium meta-silicate or stabiliser AWNI, try sodium phosphate or soda ash, lissapol-D paste		5	2	3

	PC18.introduce the material (yarn) in the bleaching liquor		4	1	3
	PC19.raise the temperature of the bleaching liquor to 800-850C for 60-120 minutes		4	1	3
	PC20.put the yarn hank in the bleaching bath maintained at 800-850C for 60-120 minutes with continuous stirring		4	1	3
	PC21.withdraw the material from the bleaching bath and Wash with plenty of water		5	1	4
	PC22.for neutralisation, keep the material in a bath containing acetic acid with occasional stirring for about 10 minutes		5	1	4
	PC23.wash the neutralised material with plenty of water		4	0	4
	PC24.get the material dried in air		4	1	3
	Total	100	25	75	
HCS/N7402 Carry out dyeing of hank jute yarn	PC1.summarize the task in the work order	100	8	2	6
	PC2.check that the container for carrying out dyeing is clean		9	2	7
	PC3.identify the right type of dye for dyeing the selected yarn		8	2	6
	PC4.ensure that the right quality of water, dye and other chemicals is available		8	2	6
	PC5.weigh and arrange the required chemicals and dyes for preparing the bath		9	2	7
	PC6.prepare the bath for carrying out dyeing		9	2	7
	PC7.ensure that the right condition (temperature, pH level etc.) of the bath is prepared		8	2	6
	PC8.ensure proper immersion and timely rotation of yarn, if required		8	2	6
	PC9.carry out dyeing of selected yarn as per the specified time limit		9	3	6
	PC10.clean the container used for carrying out dyeing		8	2	6
	PC11.dispose of the waste materials in the approved manner		8	2	6
	PC12.leave the work area safe and secure when work is complete		8	2	6
	Total	100	25	75	

HCS/N7403 Carry out finishing of dyed jute yarns	PC1.analyse the type of finishing activities (washing, soaping, softening, fixing, sizing etc.) to be carried out according to yarn, dye type and specific end used	100	11	3	8
	PC2.weigh and arrange the required chemicals for preparing the bath		11	3	8
	PC3.check that the container for carrying out finishing activities is clean		11	3	8
	PC4.ensure that the right quality of water and other chemicals is available		11	2	9
	PC5.prepare the bath for carrying out finishing activities		12	3	9
	PC6.carry out required finishing activities		11	3	8
	PC7.follow the technique for drying (Sunlight or shade etc.) depending upon the type of dye used		11	3	8
	PC8.dispose of the waste materials in the approved manner		11	2	9
	PC9.leave work area safe and secure when work is complete		11	3	8
	Total	100	25	75	
HCS/N9005 Maintain work area and tools in handloom sector	PC1.handle materials and tools safely and correctly	50	5	2	3
	PC2.use correct lifting and handling procedures		3	1	2
	PC3.use materials in a manner to minimize waste		3	1	2
	PC4.maintain a clean and hazard free working area		3	1	2
	PC5.maintain the tools and equipment used for warping		5	2	3
	PC6.carry out maintenance and/or cleaning within one's responsibility		5	2	3
	PC7.identify damaged tools and materials and take action according to the standards followed		5	2	3
	PC8.ensure that the correct tools and yarn required are in place		3	1	2
	PC9.work with the correct posture		3	1	2
	PC10.use cleaning equipment and methods appropriate for the work to be carried out		3	1	2
	PC11.dispose of waste safely in the designated location		4	2	2
	PC12.store cleaning equipment safely after use		3	1	2
	PC13.carry out cleaning according to schedule and limits of responsibility		5	2	3
	Total	50	19	31	

HCS/N9006 Working in a team in handloom sector	PC1.be accountable to one's own role in the whole process	50	6	2	4
	PC2.perform all roles with full responsibility		5	1	4
	PC3.be effective and efficient at workplace		4	2	2
	PC4.properly communicate about workplace policies		5	2	3
	PC5.talk politely with other team members and colleagues		5	2	3
	PC6.submit daily report of own performance		6	2	4
	PC7.adjust in different work situations		5	2	3
	PC8.give due importance to others' point of view		5	2	3
	PC9.avoid conflicting situations		5	2	3
	PC10.improve upon the existing techniques to increase process efficiency		4	2	2
	Total	50	19	31	
HCS/N9007 Maintain health, safety and security at work place in handloom sector	PC1.comply with health and safety related instructions applicable to the workplace	100	6	2	4
	PC2.use and maintain personal protective equipment as per protocol		6	2	4
	PC3.carry out own activities in line with approved guidelines and procedures		4	1	4
	PC4.maintain a healthy lifestyle and guard against dependency on in toxicants		4	1	3
	PC5.follow environment management system related procedures		4	1	3
	PC6.store materials and tools in line with manufacturer's and Cooperative society/NGO/SHG requirements		4	2	2
	PC7.safely handle and move waste and debris		4	2	2
	PC8.minimize health and safety risks to self and others due to own actions		6	2	4
	PC9.monitor the work place and work processes for potential risks and threats		6	2	4
	PC10.carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		6	2	4
	PC11.participate in mock drills/ evacuation procedures organized at the workplace		4	2	2
	PC12.undertake first aid, fire-fighting and emergency response training, if asked to do so		6	2	4
	PC13.take action based on instructions in the event of fire, emergencies or accidents		6	2	4

	PC14.follow Cooperative Society/NGO/SHG procedures for evacuation when required		4	1	3
	PC15.identify different kinds of possible hazards (environmental, personal, ergonomic and chemical) of the industry		4	1	3
	PC16.recognize other possible security issues existing in the workplace		4	1	3
	PC17.plan the safety techniques		5	2	3
	PC18.recognize different measures to curb the hazards		4	1	3
	PC19.implement the programs		5	2	3
	PC20.communicate the safety plans to everyone		4	1	3
	PC21.attach disciplinary rules with the implementation		4	1	3
		Total	100	33	67
HCS/N9008 Comply with work place requirements in handloom sector	PC1.perform own duties effectively	50	5	2	3
	PC2.take responsibility for own actions		5	2	3
	PC3.be accountable towards the job role and assigned duties		5	2	3
	PC4.take initiative and innovate the existing methods		3	1	2
	PC5.focus on self-learning and improvement		5	2	3
	PC6.co-ordinate with all team members and colleagues		5	2	3
	PC7.communicate politely		5	2	3
	PC8.avoid conflicts and miscommunication		5	2	3
	PC9.know the organizational standards		5	2	3
	PC10.implement them in your performance		5	2	3
	PC11.motivate others to follow them		2	1	1
		Total	50	20	30
Grand Total			550	166	384