

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/Q74o1 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 and Numeracy		
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) 50:00</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) 70:00</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>Working in a team</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code HCS/N9908</p>	<ul style="list-style-type: none"> Extend accountability with respect to one's role in the whole process of developing a product. Perform all roles responsibly. Identify ways to be effective and efficient at workplace. Identify ways to communicate organization policies to fellow team member efficiently. Demonstrate politeness while communicating with team members and colleagues. Identify work requirements for delivering 	<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>maximum productivity.</p> <ul style="list-style-type: none"> • Discuss work matters with team members for better comprehension of a situation. • Identify and avoid situations that might create conflicts among team members. • Develop new ideas for work procedures improvisations. • Discuss with team members and colleagues and work towards improving existing techniques, to increase process efficiency. 	
6	<p>Maintain work area & tools</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code HCS/N9912</p>	<ul style="list-style-type: none"> • Identify proper procedures for handling materials and tools, safely and correctly. • Use materials to minimize waste. • Maintain a clean and hazard free working area. • Maintain the tools. • Prepare reports on damaged tools and materials. • Identify the most suited posture to perform a work or task. • Follow the prescribed procedure for safe disposal of the waste in the designated location. • Maintain proper storage area to store the clean tools after use. • Perform maintenance and/or cleaning activities within one's responsibility. 	<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>
7	<p>Maintain health, safety and security at workplace</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code HCS/N9913</p>	<ul style="list-style-type: none"> • Comply with health and safety related instructions applicable at the workplace. • Use personal protective equipment as per protocol. • Maintain a healthy lifestyle guarding oneself against dependency on intoxicants. • Identify environment management system related procedures applicable in the work place. • Maintain proper storage of materials and tools as per safety guidelines of manufacturer and organisational requirements. • Follow safety measures while handling and moving waste and debris. • Follow precautionary measures to minimize health and safety risks to self and others due to one's actions. • Analyse workplace and work processes for potential risks and threats. • Perform periodic walk-through to keep work area free from hazards and 	<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>obstructions.</p> <ul style="list-style-type: none"> • Prepare report on hazards and potential risks/ threats and submit to supervisors or other authorized personnel. • Participate in mock drills/ evacuation procedures organized at the workplace. • Practice first aid, fire-fighting and emergency response training. 	
	<p>COMPULSORY NOS: Total Duration</p> <p>Theory Duration 90:00</p> <p>Practical Duration 210:00</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: “ <u>Jute Yarn Hank Dyer</u> ” mapped to QP: “ <u>HCS/Q7401, v1.0</u> ”. 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.

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Jute Yarn Hank Dyer
Qualification Pack	HCS/Q7401, v1.0
Sector Skill Council	Handicrafts and Carpet

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria.
5	To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS.
6	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
7	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

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 AAWNI, 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	
4. HCS/N9908 (Working in a team)	PC1. carry out quality checks at specified intervals according to instructions	100	12	4	8
	PC2. perform all roles with full responsibility		10	3	7
	PC3. be effective and efficient at workplace		10	3	7
	PC4. properly communicate about organisation's policies		8	4	4
	PC5. talk politely with other team members and colleagues		10	3	7
	PC6. adjust in different work situations		10	3	7
	PC7. give due importance to others' point of view		10	3	7
	PC8. avoid conflicting situations		10	2	8
	PC9. develop new ideas for work procedures		8	2	6
	PC10. improve upon the existing techniques to increase process efficiency		12	2	10
	Total	100	29	71	
5. HCS/N 9912 (Maintain work area and tools)	PC1. handle materials and tools safely and correctly	100	8	2	6
	PC2. use materials to minimize waste		10	3	7
	PC3. maintain a clean and hazard free working area		10	3	7
	PC4. maintain the tools used for handloom weaving		8	2	6
	PC5. carry out maintenance and/or cleaning within one's responsibility		10	3	7

	PC6. report damaged tools and materials		12	4	8
	PC7. work in a comfortable position with correct posture		10	3	7
	PC8. dispose of waste safely in designated location		12	4	8
	PC9. store tools safely after use		10	3	7
	PC10. carry out cleaning according to schedules and limits of responsibility		10	3	7
		TOTAL	100	30	70
6. HCS/N 9913 (Maintain health, safety and security at workplace)	PC1. comply with health and safety related instructions applicable to the workplace	100	8	2	6
	PC2. use and maintain personal protective equipment as per protocol		8	2	6
	PC3. carry out own activities in line with approved guidelines and procedures		8	2	6
	PC4. maintain a healthy lifestyle and guard against dependency on intoxicants		8	2	6
	PC5. follow environment management system related procedures		6	2	4
	PC6. store materials and tools in line with manufacturer's and organisational requirements		5	2	3
	PC7. safely handle and move waste and debris		4	1	3
	PC8. minimize health and safety risks to self and others due to own actions		6	2	4
	PC9. seek clarifications from supervisors or other authorized personnel in case of perceived risks		4	1	3
	PC10. monitor the workplace and work processes for potential risks and threats		4	1	3
	PC11. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		5	2	3
	PC12. report hazards and potential risks/ threats to supervisors or other authorized personnel		7	3	4
	PC13. participate in mock drills/ evacuation procedures organised at the workplace		5	2	3
	PC14. undertake first aid, fire fighting and emergency response training, if asked		6	2	4
	PC15. take action based on instructions in the event of fire, emergencies or accidents		8	2	6
	PC16. follow organisation evacuation procedures		8	2	6
		TOTAL	100	30	70
Grand Total			600	164	436