

Model Curriculum for Recognition of Prior Learning (RPL)

Makhana Grower –Cum-Processor

SECTOR: AGRICULTURE & ALLIED

SUB-SECTOR: AGRICULTURE CROP PRODUCTION

OCCUPATION: FRUIT CROPS CULTIVATION

REF ID: AGR/Q0306

NSQF LEVEL: 4

RPL Makhana Grower –cum- Processor

CURRICULUM / SYLLABUS

This program is aimed at training to Recognition of Prior Learning (RPL) candidates for the job of a “Makhana Grower-cum-Processor”, in the “Agriculture & Allied” Sector/Industry and aims at building the following key competencies amongst the RPL

Program Name	Makhana Grower-Cum-Processor		
Qualification Pack Name & Reference ID.	AGR/Q0306		
Version No.	1.0	Version Update Date	
Pre-requisites to Training	Ability to read and write		
Training Outcomes: Orientation and Soft Skill	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> Identify personal strengths and value systems: safe work habits, achievement motivation, time management, anger management, stress management. Prepare for employment and self-employment: preparing for an interview, effective resume writing, basic workplace terminology. Illustrate the basics of entrepreneurship and identify new business opportunities Develop personality and learn general ethics and discipline Learn about health and safety hazards and hygiene at work place Learn effective communication skills Learn about importance of RPL certification and process of assessment 		
Training Outcomes: Bridge Course	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> Select and procure appropriate seed variety for Makhana cultivation: Different factors for considering seed variety, seed treatment Manage nursery under the field system: layout of nursery, management of nursery Carry out cultivation of Makhana using good agriculture practices (GAP): land/pond preparation, transplantation, timely irrigation, manure and fertilizer application, weed management, pest and disease management, suitable cropping pattern Carry out Harvesting and post-harvest management of Makhana: Timely harvest, clean, sort, grade, pack and label makhana, safe handling and transportation of makhana Undertake basic market related activities for Makhana: Arrangement of finance, pooling of resources, market linkage, identify trading channels, track and record value chain of makhana 		

	<ul style="list-style-type: none">• Practice health and safety at the work place: Well versed with health and safety measures in terms of personal as well as others' safety• Carry out processing of makhana using makhana processing machines• Products Preparation: Carry out preparation of makhana products- flakes, makhana-kheer mix, flavoured makhana
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Orientation and Soft Skill Details

Sr. No.	Module	Key Learning Outcomes	Equipment Required
A.	Orientation , General Discipline, doubts/gaps in Domain Training and Health and Safety		
1.	<p>Orientation , General Discipline, doubts/gaps in Domain Training and Health and Safety</p> <p>Theory Duration (hh:mm) 06:00</p> <p>Practical Duration (hh:mm) 00:00</p>	<ul style="list-style-type: none"> • Domain Training (clarifying any doubts/gaps regarding Job Role) • Understanding Qualification Packs, NOS • Understanding about NSQF framework and applied level descriptors • Understand skill development ecosystem, roles of various stakeholders • Recognize the importance of general discipline in the class room (dos and don'ts) • List expectations from the program • Outline the objectives of the RPL and importance of skill and certification • Identify risks to health and safety at the workplace and measures to be taken to control them 	White Board, Marker, Laptop, projector,
B.	Soft Skills and Entrepreneurship Tips specific to the Job Role		
1.	<p>Entrepreneurship</p> <p>Theory Duration (hh:mm) 02:00</p>	<ul style="list-style-type: none"> • Discuss the concept and significance of entrepreneurship and the characteristics of an entrepreneur • List the traits of an effective team and team dynamics • Resolve problems by identifying important problem-solving traits • Discuss how to identify new business opportunities within your business • Follow the entrepreneurial process and explain the entrepreneurship ecosystem • Identify key schemes of the govt. and banks to promote entrepreneurship • Define the relationship between entrepreneurship and risk appetite and entrepreneurship and resilience • Importance of book keeping and accounts management. • Understand market dynamics and value chain of agri products. • Understanding formation of cooperatives, FPO, FPC and enterprise creation 	<p>Laptop, white board, marker and projector,</p> <p>SWOT activity: pen and paper individual exercise, charts, coloured pens, Group Activity: poster making on entrepreneurship ecosystem.</p> <p>Activity: SMART Goal writing</p>

	Personal Strengths and Value Systems Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 00:00	<ul style="list-style-type: none"> • Self Improvement, inculcate leadership qualities. • Importance of Discipline in managing small business. • Discuss how to maintain a positive attitude • List your strengths and weaknesses • Describe the importance of honesty in entrepreneurs • Discuss the benefits of time management and applied techniques • Apply tips for anger management and stress management • Effective interpersonal skills, listening and speaking skills. 	Workbook exercises on health standards, Laptop, activity on strengths and weaknesses, white board, marker, projector
	Preparing for Employment and Self-Employment Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 00:00	<ul style="list-style-type: none"> • Follow the steps to prepare for an interview • Create an effective Resume • Conduct mock interviews • Identify the most frequently asked interview questions and how to answer them 	Laptop, white board, marker, projector, sample CVs, Mock interviews, role plays, role play briefs, FAQs, quiz on basic workplace technologies.
C.	Familiarization with Assessment Process and Terms		
1	Familiarization with Assessment Process and Terms (hh:mm) 02:00	<ul style="list-style-type: none"> • Familiarization about assessment process • Understanding the need of assessment • Preparation tips for assessment • Doubt clearance session 	
	Total Duration: Theory Duration: (hh:mm) 12:00 Practical Duration: (hh:mm) 00:00	Laptop, white board, marker and projector, SWOT activity: pen and paper individual exercise, charts, coloured pens, Group Activity: poster making on entrepreneurship ecosystem. Activity: SMART Goal writing	

Bridge Course Details

This course encompasses 8 out of 8 National Occupational Standards (NOS) of “Makhana Grower-Cum-Processor” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
A	Makhana Growing & entrepreneurship		
1	<p>Introduction</p> <p>Theory Duration (hh:mm) 01:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code: Bridge Module</p>	<ul style="list-style-type: none"> • Study the scope and importance of makhana in India and abroad • Understand the role of a Makhana Grower cum Processor and the progression pathways 	Laptop, white board, marker, projector
2	<p>Procure seed and manage nursery for makhana cultivation</p> <p>Theory Duration (hh:mm) 02:45</p> <p>Practical Duration (hh:mm) 03:30</p> <p>Corresponding NOS Code: AGR/N0327</p>	<ul style="list-style-type: none"> • Select and procure seed variety to be grown considering various factors • Treat the seed as per the recommended dose • Assess the nursery site and prepare the layout for nursery construction • Carry out nursery management under the field system 	Laptop, white board, marker, projector, Audio-visual aids, record keeping book, receipt voucher, Raw Seed, sprayer, fertilizers, crop protection chemicals, irrigation tools & equipments
3	<p>Carry out cultivation of makhana using good agricultural practices (GAP)</p> <p>Theory Duration (hh:mm) 05:45</p> <p>Practical Duration (hh:mm) 07:30</p> <p>Corresponding NOS Code: AGR/N0328</p>	<ul style="list-style-type: none"> • Carry out land/ pond preparation, ploughing and puddling • Carry out transplantation of makhana seedlings • Apply organic and inorganic fertilizers • Carry out weed management • Carry out integrated pest and disease management • Carry out irrigation management • Employ suitable cropping pattern • Demonstrate integration of fish in makhana pond 	Laptop, white board, marker, projector, Audio-visual aids, record keeping book, receipt voucher, soil and water testing kit, plastic bags, labels, Disc plough, leveller, water tank, tractor, sprayer, fertilizers, crop protection chemicals, irrigation tools & equipment's, container, fungicides, insecticides, Nose masks, head gear,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			rubber gloves, Safety boots, first aids kit
4	<p data-bbox="252 327 539 439">Harvest and post-harvest management of makhana</p> <p data-bbox="252 483 475 595">Theory Duration (hh:mm) 07:15</p> <p data-bbox="252 640 496 752">Practical Duration (hh:mm) 12:00</p> <p data-bbox="252 797 544 864">Corresponding NOS Code: AGR/N0329</p>	<ul data-bbox="571 327 1114 1077" style="list-style-type: none"> • Harvest the crop at the appropriate stage and time • Carry out bagging of seeds • Carry out drying and grading of seed • Carry out pre-heating/ roasting of seed • Carry out popping of seed • Carry out polishing/finishing of popped makhana • Carry out grading and packaging of popped makhana • Carry out packaging of popped makhana • Pack, store and transport the popped makhana • Record information such as quality, quantity, expenditure incurred in operation, etc. In appropriate registers, record book and logs 	<p data-bbox="1145 327 1426 1368">Laptop, white board, marker, projector, Audio-visual aids, Makhana Harvester, Bamboo pole (Kaara), Bamboo screen (Ganja), Sieves with different mesh size, Earthen pitcher, Cast iron pan, Bamboo basket, Gunny bags, Khonngi or Deli, Mats, Aphara, Batna and Thaapi, Chula (Earthen Pans), Bamboo sticks, Makhana grader, record keeping book, receipt voucher, crate, bags, fungicides, Ganj, Skin lotion, insecticides, Nose masks, head gear, rubber gloves, Safety boots, first aids kit</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
5	<p>Undertake basic entrepreneurial activities for small enterprise</p> <p>Theory Duration (hh:mm) 05:15</p> <p>Practical Duration (hh:mm) 02:00</p> <p>Corresponding NOS Code: AGR/N9908</p>	<ul style="list-style-type: none"> Assess demand and supply of makhana in the market Seek information regarding subsidies/loan available through govt. institutions Avail loan from the financial institutions Identify and develop appropriate marketing channels Track prices prevailing in the market and formulate competitive pricing mechanism Maintain book of accounts Calculate B:C ratio Comply with relevant regulations in marketing and sale of the produce 	Laptop, white board, marker, projector, Audio-visual aids, pen, paper
6	<p>Maintain health and safety at the workplace</p> <p>Theory Duration (hh:mm) 02:30</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code: AGR/N9903</p>	<ul style="list-style-type: none"> Identify risks to health and safety at the workplace and measures to be taken to control them Maintain a clean and efficient workplace Practice general safety and first aid administration Render appropriate emergency procedures Report timely to the appropriate person 	Laptop, white board, marker, projector, Personal protective equipment Like: Helmet / head gear, rubber gloves, Safety boots, First Aid Kit: Bandages, Adhesive bandages, Betadine Solution / ointment, Pain relief spray / ointment, Antiseptic liquid; Phone directory, Search lights, fire extinguisher
B	Carry out processing of makhana in the makhana processing unit		
1	<p>Carry out processing of makhana in the makhana processing unit</p> <p>Theory Duration (hh:mm) 05:45</p>	<ul style="list-style-type: none"> Operate and handle different machineries used for makhana processing Wash and clean the raw seeds by raw makhana seed washer Grade and dry the makhana seeds by seed grader and seed dryer respectively 	Laptop, white board, marker, projector, Audio-visual aids, raw makhana seed washer, seed grader and seed dryer, seed roasting machine, makhana popping machine, makhana

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Practical Duration (hh:mm) 11:00</p> <p>Corresponding NOS Code: AGR/N0330</p>	<ul style="list-style-type: none"> • Carry out pre heating / initial roasting of raw makhana seed by seed roasting machine • Carry out popping of seed by makhana popping machine • Separate husk, unpopped whole seeds, unpopped decorticated kernels, partially popped makhana and popped makhana by makhana pop grader • Grade unpopped makhana kernels and produce the makhana flour by makhana grinder • Carry out packaging of the processed makhana by makhana packaging machine • Carry out storage and transportation of the processed makhana 	<p>pop grader, makhana grinder, makhana packaging machine, gunny bags, packaging materials, Makhana Gravity Separation Machine Automatic Form Fill Sealing Machine</p>
C	Carry out preparation of makhana products		
1	<p>Carry out preparation of makhana products</p> <p>Theory Duration (hh:mm) 01:30</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code: AGR/N0331</p>	<ul style="list-style-type: none"> • Prepare makhana flakes • Prepare makhana kheer mix • Prepare flavoured makhana using roasting and flavouring machine • Pack the processed products using appropriate packaging materials • Dispose wastes materials in accordance with environmental health and safety guidelines • Adhere to FSSAI and HACCP 	<p>Laptop, white board, marker, projector, Audio-visual aid, Processing machinery, Roasting and flavouring machine, Packaging and labelling materials, Automatic Form Fill Sealing Machine</p>
	<p>Total Duration:</p> <p>Theory Duration (hh:mm) 32:00</p> <p>Practical Duration (hh:mm) 36:00</p> <p>Grand Total Bridge</p>	<p>A. <u>Makhana Growing & entrepreneurship</u></p> <p>Unique Equipment Required: Laptop, white board, marker, projector, Audio-visual aids, record keeping book, receipt voucher, Raw Seed, sprayer, fertilizers, crop protection chemicals, irrigation tools & equipments, soil and water testing kit, plastic bags, labels, Disc plough, leveller, water tank, tractor, sprayer, fertilizers, crop protection chemicals, irrigation tools & equipment's, , container, fungicides, insecticides, Makhana Harvester, Bamboo pole (Kaara), Bamboo screen (Ganjaa), Sieves with different mesh size, Earthen pitcher, Cast iron pan, Bamboo basket, Gunny bags, Khonngi or Deli, Mats, Aphara, Batna and</p>	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Course Duration: (hh:mm) 68:00</p>	<p>Thaapi, Chula (Earthen Pans), Bamboo sticks, Makhana grader, record keeping book, receipt voucher, crate, bags, Ganj, Skin lotion, Personal protective equipment Like: Helmet / head gear, rubber gloves, Safety boots, First Aid Kit: Bandages, Adhesive bandages, Betadine Solution / ointment, Pain relief spray / ointment, Antiseptic liquid; Phone directory, Search lights, fire extinguisher</p> <p>B. <u>Carry out processing of makhana in the makhana processing unit</u> Unique Equipment Required: Laptop, white board, marker, projector, Audio-visual aids, raw makhana seed washer, seed grader and seed dryer, seed roasting machine, makhana popping machine, makhana pop grader, makhana grinder, makhana packaging machine, gunny bags, packaging materials, Makhana Gravity Separation Machine Automatic Form Fill Sealing Machine</p> <p>C. <u>Carry out preparation of makhana products</u> Unique Equipment Required: Laptop, white board, marker, projector, Audio-visual aids, Processing machinery, Roasting and flavouring machine, packaging and labelling materials, Makhana Gravity Separation Machine, Automatic Form Fill Sealing Machine</p>	

Grand Total Course Duration: 12 (Orientation session) + 68 (Bridge Course) = 80 Hours, 0 Minutes