

# Model Curriculum

## 1. Aquaculture Worker

SECTOR: AGRICULTURE & ALLIED  
SUB-SECTOR: FISHERIES  
OCCUPATION: AQUACULTURE  
REF ID: AGR/Q4904, V1.0  
NSQF LEVEL: 3



## Certificate

### CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

**AGRICULTURE SKILL COUNCIL OF INDIA**

for the


### **MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/ Qualification Pack: 'Aquaculture Worker' QP No. 'AGR/Q4904 NSQF Level 3'

Date of Issuance: August 15<sup>th</sup>, 2016

Valid up to: March 31<sup>st</sup>, 2019

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

  
S. S. Arora  
Authorised Signatory  
(Agriculture Skill Council of India)

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# Aquaculture Worker

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Aquaculture Worker”, in the “Agriculture & Allied” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Aquaculture Worker</b>		
<b>Qualification Pack Name &amp; Reference ID.</b>	AGR/Q4904, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	
<b>Pre-requisites to Training</b>	Class 5, preferably		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• <b>Identify/familiarize with different species for culture operations:</b> finfish and/or shellfish</li> <li>• <b>Assist in pond preparation activities:</b> water intake activities, water treatment, pre-stocking pond preparation</li> <li>• <b>Assist in various culture operations:</b> post-stocking pond preparation like feeding; periodic soil, water and fish sampling and netting operation etc</li> <li>• <b>Assist in harvest &amp; post-harvest activities:</b> understand marketable size of fish and ensure desirable harvesting with minimum handling</li> <li>• <b>Practice health &amp; safety at the work place:</b> Well versed with health, safety and sanitation practices for self and spawns/seedlings/fish</li> </ul>		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of “Aquaculture Worker” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<b>Introduction</b>  <b>Theory Duration</b> (hh:mm) 05:00  <b>Practical Duration</b> (hh:mm) 00:00  <b>Corresponding NOS Code</b> Bridge Module	<ul style="list-style-type: none"> <li>• Understand General Discipline in the class room (Do’s &amp; Don’ts)</li> <li>• Study the Scope &amp; importance of Aquaculture in India</li> <li>• Understand the Role of an Aquaculture Worker and the progression pathways</li> <li>• Identify different species that can be cultured</li> </ul>	Laptop, white board, marker, projector
2	<b>Assist in performing</b>	<ul style="list-style-type: none"> <li>• Assist in water intake activities from source</li> </ul>	Laptop, white

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>pond preparation activities</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 40:00</p> <p><b>Corresponding NOS Code</b> AGR / N4919</p>	<p>to reservoir to pond</p> <ul style="list-style-type: none"> <li>• Undertake water treatment</li> <li>• Control aquatic weeds &amp; insects</li> <li>• Undertake fertilization of pond</li> <li>• Undertake acclimatization procedures</li> <li>• Stocking the seed at appropriate density &amp; species ratio</li> </ul>	<p>board, marker, projector, Audio-visual aids, Water pump, Air or Oxygen diffusers, Aerators, Mechanical filters - like leaf filters, Tubes, Power backup</p>
3	<p><b>Assist in carrying out culture operation</b></p> <p><b>Theory Duration</b> (hh:mm) 30:00</p> <p><b>Practical Duration</b> (hh:mm) 60:00</p> <p><b>Corresponding NOS Code</b> AGR/N4920</p>	<ul style="list-style-type: none"> <li>• Assist in post-stocking pond culture operations</li> <li>• Carry out proper feeding</li> <li>• Carry out periodic soil, water and fish sampling and netting operation</li> <li>• Apply manure/ fertilizer and therapeutics as prescribed</li> <li>• Take care of the farm implements, nets and gears</li> <li>• Undertake periodic pond maintenance activity</li> <li>• Assess marketable size of fish and select desired size of fish for harvesting</li> <li>• Ensure proper harvesting with minimum handling</li> <li>• Undertake post-harvest care of the produce</li> </ul>	<p>Laptop, white board, marker, projector, Audio-visual aids, Grinder, Mixer, Pelletiser, Profi-Feeders, scareheron, weed eradication equipments, Dip net or any other harvesting gear, Power backup</p>
4	<p><b>Ensure safety, hygiene and sanitation practices in culture operations</b></p> <p><b>Theory Duration</b> (hh:mm) 15:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> AGR/N4918</p>	<ul style="list-style-type: none"> <li>• Ensure safety measures and upkeep of water bodies used in fish culture</li> <li>• Maintain personal hygiene &amp; safety</li> <li>• Maintain health &amp; hygiene of seed during transportation and at various stages of growth &amp; maturity</li> </ul>	<p>Laptop, white board, marker, projector, PPEs, first aid box</p>
5	<p><b>Soft Skills/ Computer Literacy/ Financial Literacy</b></p> <p><b>Theory Duration</b> (hh:mm)</p>	<ul style="list-style-type: none"> <li>• Basic Communication Skills</li> <li>• Basic Computer/ Smart Phone Skills</li> <li>• Various types of documents and their uses- Birth certificate, 10<sup>th</sup> Certificate, Ration Card, Voter Id Card, Aadhar Card, PAN card, Driving License, Bank Pass Book</li> </ul>	<p>Computer, Audio-visual aids, Projector</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	15:00 <b>Practical Duration</b> (hh:mm) 15:00  <b>Corresponding NOS Code</b>	<ul style="list-style-type: none"> <li>Various types of loan/credit available (relevant to the trainees' requirement) and the process to avail the same</li> </ul>	
	<b>Total Duration:</b>  <b>Theory Duration</b> (hh:mm) <b>85:00</b>  <b>Practical Duration</b> (hh:mm) <b>145:00</b>	<b>Unique Equipment Required:</b> Laptop, white board, marker, projector, Audio-visual aids, Water pump, Air or Oxygen diffusers, Aerators, Mechanical filters - like leaf filters, Tubes, Power backup, Grinder, Mixer, Pelletiser, Profi-Feeders, scareheron, weed eradication equipments, Dip net or any other harvesting gear, safety shoes, goggles, first aid box	

Grand Total Course Duration: **230 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Agriculture Skill Council of India](#))

## Trainer Prerequisites for Job role: “Aquaculture Worker” mapped to Qualification Pack: “AGR/Q1003, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	Trainer is responsible for educating the trainees – Various Pond preparation activities, Various Culture Operations, Safety & hygienic practices for culture
2	<b>Personal Attributes</b>	Trainer should be Subject Matter Expert. He/ she should have good communication, leadership, observation and practical oriented skills.
3	<b>Minimum Educational Qualifications</b>	Bachelor’s Degree, Preferably in Fisheries
4a	<b>Domain Certification</b>	Certified for Job Role: “Aquaculture Worker” mapped to QP: “AGR/Q4904, v1.0”. Minimum accepted score is 80%.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “SSC/Q1402”. Minimum accepted % as per respective SSC guidelines is 70%.
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>• M.Sc (Fisheries)</li> <li>• B.Sc.(Fisheries) with 1 Year experience</li> <li>• BSc Agriculture/Zoology graduate with 3 Years of experience in relevant field</li> <li>• Any +2 having 7/8 Years of experience in Culture Fisheries</li> </ul>

## Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	<b>Aquaculture Worker</b>
<b>Qualification Pack</b>	<b>AGR/Q4904, v1.0</b>
<b>Sector Skill Council</b>	<b>Agriculture</b>

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 centre(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 50% in aggregate
6	The marks are allocated PC wise; however, every NOS will carry a weight age in the total marks allocated to the specific QP



Assessment outcomes	Assessment criteria for outcomes	Marks Allocation			
		Total Marks (300)	Out Of	Theory	Skills Practical
<b>1. AGR/N4919: Assist in pond preparation activities</b>	PC1. draw water from source to reservoir upto the desired level		10	3	7
	PC2. treat the water with appropriate methods such as chlorination etc.		10	3	7
	PC3. pump the treated water to culture ponds from the reservoir		10	3	7
	PC4. drain perennial pond and leave for sun drying		10	3	7
	PC5. apply organic manure (if required)		10	3	7
	PC6. eradicate the aquatic weeds using various methods and also know the precautions for using the chemicals/herbicides		10	3	7
	PC7. eradicate predatory and weed fish using various methods		10	3	7
	PC8. fertilize the pond with inorganic fertilizer to get desired plankton growth		10	3	7
	PC9. control aquatic insects prior to seed stocking		10	3	7
	PC10. stock the seed after following due acclimatization procedure and at appropriate density and species ratio		10	3	7
			<b>100</b>	<b>30</b>	<b>70</b>
<b>2. AGR/N4920: Assist in carrying out culture operations</b>	PC1. provide supplementary feed at right time and place and in the right quantity as recommended by the technician		8	3	5
	PC2. carry out split feeding (if any) as per instruction of the technician		7	2	5
	PC3. carry out periodic soil, water and fish sampling and netting operation		7	2	5
	PC4. apply manure, fertilizer and therapeutic as prescribed/recommended by the technician		8	3	5
	PC5. apply lime periodically in the pond, slope		7	2	5
	PC6. ensure proper aeration and water replenishment in the culture pond		8	2	6
	PC7. take note of abnormal behaviour, if any, observed in pond or presence of parasites, lesion on body etc. and report it to the technician		8	3	5
	PC8. take care of the farm implements, nets and gears, cleaning of pond		8	3	5

	dyke and slope, periodic pond maintenance activity, etc.				
	PC9. remove dead and moribund fish from the pond.		7	2	5
	PC10. use nets of appropriate mesh size		8	2	6
	PC11. select desired size of fish in case of partial harvesting		8	2	6
	PC12. ensure minimum handling during harvest till marketing		8	2	6
	PC13. ensure that the harvested fish is ready for transportation		8	2	6
			<b>100</b>	<b>30</b>	<b>70</b>
<b>3.AGR/N4918: Ensure safety, hygiene and sanitation practices for culture operation</b>	PC1. ensure suitable measures for protection from natural calamities such as flood, protect dyke from erosion or break		5	2	3
	PC2. ensure protection and prevent escape of the cultured organisms		5	2	3
	PC3. identify common predators and preying organisms in water bodies		5	1	4
	PC4. apply suitable methods such as fencing to keep away predators in water bodies to protect fish culture		4	1	3
	PC5. restrict entry of unauthorized persons into the premises		5	2	3
	PC6. be fully aware of the dosage, toxicity level and method of application of chemicals / medicines used for fish culture		5	2	3
	PC7. ensure all chemicals are adequately labelled and stored safely		4	1	3
	PC8. identify a quarantine area and implement protocols of quarantine		5	2	3
	PC9. be aware of the possibilities of bacterial (water borne, air borne, formite borne )and other contamination from human handling		5	1	4
	PC10. apply effective systems and routines to ensure healthy and hygienic conditions during all stages of fish culture including transportation and marketing		5	2	3
	PC11. ensure that the fish culture premises are constantly monitored/inspected for breaches in the protection provided by health and hygiene measures		5	1	4
	PC12. undertake basic safety checks before operation of any equipments		5	2	3
	PC13. wear protective clothing as and when required and ensure		5	2	3

	adherence to safety guidelines				
	PC14. report potential hazards to the supervisor immediately		4	1	3
	PC15. follow standard procedures to deal with accidents and emergency situations		5	1	4
	PC16. use first aid kit as and when required and provide appropriate treatment in case of any injuries		5	2	3
	PC17. ensure maintenance of suitable soil and water quality parameters at all times with frequent tests		5	1	4
	PC18. ensure specified feed is provided to organisms at regular intervals and excess feeding is avoided		4	1	3
	PC19. carry out regular inspection of organisms for possible presence of parasites, pathogenic infections, any phenotypic disorder, spot, etc. which are usually the signs of ailments or disease outbreak		5	1	4
	PC20. ensure all nets, utensils and vessels used are decontaminated and clean		4	1	3
	PC21. implement effective security measures for prevention of theft/sabotage		5	1	4
			<b>100</b>	<b>30</b>	<b>70</b>
	<b>Total</b>	<b>300</b>	<b>300</b>	<b>90</b>	<b>210</b>
	<b>Percentage Weightage:</b>			<b>30%</b>	<b>70%</b>
	<b>Minimum Pass% to qualify (aggregate):</b>			<b>50%</b>	