

Model Curriculum

Hydroponics Technician

SECTOR: AGRICULTURE & ALLIED
SUB-SECTOR: AGRICULTURE CROP PRODUCTION
OCCUPATION: LANDSCAPING, GARDENING & URBAN FARMING
REF ID: AGR/Q0808, v1.0
NSQF LEVEL: 4



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: **'Hydroponics Technician'** QP No. **'AGR/Qo8o8 NSQF Level 4'**

Date of Issuance: February 24th, 2018

Valid up to: March 31st, 2021

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



Authorised Signatory
(Agriculture Skill Council of India)

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Sr. No.	Module	Key Learning Outcomes	Equipment Required
	165:00	(Coco peat, perlite, vermiculite, rock wool, etc.), PAR meter, Laptop, white board, marker, projector and speakers	

Grand Total Course Duration: **220 Hours, 0 Minutes**

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

Trainer Prerequisites for Job role: “Hydroponics Technician” mapped to Qualification Pack: “AGR/Q0808, v1.0”

Sr. No.	Area	Details
1	Description	Trainer is responsible for educating the trainees – Hydroponics Farming of different crops by different methods, managing of hydroponics system, operations modules and equipments with their usage and importance, harvesting and marketing of hydroponics produce, safety and hygiene at the workplace etc
2	Personal Attributes	Trainer should be Subject Matter Expert. He/ she should have good communication, leadership, observation and practical oriented skills.
3	Minimum Educational Qualifications	10+2
4a	Domain Certification	Certified for Job Role: “Hydroponics Technician” mapped to QP: “AGR/Q0808”. 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/Q1402”. Minimum accepted % as per respective SSC guidelines is 80%.
5	Experience	<ul style="list-style-type: none"> • MSc (Agriculture / Horticulture / Botany/Biotechnology/ Agriculture Engineering) with 1 year of relevant work experience • B Tech / BSc (Agriculture / Horticulture / Botany/ Biotechnology/ Agriculture engineering) with 1 years of relevant work experience and a total of 2 years work experience • Diploma in Agriculture [after10+2 Science] with 3 years of relevant work experience • 10+2 (Biology Stream/Elective Agriculture) with 5 years of relevant work experience

Annexure: Assessment Criteria

Job Role Hydroponics Technician

Qualification Pack AGR/Q0808

Sector Skill Council Agriculture Skill Council of India

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 aggregate.
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

	PC30. mix fertilizers required for a particular crop with daily water requirement and apply manually or by using a fertigation system/nutrient tank		3	1	2
	PC31. decide the amount of fertilizer to be used based on the type of crop to be grown, growth stage and the type of hydroponics technique to be used		3	1	2
			100	30	70
2. AGR/N0823: Carry out harvesting , grading, storage and marketing activities in a hydroponics system	PC1. identify the correct maturity age of the plants and crops for harvesting	100	9	2	7
	PC2. maintain reports on harvesting schedule and period of crops/plants to adhere to prescribed guidelines		9	2	7
	PC3. ensure minimum damage to crops/plants during harvesting		9	3	6
	PC4. discard any damaged or disfigured plants		9	2	7
	PC5. carry out grading and classify into categories:		10	3	7
	<input type="checkbox"/> small				
	<input type="checkbox"/> medium				
	<input type="checkbox"/> large		9	3	6
	PC6. store the seeds, plants/crops in cool dry locations				
	PC7. ensure proper aeration during storage				
	PC8. pack produce in small packets for selling purposes				
	PC9. ensure proper labelling of the packets				
	PC10. ensure proper aeration during transportation of plants				
PC11. coordinate effectively with the transportation vendor					
			100	30	70
3. AGR/N0824: Manage requirements of a hydroponics system	PC1. maintain the PH of the nutrient solution in the prescribed range (5.8 to 6.5)	100	10	3	7
	PC2. maintain adequate nutrient solution temperature, and counter any increase in temperature		10	3	7
	PC3. ensure that there is ample oxygen dissolved in the nutrient solution		10	3	7
	PC4. maintain adequate air space between between nutrient solution and roots of plants		10	3	7
	PC5. ensure adequate light, is available for the plants being grown in the system		10	3	7
	PC6. use pest and disease free seedlings, planting materials for establishment of hydroponic crops		10	3	7
	PC7. clean the system regularly using solution of chlorine, and flush the system with clean water before replanting		10	3	7
	PC8. ensure proper support is available to plants and crops during growth		10	3	7
	PC9. keep the environment of hydroponic plants clean		10	3	7
	PC10. carry out artificial pollination by means of blowers and mechanical vibrators so as to improve air quality within the protected		10	3	7

	PC14. handle all tools and equipments in the right manner so that injuries are prevented		5	2	3
	PC15. carry out proper drainage of nutrient water and seal any spillage that may occur and prevent birds and animals from accessing it		6	1	5
	PC16. detect shortcircuits and use firefighting equipment where required		5	2	3
	PC17. use gloves, dedicated shoes/ slippers and lab coat for hydroponic machine/system operation		5	2	3
	PC18. use first aid kit as and when required		5	2	3
	PC19. follow organization's safety protocol when dealing with accidents and emergencies		5	2	3
			100	30	70
	GRAND TOTAL	500	500	150	350