



## **QUALIFICATION FILE**

### **Micro-Irrigation Field Assistant**

☒ Short Term Training (STT) ☐ Long Term Training (LTT) ☐ Apprenticeship

☐ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☒ General ☐ Multi-skill (MS) ☐ Cross Sectoral (CS) ☐ Future Skills ☐ OEM

**NCrF/NSQF Level: 2**

**Submitted By:**

**Agriculture Skill Council of India**

**Unit No. 101, First Floor, Greenwoods Plaza, Block 'B', Greenwoods City, Sector 45, Gurugram -122009, Haryana.**

## Table of Contents

Section 1: Basic Details .....	3
Section 2: Module Summary .....	5
NOS/s of Qualifications.....	5
Mandatory NOS/s: .....	5
Assessment - Minimum Qualifying Percentage.....	5
Section 3: Training Related.....	5
Section 4: Assessment Related.....	7
Section 5: Evidence of the need for the Qualification.....	8
Section 6: Annexure & Supporting Documents Check List.....	8
Annexure-1: Evidence of Level .....	9
Annexure-2: Tools and Equipment (Lab Set-Up) .....	10
Annexure-3: Industry Validations Summary.....	11
Annexure-4: Training & Employment Details.....	12
Annexure-6: Assessment Strategy.....	16
Annexure-7: Acronym and Glossary .....	20

## Section 1: Basic Details

1.	Qualification Name	Micro-Irrigation Field Assistant																						
2.	Sector/s	Agriculture																						
3.	Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	NQR Code & version of existing/previous qualification: (change to previous, once approved) NA			Qualification Name of existing/previous version: NA																			
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA																						
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-02-AG-01017-2023-V1-ASCI & Version 1.0			6. NCrf/NSQF Level: 2																			
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate																						
8.	Brief Description of the Qualification	A Micro-Irrigation Field Assistant is responsible for planning, installing, testing and commissioning micro-irrigation systems in the field to ensure uninterrupted supply of water for farm operations.																						
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	<p>a. Entry Qualification &amp; Relevant Experience:</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td></td> <td>No formal education</td> <td>No experience</td> </tr> </tbody> </table> <p>b. Age: NA</p>					S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)		No formal education	No experience												
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)																						
	No formal education	No experience																						
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrf))	7			11. Common Cost Norm Category (I/II/III) (wherever applicable): I																			
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																						
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	<p><input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended</p> <table border="1"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>90</td> <td>120</td> <td></td> <td></td> <td>210</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(Refer Blended Learning Annexure for details)</p>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	90	120			210	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	90	120			210																			
Online																								

14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/ 3142.0101	
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	Micro-irrigation Field Assistant, Assistant Micro-irrigation Technician	
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	NA	
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:	
18.	Is the Job Role Amenable to Persons with Disability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes", specify applicable type of Disability: <i>SHI</i>	
19.	How Participation of Women will be Encouraged	Batches specific to women will be formed	
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No DGT/VSQ/N0101	
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
22.	Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Ms Priyanka Prakash Email: priyanka@asci-india.com Website: www.asci-india.com Contact No.: 0124-4670029	
23.	Final Approval Date by NSQC: 29/09/2023	24. Validity Duration: 3 years post NSQC Approval	25. Next Review Date: 29/09/2026

## Section 2: Module Summary

### NOS/s of Qualifications

(In exceptional cases these could be described as components)

### Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

*Th.-Theory Pr.-Practical OJT-On the Job Man.-Mandatory Training Rec.-Recommended Proj.-Project*

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1	Install micro-irrigation system	AGR/N104 2 (v1.0)	Core	2	5	50	100			150	30	40		30	100	70
2	Perform repair and maintenance of micro-irrigation system	AGR/N104 3 (v1.0)	Core	2	1	10	20			30	30	40		30	100	25
3	Employability Skills (30 Hours)	DGT/VSQ/N 0101 (v1.0)	Non-Core	2	1	30				30	20	30			50	5
Duration (in Hours) / Total Marks					7	90	120			210	80	110		60	250	100

### Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

**Minimum Pass Percentage – Aggregate at qualification level:** 50 % (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

**Minimum Pass Percentage – NOS/Module-wise:** \_\_\_\_ % (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

## Section 3: Training Related

1.	<b>Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVT guidelines)	10th Class with 7 years of relevant industry or training experience in Agriculture Farm Machinery OR 12th Class with 5 years of relevant industry or training experience in Agriculture Farm Machinery
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		<p>OR</p> <p>Ex-Service-Man including Ex-Paramilitary personnel: Minimum Qualification is 10+2 with an Honourable Discharge/Pension*</p> <p>*SSC would consider a relaxation/waiver of sector-specific experience on case-to-case basis.</p> <p>OR</p> <p>Diploma (Mechanical/ Civil/ Plumbing/ Fitter) with 3 years of relevant industry or training experience in Agriculture Farm Machinery</p> <p>OR</p> <p>ITI (Mechanical/ Civil/ Plumbing/ Fitter) with 3 years of relevant industry or training experience in Agriculture Farm Machinery</p> <p>OR</p> <p>Graduate (Graduate in any stream with 10+2 in Science) with 3 years of relevant industry or training experience in Agriculture Farm Machinery**</p> <p>**For the school Program minimum qualification of the Trainer should be Graduate with 10+2 in Science. Their Teaching experience will be considered industry experience</p> <p>OR</p> <p>Graduate (Agriculture / Horticulture / Botany/Forestry) with 1-year of relevant industry or training experience in Agriculture Farm Machinery</p> <p>OR</p> <p>Certificate (NCIC-Fitter/Plumber certificate, Relevant CITS-NCIC Course) with 1-year of relevant industry or training experience in Agriculture Farm Machinery</p> <p>OR</p> <p>B.Tech.( Mechanical/ Civil) with 0.5-year of relevant industry or training experience in Agriculture Farm Machinery</p> <p>OR</p> <p>B.Tech (Agriculture engineering)</p>
2.	<b>Master Trainer's Qualification and experience in the relevant sector (in years)</b> <i>(as per NCVET guidelines)</i>	<p>5 years of training experience in Agriculture Farm Machinery after Graduation in any stream with 10+2 in Science and 3 years of relevant industry experience in Agriculture Farm Machinery</p> <p>OR</p> <p>5 years of training experience in Agriculture Farm Machinery after Graduation in Agriculture / Horticulture / Botany/Forestry and 1-year of relevant industry experience in Agriculture Farm Machinery</p> <p>OR</p>

		5 years of training experience in Agriculture Farm Machinery after B.Tech.(Mechanical/ Civil) and 0.5-year of relevant industry experience in Agriculture Farm Machinery OR 5 years of training experience in Agriculture Farm Machinery after B.Tech (Agriculture engineering),
3.	<b>Tools and Equipment Required for Training</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	<b>In Case of Revised Qualification, Details of Any Upskilling Required for Trainer</b>	NA

### Section 4: Assessment Related

1.	<b>Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	Graduation (Agriculture/ Agriculture Engineering/Mechanical Engineering/Farm Machinery and related streams) with 5 years of relevant experience in Agriculture/Farm Machinery/irrigation Engineering and related experience OR Post-graduation (Agriculture/ Agriculture Engineering/Mechanical Engineering/Farm Machinery and related streams) with 2 years of relevant experience in Agriculture/Farm Machinery/irrigation Engineering and related experience OR PhD (Agriculture/ Agriculture Engineering/Mechanical Engineering/Farm Machinery and related streams) with 1-year of relevant experience in Agriculture/Farm Machinery/irrigation Engineering and related experience
2.	<b>Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	Diploma/Graduate (It is mandatory for a proctor to have technical knowledge/IT knowledge Once a proctor has been on-boarded by any AA, they are oriented about skill ecosystem along with do's and don'ts .)
3.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)</b>	Post-graduation (Agriculture/ Agriculture Engineering/Mechanical Engineering/Farm Machinery and related streams) with 10 years of relevant experience in Agriculture/Farm Machinery/irrigation Engineering and related experience
4.	<b>Assessment Mode (Specify the assessment mode)</b>	<b>Offline</b>
5.	<b>Tools and Equipment Required for Assessment</b>	<input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (details to be provided in Annexure-if it is different for Assessment)

## Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	<b>Latest Skill Gap Study (not older than 2 years) (Yes/No):</b> As per the requirement of Department of Agriculture & Co-operation (DAC), we have developed this qualification with 210 hours to meet the requirements of Rashtriya Krishi Vikas Yojana (RKVY)
2.	<b>Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):</b> Developed under RKVY scheme
3.	<b>Government /Industry initiatives/ requirement (Yes/No):</b> Yes, Government Initiative (MoA&FW)
4.	<b>Number of Industry validation provided:</b> 8
5.	<b>Estimated nos. of persons to be trained and employed:</b> 300
6.	<b>Evidence of Concurrence/Consultation with Line Ministry/State Departments:</b> developed for RKVY scheme under Ministry of Agriculture & Farmers Welfare (MoA&FW)

## Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	<b>Annexure:</b> NCrf/NSQF level justification based on NCrf level/NSQF descriptors (Mandatory)	Annexure-1
2.	<b>Annexure:</b> List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Annexure-2
3.	<b>Annexure:</b> Detailed Assessment Criteria (Mandatory)	Annexure-5
4.	<b>Annexure:</b> Assessment Strategy (Mandatory)	Annexure-6
5.	<b>Annexure:</b> Blended Learning (Mandatory, in case selected Mode of delivery is "Blended Learning")	NA
6.	<b>Annexure:</b> Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	NA
7.	<b>Annexure:</b> Acronym and Glossary (Optional)	Annexure-7
8.	<b>Supporting Document:</b> Model Curriculum (Mandatory – Public view)	Annexure-8
9.	<b>Supporting Document:</b> Career Progression (Mandatory - Public view)	Assistant Micro-irrigation Technician
10.	<b>Supporting Document:</b> Occupational Map (Mandatory)	Annexure-9
11.	<b>Supporting Document:</b> Assessment SOP (Mandatory)	Annexure-10
12.	<b>Any other document you wish to submit:</b>	



## Annexure-1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
<b>Professional Theoretical Knowledge/Process</b>	<ul style="list-style-type: none"> <li>● Calculate the water requirement for micro irrigation</li> <li>● Plan the micro-irrigation system</li> <li>● Install the micro-irrigation system</li> <li>● Carry out post-installation activities</li> </ul>	A Micro-Irrigation Technician is responsible for planning, installing, testing and maintaining micro-irrigation systems in the field to ensure uninterrupted supply of water for farm operations.	2
<b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b>	<ul style="list-style-type: none"> <li>● Mentor apprentice</li> <li>● Promote inclusion at the workplace</li> </ul>	The user/individual on the job needs to know and understand the code of business conduct, job responsibilities and duties, standard training tools and procedures and organization methods for pre demonstration check-ups.	2
<b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b>	<ul style="list-style-type: none"> <li>● Optimise resource utilisation</li> <li>● Perform waste management</li> <li>● Administer appropriate emergency procedures</li> <li>● Maintain clean and safe workplace</li> </ul>	The Job holder should have professional skills including: Decision making, Planning and Organising, Customer centricity, Problem solving, Analytical Thinking, Critical thinking.	2
<b>Broad Learning Outcomes/Core Skill</b>	Arrange the necessary resources <ul style="list-style-type: none"> <li>● Perform repair and maintenance</li> <li>● Effective communication at the workplace</li> <li>● Maintain personal hygiene</li> </ul>	The job holder must have Core Skills which will include: Writing Skills, Reading Skills, Oral and Communication (Listening and Speaking).	2
<b>2Responsibility</b>	<ul style="list-style-type: none"> <li>● The job holder is required to hold responsibility for his/her own work and learning and full responsibility for other's work and learning.</li> <li>● ensure availability of all tools and equipment required for the demonstrations, demonstrate the operation</li> <li>● demonstrate the operation and explain key advantages of post-harvest equipment</li> <li>● demonstrate the process of carrying out minor repairs and periodical maintenance of agricultural machinery and equipment</li> <li>● provide information about safety procedures, protective devices required for operation, listen to workers, team members and farmers to know and understand their work-related problems,</li> </ul>	A Micro-Irrigation Technician is responsible for installation, testing and maintenance of a microirrigation system in the field to ensure uninterrupted supply of water for farm operations.	2

## Annexure-2: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Drip Line	Ft	10
2	Disk Filter	Nos	1
3	Sand Filter	Nos	1
4	Pipe Wrench	Nos	1
5	Punching Machine	Nos	1
6	Connector	Nos	1
7	Grommet	Nos	1
8	Pressure Gauge	Nos	1
9	Fertilizer Tank/ Ventury	Nos	1
10	Flush Valve	Nos	1
11	Gumboots	Nos	5
12	Hand Gloves	Nos	30
13	Spanner	Set	1
14	End Cap	Nos	1
15	Drawing Sheet	Nos	1
16	Kudal	Nos	1
17	Khurpi	Nos	5
18	Fawda	Nos	1
19	Solvent Cement	Nos	1
20	Micro Tube (Complete Assembly)	Nos	1
21	Sprinkler With Stand	Nos	1
22	Helmet	Nos	3
23	Cutter	Nos	1
24	Driper	Nos	1
25	Video Recording Equipment	Nos	1
26	PVC Pipe	Ft	10
27	Ball Valve	Nos	1
28	Service Saddle	Nos	1
29	Tee-(T)	Nos	1
30	Elbow (L)	Nos	1
31	Screen Filter	Nos	1

32	HDPE Pipe	Ft	10
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## Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Markers

## Annexure-3: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1.	KVK Sheohar	Dr Sanjay Kumar Rai	Sr.Scientist & Head	Sheohar, Pusa	06287797162	<a href="mailto:head.kvk.sheohar@rpcu.ac.in">head.kvk.sheohar@rpcu.ac.in</a>	
2.	KVK Tondapur	Dr P.P Shelke	Sr.Scientist & Head	Tondapur Dist. Hingoli	9765390976	<a href="mailto:kvkhingoli@gmail.com">kvkhingoli@gmail.com</a>	
3.	IIFSR	Dr Laxman Ram Meena	Principal Scientist (Agronomy)	Modipuram, Meerut, UP	8979814026	<a href="mailto:laxman.meena@icar.gov.in">laxman.meena@icar.gov.in</a>	
4.	Patanjali Organic Research Institute Food and Herbal Pak	Mr Pawan Kumar	Chief General Manager	Haridwar	9412075011	<a href="mailto:chiragpawan@yahoo.com">chiragpawan@yahoo.com</a>	
5.	KVK Korea	Er Kamlesh Kumar Singh	Sr.Scientist & Head	Mansukh Distt. Korea	9406206509	<a href="mailto:Kvk.korea@igkv.ac.in">Kvk.korea@igkv.ac.in</a>	
6.	SIMACES Learning LLP	Ankit Maheshwari	CHIEF EXECUTIVE OFFICER	Pune, MH	7773944077	<a href="mailto:businesshead@siilc.edu.in">businesshead@siilc.edu.in</a>	
7.	STAMIN	Dr. P. Sankaralingam	Director	Kudumiyanamalai		<a href="mailto:tnstaminpdkt@gmail.com">tnstaminpdkt@gmail.com</a>	
8.	KVK Amravati	Dr K P Singh	Sr.Scientist & Head	Durgapur, Amravati	9637717818	<a href="mailto:pckvkda2015@gmail.com">pckvkda2015@gmail.com</a>	

## Annexure-4: Training &amp; Employment Details

## Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2022-23	100	50	20	10		
2023-24	100	50	20	10		
2024-25	100	50	20	10		

Data to be provided year-wise for next 3 years

## Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
		NA											

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

## List Schemes in which the previous version of Qualification was implemented: NA

## Content availability for previous versions of qualifications:

☒ Participant Handbook ☒ Facilitator Guide ☐ Digital Content ☐ Qualification Handbook ☐ Any Other:

## Languages in which Content is available:

## Annexure-5: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
AGR/N1042: Install micro-irrigation system	<i>Install the micro-irrigation system</i>	15	25		15
	PC1. create holes in the water tubes as per the requirement	-	-	-	-
	PC2. lay the water tubes in the field as per the plan	-	-	-	-
	PC3. secure the water tubes on the ground using ground stakes/ conduit brackets	-	-	-	-
	PC4. install emitters/ sprayers/ foggers at the identified spots	-	-	-	-
	PC5. set up the irrigation timer	-	-	-	-
	PC6. apply cap on the other end of the main tube	11	14		11
	PC7. connect the main water tube to the water outlet at the farm	-	-	-	-
	PC8. connect vacuum breaker with the pressure regulator to prevent backflow of water	-	-	-	-
	PC9. install water-pump at the main water supply	-	-	-	-
	PC10. install water filter to prevent silt and dirt from getting in the water tubes	-	-	-	-
	PC11. fix flush valves at the identified spots to facilitate flushing of any deposits in the water tubes	-	-	-	-
	PC12. install the fertigation equipment to deliver water mixed with fertilizers to plants	6	9		6
	PC13. run clean water through the tubes to remove any dirt and debris inside them	-	-	-	-
	PC14. test the micro-irrigation system to see if it functions as expected	-	-	-	-
	PC15. perform troubleshooting for any issues identified with the micro-irrigation system	-	-	-	-
	PC16. cover the water tubes with soil/ mulch as per the plan	3	5		3
	<i>Carry out post-installation activities</i>	10	10		10
	PC17. explain the functioning of the micro-irrigation system to the farmer	-	-	-	-
	PC18. describe the process to carry out minor repair and maintenance of the micro-irrigation system along with the maintenance schedule	-	-	-	-
	PC19. explain the process to retrieve the micro-irrigation system after harvesting	-	-	-	-

	PC20. list the vendors from whom the farmer can procure authentic spare parts and maintenance tools/ equipment	-	-	-	-
	PC21. perform documentation as per the organisational procedure	-	-	-	-
	<i>Optimise resource utilisation</i>	5	5		5
	PC22. optimise usage of various material in different tasks/ activities/ processes	-	-	-	-
	PC23. optimise usage of electricity/energy in various tasks/ activities/ processes	-	-	-	-
	PC24. connect electrical tools and equipment safely and turn off when not in use	-	-	-	-
	<b>Total Marks</b>	<b>30</b>	<b>40</b>		<b>30</b>
<b>AGR/N1043: Perform repair and maintenance of micro-irrigation system</b>	<i>Perform repair and maintenance</i>	20	25		20
	PC1. examine the emitters for the required level of pressure	-	-	-	-
	PC2. check the fertigation system and irrigation timer for correct functioning	-	-	-	-
	PC3. remove the flush valves and water tube cap as per the SOP	-	-	-	-
	PC4. run clean water through the water tubes at high pressure to flush any formations inside	9	12		9
	PC5. clean the water filter to remove any blockage inside it	-	-	-	-
	PC6. carry out chlorine/ acid treatment to remove salts such carbonates, bi-carbonates, iron, calcium, etc.	-	-	-	-
	PC7. set the emitters/ foggers/ sprinklers in the correct position to effectively supply water to plants	-	-	-	-
	PC8. identify damaged or malfunctioning micro-irrigation system components such as emitter, sprayer, fogger, water filter, water-tubes, etc.	-	-	-	-
	PC9. replace the damaged or malfunctioning components as per the SOP	11	15		11
	PC10. maintain the detailed record of maintenance	-	-	-	-
	PC11. schedule the next maintenance as per the maintenance schedule	-	-	-	-
	<i>Perform waste management</i>	10	15		10
	PC12. segregate waste into different categories	-	-	-	-
	PC13. dispose non-recyclable waste appropriately	-	-	-	-
	PC14. deposit recyclable and reusable material at the identified location	-	-	-	-
	<b>Total Marks</b>	<b>30</b>	<b>40</b>		<b>30</b>
<b>DGT/VSQ/N0101: Employability Skills (30 Hours)</b>	<i>Introduction to Employability Skills</i>	1	1	-	-
	PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
	Constitutional values – Citizenship	1	1	-	-

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>1</b>	<b>3</b>	-	-
PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	<b>2</b>	<b>3</b>	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
Communication Skills	<b>1</b>	<b>1</b>	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>1</b>	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>3</b>	<b>4</b>	-	-
PC9. use various financial products and services safely and securely	-	-	-	-
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	<b>4</b>	<b>6</b>	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
Entrepreneurship	<b>3</b>	<b>5</b>	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	<b>2</b>	<b>2</b>	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>1</b>	<b>3</b>	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-

	<b>Total Marks</b>	<b>20</b>	<b>30</b>	<b>-</b>	<b>-</b>
<b>Grand Total</b>		80	110		60

### Annexure-6: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

#### 1. Assessment System Overview

In Agriculture Sector it is of ultimate importance that individuals dealing with crop production or livestock have the requisite knowledge and competencies to undertake the task. Based on the Assessment Criteria, SSC in association with empanelled AAs, define the test structure for the given job roles to cover the required skills and competencies. Assessment strategy consists of the following:

1. Multiple Choice Questions : To assess basic knowledge (Objective/Subjective)
2. Viva : To assess awareness on processes (Oral and/or written questioning)
3. Practical : To evaluate skills and identify competencies.(Observation)

Assessments for knowledge and awareness on processes may be conducted through 'real time' internet based evaluation or by conducting the same 'offline' through TABs. Skills and competencies are to be assessed by conducting 'practical' on ground through qualified and ToA certified assessors.

While it is important that an individual has adequate knowledge and skills to perform a specific task, weight age for different aspects for assessment are given as follows:

Multiple Choice Questions: 20%-30%, depending on the specific QP

Viva: 20%

Practical: 50% - 60% (Involves demonstrations of applications and presentations of procedures/tasks and other components)

Assessment will be carried out by certified assessors through empanelled assessment partners. Based on the results of assessment; ASCI will certify the learners/candidates

#### 2. Testing Environment



Assessments are conducted on laptops, Mobiles and android tablets via both offline and online mode depending on the internet connectivity at assessment location.

In remote locations/villages, assessments get delivered through tablets without the requirement of Internet.

- Multilingual assessments (ASCI is conducting assessments in 13 + languages pan India)
- Rubric driven assessments in Practical/Viva sections and responses recorded accordingly
- All responses, data, records and feedback stored digitally on cloud
- Advanced auto-proctoring features – photographs, time-stamp, geographic-tagging, toggle-screen/copy-paste disabled, etc.
- Android based monitoring system
- End to end process from allocation of a batch to final result upload, there is no manual intervention
- Assessment will normally be fixed for a day after the end date of training / within 7 days of completion of training.
- Assessment will be conducted at the training venue
- Room where assessment is conducted will be set with proper seating arrangements with enough space to curb copying or other unethical activities
- Question bank of theory and practical will be prepared by ASCI /assessment agency and approved ASCI. Only from approved Question Bank assessment agency will prepare the question paper. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on his theoretical knowledge of the subject.
- The theory, practical and viva assessments will be carried out on same day. In case of more number of candidates, number of assessors and venue facilitation be increased and facilitated

Assessment			
Assessment Type	Formative or Summative	Strategies	Examples
Theory	Summative	MCQ/Written exam	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions
Practical	Summative	Structured tasks/Demonstration	Practical application /Demonstration /Application tasks
Viva	Summative	Questioning and Probing	Mock interviews on usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling job situation

The question paper pre-loaded in the computer /Tablet and it will be in the language as requested by the training partner.

### 3. Assessment Quality Assurance framework

#### Assessment Framework and Design:

Based on the Assessment Criteria, SSC in association with AAs will define the test structure for the given roles to cover the required skills and competencies. ASCI offer a bouquet of tools for multi- dimensional evaluation of candidates covering language, cognitive skills, behavioral traits and domain knowledge.

**Theoretical Knowledge** - Item constructs and types are determined by theoretical understanding of the testing objectives and published research about the item-types and constructs that have shown statistical validity towards measuring the construct. Test item types which have been reported to be coachable are not included. Based on these, items are developed by domain experts. They are provided with comprehensive guidelines of testing objectives of each question and other quality measures.

**Type** – Questions based on Knowledge Required, Case-based practical scenario questions and automated simulation based questions.

**Practical Skills** - The practical assessments are developed taking into consideration two aspects: what practical tasks is the candidate expected to perform on the job and what aspects of the job cannot be judged through theoretical assessments. The candidates shall be asked to perform either an entire task or a set of subtasks depending on the nature of the job role

**Type** – Standardized rubrics for evaluation against set of tasks in a demo/practical task

**Viva Voce** - Those practical tasks which cannot be performed due to time or resource constraints are evaluated through the viva mode. Practical tasks are backed up with Viva for thorough assessment and complete evaluation

**Type** – Procedural questions, do's and don'ts, subjective questions to check understanding of practical tasks.

Assessor has to go through orientation program organized by Assessment Agency. The training would give an overview to the assessors on the overall framework of QP evaluation. Assessor shall be given a NOS and PC level overview of each QP as applicable. Overall structure of assessment and objectivity of the marking scheme will be explained to them. The giving of marks will be driven by an objective framework which will maintain standardization of marking scheme.

#### 4. Type of Evidence and Evidence Gathering Protocol:

During the assessment the evidences collected by AAs and ASCI are:

- Geo Tagging to track ongoing assessment
- AA's coordinator emails the list of documents and evidences (photos and videos) to the assessor one day prior to the assessment. List is mentioned below:
  - Signed Attendance sheet
  - Assessor feedback sheet
  - Candidate feedback sheet
  - Assessment checklist for assessor

- Candidate Aadhar/ID card verification
- Pictures of classroom, labs to check the availability of adequate equipment's and tool to conduct the training and assessment
- Pictures and videos of Assessment, training feedback and infrastructure.
- Apart from the Assessor, Technical assistant popularly known as Proctor also ensures the proper documentation and they verify each other's tasks.
- To validate their work on the day of assessment, regular calls and video calls are done.
- On-boarding and training of assessor and proctor is done on timely basis to ensure that quality of the assessment should be maintained.
- Training covers the understanding of QP, NSQF level, NOS and assessment structure

### 5. *Methods of Validation*

- Morning Check (Pre-Assessment): Backend team of AA calls and confirms assessor/technical spoc event status. Assessor/Technical spoc are instructed to reach the centre on time by 9:30 AM / as decided with TC and delay should be highlighted to the Training Partner in advance.
- Video Calls: Random video calls are made to the technical spoc/assessor so as to keep check on assessment quality and ensure assessment is carried out in fair and transparent manner
- Aadhar verification of candidates
- Evening Check (Post Assessment): Calls are made to the ground team to ensure event is over by what time and the documentation is done in proper manner or not.
- TP Calling: To keep check on malpractice activity, independent audit team calls to TP on recorded line to take confirmation if there was any malpractice activity observed in assessment on part of AA/SSC team. If calls are not connected, email is send to TP Spoc for taking their confirmation
- Video and Picture Evidence: Backend team collects video and pictures for assessment on real time basis and highlights any issue like, Students sitting idle/trainer allowed for helping out candidates during assessment.
- Surprise Visit: Time to time SSC/AA Audit team can visit the assessment location and do surprise audit for assessment process carried out by ground team.
- Geo Tagging: On day of assessment, each technical spoc is required to login in our internal app which is Geo tagged. Any deviation with centre address needs to be highlighted to assessment team on real-time basis.

#### **Method for assessment documentation, archiving, and Access:**

- ASCI has fully automated result generation process in association with multiple AAs
- Theory, Practical and Viva marks forms the basis of the results and encrypted files generated to avoid data manipulation. All responses captured and stored in System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can be generated.
- Maker Checker concept: 1 person prepares results and other audit result which is internally approved by AA at first and then gets vetted at the end of SSC
- All soft copy of documents is received from the on-ground tech team over mail. The same are downloaded by our internal backend team and saved in Repository. The repository consists of scheme wise folders. These scheme wise folders have job role specific folders. These specific folders have Year wise and Month wise folders where all documents are saved in Batch specific folders. All Hard copies are filed and stored in storeroom.
- **Result Review & Recheck Mechanism –**

- Time stamped assessment logs
- Answer/Endorsement sheets for each candidate
- Attendance Sheet
- Feedback Forms: Assessor feedback form, Candidate feedback form, TP feedback form
- The results for each of the candidate shall be stored and available for review (retained for 5 years/ till conclusion of project or scheme)

## Annexure-7: Acronym and Glossary

## Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

## Glossary

Term	Description
<b>National Occupational Standards (NOS)</b>	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualification</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long Term Training</b>	Long-term skilling means any vocational training program undertaken for a year and above. <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>