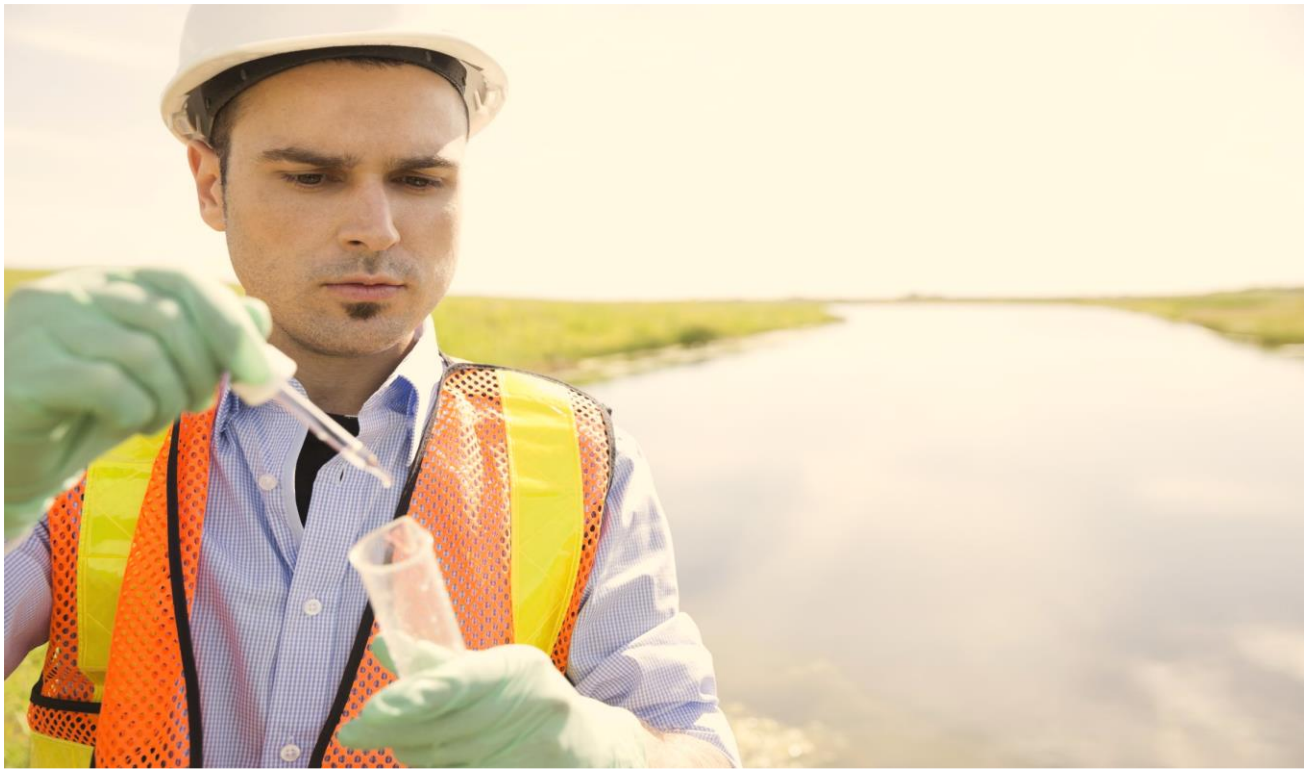

Model Curriculum

QP Name: Para Geohydrologist

QP Code: AGR/Q6602

Version: 2.0

NSQF Level: 4

Model Curriculum Version: 1.0

Agriculture Skill Council of India || Agriculture Skill Council of India (ASCI), 6th Floor, GNG Tower, Plot No. 10, Sector – 44

Table of Content

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Training Parameters

Sector	Agriculture
Sub-Sector	Forestry, Environment and Renewable Energy Management
Occupation	Watershed Management
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/NIL
Minimum Educational Qualification and Experience	12th grade pass OR 10th grade pass with 2 years of relevant experience OR Previous relevant qualification of NSQF Level 3.0 with minimum education as 8th grade pass with 3 years of relevant experience OR Previous relevant qualification of NSQF Level 3.5 with 1.5 years of relevant experience
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	29/03/2023
Next Review Date	29/03/2026
NSQC Approval Date	29/03/2023
QP Version	2.0
Model Curriculum Creation Date	29/03/2023
Model Curriculum Valid Up to Date	29/03/2026
Model Curriculum Version	1.0
Minimum Duration of the Course	390 Hours
Maximum Duration of the Course	390 Hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Demonstrate the process of carrying out landscape survey and assist in preparing the Detailed Project Report (DPR).
- Demonstrate the process of assisting in carrying out water budgeting of the watershed/springshed.
- Explain the process of carrying out data management for watershed, springshed and groundwater interventions.
- Elucidate ways to guide in identifying the appropriate site for soil and water conservation and construction of WHS.
- Explain the process of assisting the village community in capacity-building.
- Demonstrate various practices to ensure health and safety at work.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	**05:00**	**00:00**	**0:00**	**00:00**	**05:00**
Module 1: Introduction to the role of a Para Geohydrologist	05:00	00:00	0:00	00:00	05:00
AGR/N6618: Carry out landscape survey and assist in preparing the Detailed Project Report (DPR) **NOS Version- 2.0** **NSQF Level- 4**	**20:00**	**35:00**	**0:00**	**00:00**	**55:00**
Module 2: Process of carrying out landscape survey and assist in preparing the Detailed Project Report (DPR)	20:00	35:00	0:00	00:00	55:00
AGR/N6605: Assist in carrying out water budgeting for the watershed/ springshed **NOS Version- 2.0** **NSQF Level- 4**	**15:00**	**15:00**	**0:00**	**00:00**	**30:00**

Module 3: Process of assisting in carrying out water budgeting for the watershed/ springshed	15:00	15:00	0:00	00:00	30:00
AGR/N6650: Plan, implement and monitor watershed, springshed and groundwater projects **NOS Version- 1.0** **NSQF Level- 4**	**30:00**	**30:00**	**0:00**	**00:00**	**60:00**
Module 4: Process of planning, implementing and monitoring watershed, springshed and groundwater projects	30:00	30:00	0:00	00:00	60:00
AGR/N6613: Carry out data management for watershed, springshed and groundwater interventions **NOS Version- 2.0** **NSQF Level- 4**	**15:00**	**15:00**	**0:00**	**00:00**	**30:00**
Module 5: Process of carrying out data management for watershed, springshed and groundwater interventions	15:00	15:00	0:00	00:00	30:00
AGR/N6604: Guide and support the community in soil and water conservation **NOS Version- 2.0** **NSQF Level- 4**	**15:00**	**15:00**	**0:00**	**00:00**	**30:00**
Module 6: Process of guiding and supporting the community in soil and water conservation	15:00	15:00	0:00	00:00	30:00
AGR/N6621: Assist the village community in capacity-building **NOS Version- 2.0** **NSQF Level- 4**	**15:00**	**15:00**	**0:00**	**00:00**	**30:00**
Module 7: Process of assisting the village	15:00	15:00	0:00	00:00	30:00

community in capacity-building					
AGR/N9903 Maintain health and safety at the workplace **NOS Version- 3.0** **NSQF Level- 4**	**05:00**	**25:00**	**0:00**	**00:00**	**30:00**
Module 8: Hygiene and cleanliness	02:00	10:00	0:00	00:00	12:00
Module 9: Safety and emergency procedures	03:00	15:00	0:00	00:00	18:00
DGT/VSQ/N0102: Employability Skills **NOS Version- 1.0** **NSQF Level- 4**	**60:00**	**00:00**	**0:00**	**00:00**	**60:00**
Module 10: Employability Skills	60:00	00:00	0:00	00:00	60:00
Total Duration	**180:00**	**150:00**	**0:00**	**60:00**	**330:00**
OJT: 60 Hours					

Module Details

Module 1: Introduction to the role of a Para Geohydrologist

Bridge Module

Terminal Outcomes:

- Discuss the job role of a Para Geohydrologist.

Duration: 05:00	**Duration: 0:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the size and scope of the agriculture industry and its sub-sectors. • Discuss the role and responsibilities of a Para Geohydrologist. • Identify various employment opportunities for a Para Geohydrologist.	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Process of carrying out landscape survey and assist in preparing the Detailed Project Report (DPR)

Mapped to AGR/N6618 v2.0

Terminal Outcomes:

- Describe the process of carrying out landscape survey.
- Describe the process of analyzing the geohydrology.
- Explain the process of assisting in preparing the DPR.

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the significance of geohydrology in water resource planning and development. • Explain how to analyze the geohydrology. • Elucidate the difference between ridge area, ridge line, drainage line, etc. • Explain the importance and process of preparing a DPR. • List various kinds of maps required for DPR. • Explain the primary and secondary data collection requirements and relevant sources. • Explain how to analyze the relevant data and understand the strategy and goal of water resource intervention accordingly. • Describe the process of carrying out the PRA exercise and preparing the water resource development plan. • Explain the importance of conducting field visits to assess the technical and social feasibility of the water resource development plan. • Explain how to map water resources in the village/GP. • Describe the process of hydrological/ hydrogeological mapping. • Describe the procedures related to socio-technical concepts and practices in participatory and	• Demonstrate how to demarcate the watershed/ springshed (based on the orientation of geological planes)/ aquifer boundary (based on well data) on the toposheet. • Show how to calculate the watershed /springshed area on the toposheet. • Demonstrate the process of carrying out delineation of watersheds and springshed and mapping of water resources in terms of quantity and quality. • Show how to analyze the thematic maps, such as geology, geomorphology, lineament maps, etc. • Show how to analyze the aquifer and determine the groundwater levels. • Prepare sample hydrogeology matrix. • Prepare sample relevant geohydrology reports for the watershed/ springshed/ landscape. • Demonstrate the use of appropriate format for the preparation of DPR. • Demonstrate the process of carrying out the PRA exercise and preparing the watershed/springshed plan. • Prepare sample tentative budget.

integrated water resource management. • Discuss various water resource planning exercises. • Describe basic information on soil and water conservation technologies, social mobilization tools, research methodologies and planning tools in water resource management. • Explain the significance of springs within mountainous ecosystems. • Explain the scope of springs and the more significant role they play in the daily life in the mountains and beyond.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Mason pipe, Plum bob, Measuring tap 30M, Calculator, Survey of India Topo sheet, Sketch Pen, Graph paper, L Scale, A- frame construction, Installed Video camera with high resolution and recording facility, Hammer, Cadastral map, Wooden pole for pipe level	

Module 3: Process of assisting in carrying out water budgeting for the watershed/ springshed

Mapped to ARG/N6605 v2.0

Terminal Outcomes:

- Describe the process of assisting in carrying out watershed/springshed water budgeting.
- Explain ways to present the water budget to the community/VLI.

Duration: 15:00	**Duration**: 15:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the significance of water budgeting in the planning of watershed /springshed interventions. • Discuss applicable effective water management practices in a watershed/springshed. • Explain how to carry out watershed/springshed water budgeting. • Explain the importance of promoting effective water management through micro-irrigation systems, such as drip irrigation, sprinklers, etc. • Describe the process of collecting various types of field data. • Explain the importance of discussing the water budgeting results with the village community before preparing a plan for water use. • Explain the basics of hydraulics such as pressure, flow and hydrological cycle. • Elucidate how to calculate the water requirement for crops, drinking, domestic use, etc. • Explain different types of piping networks, PVC fittings, pumps and their application.	• Roleplay conduct field visits to collect different types of field data. • Demonstrate the process of compiling and organising the data for analysis. • Prepare sample poster on water budgeting. • Demonstrate the process of preparing water balance, water budget and water security planning with the community.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	

Mason pipe, Plum bob, Measuring tap 30M, Calculator, Survey of India Topo sheet, Sketch Pen, Graph paper, L Scale, A- frame construction, Installed Video camera with high resolution and recording facility, Hammer, Cadastral map, Wooden pole for pipe level

Module 4: Process of planning, implementing and monitoring watershed, springshed and groundwater projects

Mapped to ARG/N6650 v1.0

Terminal Outcomes:

- Explain the process of planning, implementing and monitoring watershed, springshed and groundwater projects.

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of mobilizing land owners to participate in planning the use of resources and soil conservation treatments. • Describe the process of undertaking net planning for area treatment, drainage line treatment and WHS. • Explain the importance of focusing on gender sensitization and mainstreaming activities requirement. • Elucidate different opportunities for women's economic development activities and appropriate interventions. • Describe the process of undertaking the Training Need Assessment (TNA). • Describe the process of organizing, training and building the capacity of watershed community institutions. • Explain various costs for the implementation and management of watershed projects. • Describe the process of implementing the project components through user groups and watershed project management committees. • Describe the process of identifying and prioritizing the critical springs for revival and short and long-term monitoring based on the needs of communities. • Explain how to undertake social and technical feasibility surveys to assess the possibility of undertaking the	• Demonstrate how to evaluate the agriculture, livestock and other agri-allied activities in the regions. • Show how to undertake the Training Need Assessment (TNA) to identify the training need of the watershed community institutions. • Show how to estimate the costs for the implementation and management of watershed projects, e.g. area treatment, drainage land treatment, supervision, livelihood intervention, training and capacity building, development of landless and marginalized community members, program management etc. • Show how to maintain the record of baseline and change the pattern of the watershed. • Demonstrate how to record the data concerning the intervention activities for the watershed for monitoring and auditing purposes. • Demonstrate the process of undertaking social and technical feasibility surveys to assess the possibility of undertaking the initiative and prepare the Detailed Work Plans (DWPs). • Roleplay how to conduct village meetings and PRA with the community, including women, elders and socio- economically marginalized communities. • Demonstrate the process of carrying out seasonal water budgeting of

springshed initiatives and preparing the DWPs.

- Explain the importance of including women, elders and socio-economically marginalized communities in water resource development interventions.
- Describe the process of carrying out seasonal water budgeting of spring water for different uses.
- Explain how to prepare the Village Water Security Plans (VWSPs) using participatory water budget assessments.
- Explain how to perform manual and automated spring discharge and quality monitoring.
- Explain how to identify the potential spring recharge areas and the appropriate measures to be taken for optimal recharge and reduced soil erosion.
- Explain how to undertake appropriate spring recharge interventions.
- Elucidate how to revive and conserve springs by adopting scientific methods on springshed management.
- Describe the relevant comprehensive scientific methods viz. hydrogeology and quality assessment of water.
- Describe the process of preparing the WSP for groundwater interventions.
- Explain the importance of developing and following the protocols for water resource management in consultation with the community institutions.
- Describe the process of performing crop water budgeting concerning demand and supply.
- Explain how to develop appropriate treatment interventions in the catchment and command areas.
- Explain the appropriate interventions

spring water for different uses.

- Demonstrate the process of carrying out discharge and quality monitoring manually or by automated instruments.
- Demonstrate the process of carrying out periodic documentation concerning spring discharge and water quality to improve the community's understanding of their resources and help improve management practices.
- Demonstrate the process of performing crop water budgeting concerning demand and supply.
- Demonstrate the process of conducting the annual audit and maintain the relevant data related to groundwater accounting.

for water harvesting or storage, e.g. rooftop rainwater harvesting, weirs, stop dams, cement check dams, minor irrigation tanks, etc. • Explain the appropriate interventions for water supply, e.g. canals, lift irrigation schemes, community lifts schemes, drinking water supply systems, etc. • Discuss the best practices for water conservation. • Explain the benefits of incorporating the water security plan at the regional level.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Mason pipe, Plum bob, Measuring tap 30M, Calculator, Survey of India Topo sheet, Sketch Pen, Graph paper, L Scale, A- frame construction, Installed Video camera with high resolution and recording facility, Hammer, Cadastral map, Wooden pole for pipe level	

Module 5: Process of carrying out data management for watershed, springshed and groundwater interventions

Mapped to AGR/N6613 v2.0

Terminal Outcomes:

- Describe the process of maintaining the data concerning watershed/ springshed/ groundwater interventions.
- Explain the importance of ensuring effective water management.

Duration: 15:00	**Duration: 15:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Discuss effective data management practices. • Elucidate the importance and process of determining the existing water availability and the potential to increase water availability. • Explain the benefit of cultivating low water demanding crop varieties and using the micro-irrigation system. • Discuss the appropriate practices to be followed for water productivity and water use efficiency. • Explain the importance of collecting and verifying data regularly from the monitoring network. • State the relevant guidelines on record keeping, reporting and transparency by the organization and funding agency. • Explain the use of relevant management tools and techniques in data/ information handling. • Describe the relevant research methodologies.	• Demonstrate how to maintain the technical maps, well-monitoring, and WHS data. • Prepare sample record of interventions undertaken. • Show how to collect and maintain the telemetric data, using sensors and appropriate instruments. • Demonstrate the process of performing demand management through the cultivation of low water demanding crop varieties and using the micro-irrigation systems. • Show how to undertake crop water budgeting exercise. • Demonstrate how to collect and verify data and support data analysis.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Mason pipe, Plum bob, Measuring tap 30M, Calculator, Survey of India Topo sheet, Sketch Pen, Graph paper, L Scale, A- frame construction, Installed Video camera with high resolution and recording facility, Hammer, Cadastral map, Wooden pole for pipe level	

Module 6: Process of guiding and supporting the community in soil and water conservation

Mapped to AGR/N6604 v2.0

Terminal Outcomes:

- Explain the process of guiding in site selection.
- Explain the process of supervising the construction of WHS.
- Elucidate ways to control the velocity of run-off to prevent soil erosion.
- Describe the process of maintaining the records of interventions.

Duration: 15:00	Duration: 15:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the layout marking process. • Discuss various worksite management practices, such as allotting work to wage seekers. • State the technical specifications of PCC, RCC, stone masonry, plaster etc. • Explain the importance and process of maintaining various field-level records, such as the attendance sheet, stock register, measurement register, etc. • Explain how to measure the work carried out. • Explain how to prepare the payment data based on the work carried out. • Elucidate how to monitor the implementation, operations, maintenance and post-implementation activities. • Describe the applicable process standards and procedures for the construction of water harvesting structures. • Discuss the relevant practices in participatory and integrated water resource management. • Explain the benefits and methods of rooftop and rainwater harvesting. • Discuss various appropriate practices to be followed to prevent soil run-off.	• Prepare sample records of the interventions. • Show how to mark the layout accurately. • Demonstrate how to construct field bunds to reduce the field size and control the rate of overland flow. • Demonstrate the process of carrying out levelling or terracing to reduce the slope of the land. • Demonstrate the process of constructing contour ditches and diversion channels to remove the excess surface run-off in a controlled manner. • Demonstrate the process of applying organic matters to improve the soil structure and increase the infiltration of rainwater. • Demonstrate the process of carrying out conservation tillage to bind the soil surface and reduce the detachment of soil particles. • Demonstrate the process of carrying out mulching to reduce the soil surface temperature. • Demonstrate the process of constructing contour hedges and outlets with silt traps to trap the eroded sediments. • Prepare various sample field-level records, such as the attendance sheet, stock register, measurement

	register, etc. • Prepare sample payment data based on the work carried out.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Mason pipe, Plum bob, Measuring tap 30M, Calculator, Survey of India Topo sheet, Sketch Pen, Graph paper, L Scale, A- frame construction, Installed Video camera with high resolution and recording facility, Hammer, Cadastral map, Wooden pole for pipe level	

Module 7: Process of assisting the village community in capacity-building

Mapped to AGR/N6621 v2.0

Terminal Outcomes:

- Explain the process of assisting in capacity-building.

Duration: 15:00	**Duration**: 15:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the importance of building skills in the community for the identification of recharge or surface storage zones. • Explain the selection criteria of an appropriate site for water harvesting based on hydrogeology. • Explain the importance of conducting field surveys for slope measurement, demarcation of contour lines, L-section and C-section and involving the community in the surveys. • Elucidate the importance and process of conducting training and capacity building of communities and community institutions. • Explain how to assist communities in developing and implementing the appropriate protocols.	• Roleplay how to conduct field surveys for slope measurement, demarcation of contour lines using A-Frame, L-section and C-section surveys, etc. • Demonstrate the use of relevant tools, web/mobile applications and sensors.
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Mason pipe, Plum bob, Measuring tap 30M, Calculator, Survey of India Topo sheet, Sketch Pen, Graph paper, L Scale, A- frame construction, Installed Video camera with high resolution and recording facility, Hammer, Cadastral map, Wooden pole for pipe level	

Module 8: Hygiene and cleanliness

Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

- Discuss how to adhere to personal hygiene practices.
- Demonstrate ways to ensure cleanliness around the workplace.

Duration: 02:00	**Duration: 10:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the requirements of personal health, hygiene and fitness at work. • Describe common health-related guidelines laid down by the organizations/ Government at the workplace • Explain the importance of good housekeeping at the workplace. • Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases.	• Demonstrate personal hygiene practices to be followed at the workplace. • Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. • Demonstrate the steps to follow to put on and take off a mask safely. • Show how to sanitize and disinfect one's work area regularly. • Demonstrate adherence to the workplace sanitization norms. • Show how to ensure the cleanliness of the work area.
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	

Module 9: Safety and emergency procedures

Mapped to NOS AGR/N9903 v3.0

Terminal Outcomes:

- Describe how to adhere to safety guidelines.
- Show how to administer appropriate emergency procedures.

Duration: 03:00	**Duration: 15:00**
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• List the Personal Protective Equipment (PPE) required at the workplace. • Describe the commonly reported hazards at the workplace. • Describe the hazards caused due to chemicals/pesticides/fumigants. • Describe the basic safety checks to be done before the operation of any equipment/machinery. • Describe the common first aid procedures to be followed in case of emergencies. • State measures that can be taken to prevent accidents and damages at the workplace. • Explain the importance of reporting details of first aid administered, to the reporting officer/doctor, in accordance with workplace procedures • State common health and safety guidelines to be followed at the workplace.	• Check various areas of the workplace for leakages, water-logging, pests, fire, etc. • Demonstrate how to safely use the PPE and implement it as applicable to the workplace. • Display the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits, etc. • Sanitize the tools, equipment and machinery properly. • Demonstrate the safe disposal of waste. • Demonstrate procedures for dealing with accidents, fires and emergencies. • Demonstrate emergency procedures to the given workplace requirements. • Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements. • Demonstrate the administration of first aid. • Prepare a list of relevant hotline/ emergency numbers
Classroom Aids:	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, First Aid Kit, Equipment used in Medical Emergencies.	

Module 10: Employability Skills

Mapped to NOS DGT/VSQ/N0102 v1.0

Duration: 60:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy Duration:5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.

20. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Module 11: On-the-Job Training

Mapped to Para Geohydrologist

Mandatory Duration: 60:00	Recommended Duration: 00:00
Location: On-Site	

Terminal Outcomes

- Explain the significance of geohydrology in water resource planning and development.
- Carry out delineation of watersheds and springshed and mapping of water resources in terms of quantity and quality.
- Prepare water balance, water budget and water security planning with the community.
- Collect and maintain the telemetric data, using sensors and appropriate instruments.
- Prepare various sample field-level records, such as the attendance sheet, stock register, measurement register, etc.
- Conduct field surveys for slope measurement, demarcation of contour lines using A-Frame, L-section and C-section surveys, etc.
- Conduct virtual meetings using video calling on the computer or mobile phone.
- Use the internet banking services as per the instructions from the bank and government to avoid fraudulent transactions/ activities in the bank account.
- Carry out troubleshooting for the common hardware and software issues experienced with computers, computer peripherals and mobile devices.
- Recycle the recyclable waste and disposing of the toxic and non-recyclable waste following the appropriate methods.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Diploma	Diploma in Natural Resource Management/Watershed Management/ Agriculture/ Agriculture Engineering/ Civil Engineering	3	Watershed Management	0		
Gradate	Graduate in Natural Resource Management/Watershed Management/ Agriculture/ Agriculture Engineering/ Civil Engineering	2	Watershed Management	0		
Post Graduate	Post Graduate in Natural Resource Management/ Agriculture/ Agriculture Engineering/ Civil Engineering	0		0		

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**Para Geohydrologist**", mapped to QP: "AGR/Q6602, v2.0", Minimum accepted score is 80%	Recommended that the Trainer is certified for the Job Role: "Trainer (Vet and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Graduation	B. Sc (Environmental Science & Ecology/Agriculture/Geoscience/Natural Resource Management/ Biological Sciences/Ecology and Conservation/Agriculture engineering/Agriculture or related streams and fields)	5	In Watershed/ Agriculture/ Agriculture engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management
Graduation	B. Tech (Agricultural engineering and related streams)	5	In Watershed/ Agriculture/Agriculture engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management
Post-Graduation	M. Tech (Agricultural engineering and related streams)	2	In Watershed/ Agriculture/Agriculture engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management

Post-Graduation	M. Sc. (Agriculture/Environmental Science & Ecology/ Geoscience/ Natural Resource Management/ Biological Sciences/ Ecology and Conservation/ Agriculture engineering/ Agriculture or related streams and fields)	2	In Watershed/ Agriculture/Agriculture engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management
PhD	PhD (Agriculture/ Environmental Science & Ecology/ Geoscience/ Natural Resource Management/ Biological Sciences/ Ecology and Conservation/ Agriculture engineering/ Agriculture or related streams and fields)		In Watershed/ Agriculture/Agriculture engineering/ Environmental engineering/ Ecology/ Natural Resource Management/ Geoscience/ Civil Engineering or related streams and fields	0		Practical skills and knowledge required in Watershed management

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role "**Para Geohydrologist**", mapped to QP: "AGR/Q6602, v2.0", Minimum accepted score is 80%	Certified for the Job Role: "Assessor (Vet and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0", with a minimum score of 80%.

Assessment Strategy

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 empaneled 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 the ground through qualified and ToA certified assessors.

An individual must have adequate knowledge and skills to perform a specific task, weightage for different aspects of the assessment is 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 empaneled assessment partners. Based on the results of the assessment; ASCI will certify the learners/candidates

Testing Environment

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

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

- Multilingual assessments (ASCI is conducting the 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 the 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 the training / within 7 days of completion of training.
- Assessment will be conducted at the training venue
- The 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 practice 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 questions, etc. which will test the trainee on his theoretical knowledge of the subject.
- The theory, practical and viva assessments will be carried out on the same day. In case of a greater number of candidates, the 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 the usability of job roles/advantages /importance of adherence to procedures. Viva will be used to gauge trainee's confidence and correct knowledge in handling the job situation

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

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, behavioural traits and domain knowledge.

Theoretical Knowledge - Item constructs and types are determined by a 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 that 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 the 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 a 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, dos and don'ts, subjective questions to check the understanding of practical tasks.

The assessor has to go through an orientation program organized by the Assessment Agency. The training would give an overview to the assessors on the overall framework of QP evaluation. The assessor shall be given a NOS and PC level overview of each QP as applicable. The 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 that will maintain the standardization of the marking scheme.

Type of Evidence and Evidence Gathering Protocol:

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

- GeoTagging to track ongoing assessment
- AA's coordinator emails the list of documents and evidence (photos and videos) to the assessor one day before the assessment. The list is mentioned below:
    - Signed Attendance sheet
    - Assessor feedback sheet
    - Candidate feedback sheet

- Assessment checklist for assessor
- Candidate Aadhar/ID card verification
- Pictures of the 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, a Technical assistant is popularly known as Proctor also ensures the proper documentation and they verify each other's tasks.
- To validate their work on the day of the assessment, regular calls and video calls are done.
- On-boarding and training of assessor and proctor is done on a timely basis to ensure that the quality of the assessment should be maintained.
- Training covers the understanding of QP, NSQF level, NOS and assessment structure

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 a check on assessment quality and ensure assessment is carried out in a fair and transparent manner
- Aadhar verification of candidates
- Evening Check (Post Assessment): Calls are made to the ground team to ensure the event is over by what time and the documentation is done properly or not.
- TP Calling: To keep a check on malpractices, an independent audit team calls the TP on a recorded line to take confirmation if there was any malpractice activity observed in the assessment on part of the AA/SSC team. If calls are not connected, an email is sent to TP SPOC for taking their confirmation
- Video and Picture Evidence: Backend team collects video and pictures for assessment on a real-time basis and highlights any issue such as students sitting idle/ trainer helping the candidates during the assessment.
- Surprise Visit: Time to time SSC/AA Audit team can visit the assessment location and conduct a surprise audit for the assessment carried out by the ground team.
- Geo Tagging: On the day of the assessment, each technical SPOC is required to login into our internal app which is Geotagged. Any deviation with the centre address needs to be highlighted to the assessment team on a real-time basis.

Method for assessment documentation, archiving, and Access:

- ASCI have a fully automated result generation process in association with multiple AAs
- Theory, Practical and Viva marks form the basis of the results and encrypted files generated to avoid data manipulation. All responses were captured and stored in the System with Time-Stamps at the end of AAs and SSC. NOS-wise and PC-wise scores can

be generated.

- Maker Checker concept: One person prepares the results and another audit result which is internally approved by AA at first and then gets vetted at the end of SSC
- All softcopies of documents are received from the on-ground tech team over email. The same is downloaded by our internal backend team and saved in Repository. The repository consists of scheme-wise folders. These scheme-wise folders have two 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 the 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 the conclusion of the project or scheme)

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
AGR	Agriculture
NOS	National Occupational Standard (s)
NSQF	National Skills Qualifications Framework
OJT	On-the-job Training
QP	Qualifications Pack
PwD	People with Disability
PPE	Personal Protective Equipment